

# **ARE WE SAFE?**

## **NEW ZEALANDER'S PERCEPTIONS OF ELECTRICITY AND GAS SAFETY IN THE HOME**

**PREPARED FOR:**

**MINISTRY OF ECONOMIC  
DEVELOPMENT**

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# EXECUTIVE SUMMARY

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# Executive Summary and Discussion

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This section provides a summary and discussion of the key issues covered in more detail in the body of this report.

## Objectives and methodology

The purpose of this survey is to determine the general public's perceptions of gas and electrical safety in New Zealand homes. To determine this, 500 telephone interviews were conducted amongst randomly selected households throughout New Zealand. The person interviewed was the person in each household aged 18 years or over who makes arrangements for any electrical work or gas work for the household. Interviewing was conducted between 8-19 May 2000.

## Electrical appliances and wiring older than gas appliances and plumbing

This survey has shown that electrical appliances and wiring tends to be older than gas appliances and plumbing. As the table below shows, 47% say the oldest electrical appliance they have is over 10 years old, compared to 18% (of those who use gas) for gas appliances. A third (34%) say the majority of their electrical wiring is over 20 years old, compared to 7% of plumbing (for those who have gas).

Age of Appliance or Wiring/Plumbing	Base: Use Electricity (n=500)	Base: Use Gas/ Mains Gas
Have an appliance over 10 years	47%	18%
		Base: Use Gas (n=301)
Majority of wiring/plumbing over 20 years	34%	7%
		Base: Use Mains Gas (n=91)

## Prevalence of dangerous gas appliances low

Five percent of gas users have a gas fuel water heater in the bathroom. This equates to approximately 15,971-24,281 New Zealand households<sup>1</sup>.

A similar proportion (7%) use a portable heater in a bedroom. This equates to approximately 22,359-33,993 households.

## Most have had a safety check within last 10 years

Most households have had some form of safety check (gas 79%, electrical 68%) in the last 10 years, either by an electrician when doing some work in the house, or by somebody coming to do a specific safety check. However, there is a substantial proportion of people who do not know when their last safety check was<sup>2</sup> (28% of electricity users, 18% of gas users).

There is no agreement on when electrical or gas safety checks should be done in the home.

## People feel safe but also want safety checks

Almost all New Zealanders believe the electrical and gas safety in their home is adequate or more than adequate (93% of electricity users, 98% of gas users). It is encouraging to know that those who buy gas appliances tend to read the safety instructions (86%), and the instructions are universally believed to be adequate (98% of those who read them).

Those who do not feel the electrical<sup>3</sup> safety of their home is adequate tend to have older wiring (over 20 years), and also tend to be those with less control over their home. They are more likely than average to be renting, to be students, beneficiaries, or unemployed, and not surprisingly they also tend to have lower personal incomes.

Despite the high confidence levels in the safety of their home, a considerable proportion of New Zealanders would still like to have compulsory safety checks (55% want compulsory electricity checks, 66% want compulsory gas checks). Renters tend to be keen on compulsory checks, whereas home owners are more likely to be against them. This isn't surprising since the overwhelming feeling amongst both electricity and gas users is that owners should be responsible for conducting compulsory checks (75% of those who believe that electrical safety checks should be compulsory, and 76% of those who believe that gas safety checks should be compulsory).

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<sup>1</sup> This figures is based on Statistics New Zealand's 1996 Census figures. Further information on how these figures are calculated is appended.

<sup>2</sup> This figures includes those who are unsure and those who have not had a safety check since they have been living in their home.

<sup>3</sup> Unfortunately there are too few gas users who feel their home safety is inadequate to analyse further.

Although people want compulsory safety checks, only one in four (24%) are prepared to pay for a comprehensive safety check (\$300 for both electricity and gas, \$200 for electricity alone). Two thirds (68%) would pay \$50 for a limited safety check covering major fixed appliances only.

Understandably, those who feel their gas or electrical safety is inadequate are not more likely than average to pay for a comprehensive safety check, as this group tends to have lower incomes. This group also has a high proportion of renters, and as we have seen, the majority feel home owners should pay for any checks.

## **Information channels**

This survey highlights the need to explain to people when safety checks are needed, as the public clearly does not know when, and how often, safety checks should be conducted.

If the Ministry want to conduct any awareness campaign regarding this issue (or any other) then the most common information source that people pay attention to is clearly the TV. This is followed by information included with energy bills, and the newspaper (for gas users). Although people say they would go to their electrician or energy supplier if they need information, this is only when they are aware of needing information or help.

## **Demographic differences: the Concerned and the Complacent**

### ***Concerned: Renters***

As we have seen, renters are more likely than average to have issues with the electrical safety of their homes (gas sample sizes are too small to tell if this is an issue for renters who use gas as well). Renters are the group most likely to want compulsory safety checks, but do not wish to pay \$300 or \$200 for it, and given that renters are more likely to be on lower incomes, this is not surprising.

### ***Complacent – Electricity: Retired***

Those who are retired are more likely than average to have older appliances, to have had any safety check over 10 years ago, and to be happy with a longer time frame between safety checks.

***Gas: Lower North Island potentially an issue, but not complacent***

Those in the lower North Island, especially Wellington and Palmerston North are more likely than those in the rest of the country to have old appliances (over 10 years), and those in Palmerston North are also more likely to have old wiring (over 20 years). People in the lower North Island tend not to want compulsory safety checks and feel that something should only be checked when things go wrong. Those in Wellington are also **less** likely to read any safety instructions for gas appliances.

However, although this group appears relaxed about gas safety, they are just as likely as people in other parts of the country to have had a gas safety check in the last 10 years, so their level of home safety is similar to those in the rest of New Zealand.

## **Conclusion and recommendations: encourage safety behaviour but do not make it compulsory**

Although most feel their electrical and gas safety in the home is adequate, there is no evidence that New Zealanders are complacent about gas and electrical safety in the home. Despite a complacent demographic segment of the community, the results clearly show that the majority want some form of regulated safety checks – they would just prefer to pay very little (i.e. \$50 or less) for them.

With this in mind, it may be wise for the Ministry to encourage non-compulsory safety checks by improving people’s knowledge of the need for safety checks, and how often these are needed. The latter certainly appears to be a well-kept secret from the average New Zealander. However, if improving the general public’s safety behaviour is an aim of the Ministry, mere knowledge alone may not be enough. In most cases various aspects relating to the desired behaviour and to barriers performing this behaviour need to be carefully examined. If the Ministry decides to take any action toward changing behaviour, we would recommend that the steps outlined in Alan Andreason’s Behaviour Change Model – a widely accepted and adopted framework for facilitating behaviour change on important social issues – is adopted. More information on the practical application of the Behaviour Change Model can be supplied upon request. This model enables organisations to examine the benefits, costs and barriers to changing behaviour and thus tailor their campaign to provide maximum effectiveness.

# DETAILED FINDINGS

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# Introduction

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## Background

In 1998 Colmar Brunton conducted an electrical survey amongst the general public aged 15+ for the Ministry. In 1999, a similar survey was also conducted, but also included questions relating to gas appliances and gas work.

This current survey also covers issues relating to both gas and electricity but the focus has shifted to people's perceptions of safety rather than their actual behaviours. The Ministry will use this information to determine, amongst other issues, whether or not the electrical and gas safety of New Zealand homes is considered an issue, and from this information then decide whether or not household safety needs to be assessed by professionals.

## Objectives

### Research Objectives

The research objectives of this survey are to determine:

- The age of appliances and wiring/gas plumbing in the home
- The incidence of gas water heaters in the bathroom and gas portable heaters used in the bedroom
- The adequacy of new gas appliances' safety instructions
- The last time some form of safety check was conducted in the home
- Perceptions of how often safety checks should be conducted on appliances and wiring/gas plumbing
- Perceptions of electrical and gas in the home, and reasons for those perceptions
- Whether or not compulsory safety checks are desired, and if so, who should be responsible
- How much people are prepared to pay for safety checks
- Sources of information on electrical and gas safety
- Awareness, source, and main message of electrical and gas safety communications

## Research method

A sample of 500 householders were randomly selected, and the person in each household aged 18 years and over who is the decision-maker about any electrical work or gas work that might need to be done in the house was interviewed.

Interviewing was conducted by telephone between 8-19 May 2000. The survey was conducted in 15 main centres (i.e. virtually nation-wide).

The maximum margin of sampling error at the 95% confidence level for a sample of 500 is  $\pm 4.4\%$ .

The use of '*significant*' throughout this report indicates differences we can be 80% confident are real differences and not just due to sampling error.

For further details see the Methodology appended.

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# Section 2: Electricity

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The purpose of this section is to profile people responsible for arrangements regarding electricity in the home in New Zealand, to examine the age of appliances and wiring, and to determine people's perceptions of electrical safety in the home.

## Section summary

- **Age of appliances and wiring:** Almost half have appliances over 10 years old (47%). One in three (34%) have wiring over 20 years old.<sup>4</sup>
- **Perceptions of safety:** Almost all (93%) believe the electrical safety in their home is adequate or more than adequate.
- **Safety checks:** Over half of households (59%) say they have had a safety check or an electrician visit in the last five years. Few (4%) say they have not had either of these in the last 10 years. Over half of New Zealand households (55%) believe electrical safety checks should be conducted at least every five years, and the same proportion (55%) feel there should be compulsory electrical checks conducted by a professional.

## Demographic profile of household Decision-makers for electricity

### Decision-makers for electricity are home-owners in professional and managerial or white collar occupations

The table overleaf provides a profile of those people in New Zealand households who are responsible for arrangements for any electrical work that might need to be done in the house.

The results show that decision-makers are slightly more likely to be women (53%) than men (47%). They are significantly more likely to be home-owners (76%) than renters (24%). Not surprisingly, decision-makers are more likely to be New Zealand European, as this group makes up the majority of New Zealand's population.<sup>5</sup> Decision-makers are also more

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<sup>4</sup> Eleven percent are unsure of the age of their electrical wiring.

<sup>5</sup> It is likely that Maori have been under-represented in this sample. According to the Statistics New Zealand's 1996 Census data, Maori constitute 12% of the New Zealand population. However, as we have no figures for the correct proportion of ethnic groups as decision-makers about electricity in New Zealand households, we are not able to check this, nor correct it.

likely to be in professional or managerial (31%) or white collar occupations (22%). There is a range of household incomes.

People are most likely to have lived in their current home between 1-10 years (55%), and another third (31%) are very settled, having lived in their home for more than 10 years.

	<b>Base: Total Sample (n=500)</b>
<b>Gender</b>	
Male	47%
Female	53%
<b>Property ownership</b>	
Outright or with a mortgage	76%
Owned by someone else	24%
<b>Ethnic group</b>	
New Zealand European	82%
Maori	8%
Pacific Island	4%
Asian (Indian/Chinese)	2%
European	6%
Other	2%
Refused	1%
<b>Number of years in household</b>	
Short term: less than 12 months	14%
Medium term: 1-10 years	55%
Long term: more than 10 years	31%
<b>Occupation</b>	
Professional/managerial	31%
White collar worker	22%
Blue collar worker	15%
Full time homemaker	10%
Retired	15%
Student/beneficiary/unemployed	7%
<b>Personal income</b>	
Up to and including \$30,000	43%
Over \$30,000 to \$50,000	25%
Over \$50,000	16%
Don't know	2%
Refused	15%

*Table continued overleaf*

<b>Base: Total Sample (n=500)</b>	
<b>Household income</b>	
Up to and including \$30,000	25%
Over \$30,000 to \$50,000	19%
Over \$50,000 to \$80,000	18%
Over \$80,000	17%
Don't know	7%
Refused	16%
<b>Area</b>	
Auckland	39%
Wellington	13%
Christchurch	13%
Hamilton	6%
Dunedin	5%
Hawke's Bay	4%
Palmerston North	3%
Tauranga	3%
Invercargill	2%
Nelson	2%
Whangarei	2%
Gisborne	1%
New Plymouth	2%
Wanganui	2%
Rotorua	2%
<b>Region</b>	
North Island	78%
South Island	22%
Upper North Island	41%
Central North Island	19%
Lower North Island	18%

## Homeowners have higher incomes than renters

The Ministry suspects that renters may have different perceptions of electrical safety in their home than home owners. Before looking at differences in perceptions, the table below and overleaf provides a demographic profile of renters and home owners and compares the two.

The results show that, compared to renters, **home owners** who make decisions about electrical work are more likely to be New Zealand Europeans (88%), and to have lived in their home for over a year (92%), with a substantial proportion living in their current home for more than 10 years (39%). They are more likely to be retired than renters (18% cf. 6%), and they also tend to have a high personal income, ie. over \$50,000 (18%) and household income, ie. over \$80,000 (18%) compared to renters (9% and 12% respectively).

Conversely, compared to home owners, **renters** who make decisions about electrical work in the home are more likely to be Maori (16%), Pacific Island people (7%), or Asian (4%), although the majority (64%) are New Zealand European. Renters tend to be less settled than home owners, with the vast majority having lived in their home for less than 10 years (94%), and a substantial proportion having lived in their home for less than 12 months (32%). They are more likely to be full time homemakers (14% cf. 9% of home owners) or students, beneficiaries, or unemployed (14% cf. 5% of home owners). They tend to be in the lower personal income bracket, ie. \$30,000 or less (51% cf. 40% of home owners), and the lower household income bracket, ie. \$50,000 or less (52% cf. 41%).

NB: The green circles indicate results that are significantly **higher** than the comparison group (eg. decisions makers who rent are significantly more likely to be Maori than decision-makers who own their own home).

	Base: Homeowners (n=378)	Base: Renters (n=122)
<b>Gender</b>		
Male	48%	45%
Female	52%	55%
<b>Ethnic group</b>		
New Zealand European	88%	64%
Maori	5%	16%
Pacific Island	3%	7%
Asian (Indian/Chinese)	1%	4%
European	5%	7%
Other	1%	4%
Refused	1%	2%

*Table continued overleaf*

	Base: Homeowners (n=378)	Base: Renters (n=122)
<b>Number of years in household</b>		
Short term: less than 12 months	8%	32%
Medium term: 1-10 years	53%	62%
Long term: more than 10 years	39%	6%
<b>Occupation</b>		
Professional/managerial	31%	29%
White collar worker	21%	25%
Blue collar worker	16%	13%
Full time homemaker	9%	14%
Retired	18%	6%
Student/beneficiary/unemployed	5%	14%
Refused	1%	0%
<b>Personal income</b>		
Up to and including \$30,000	40%	51%
Over \$30,000 to \$50,000	23%	29%
Over \$50,000	18%	9%
Don't know	2%	2%
Refused	17%	9%
<b>Household income</b>		
Up to and including \$30,000	24%	29%
Over \$30,000 to \$50,000	17%	23%
Over \$50,000 to \$80,000	18%	16%
Over \$80,000	18%	12%
Don't know	5%	11%
Refused	18%	9%
<b>Area</b>		
Auckland	39%	39%
Wellington	12%	16%
Christchurch	13%	13%
Hamilton	7%	2%
Dunedin	6%	2%
Hawke's Bay	4%	5%
Palmerston North	3%	3%
Tauranga	3%	3%
Invercargill	2%	2%
Nelson	1%	4%
Whangarei	2%	2%
Gisborne	1%	1%
New Plymouth	2%	2%
Wanganui	2%	1%
Rotorua	2%	3%

*Table continued overleaf*

	Base: Homeowners (n=378)	Base: Renters (n=122)
<b>Region</b>		
North Island	78%	80%
South Island	22%	20%
Upper North Island	41%	42%
Central North Island	20%	17%
Lower North Island	17%	20%

### Higher incomes amongst professional men; lower incomes amongst women, retired, homemakers, or students/beneficiaries

Previous electrical safety surveys have highlighted a difference in behaviour or perception dependent on income level. The table overleaf provides a profile of both those with lower household annual incomes (ie. \$50,000 or less) and higher household annual incomes (ie. over \$50,000).

Compared to those with lower household incomes, those with **higher household incomes** are more likely to be men (53% cf. 42% of those with lower incomes), be in professional or managerial occupations (49% cf. 18%) or white collar workers (25% cf. 18%), and live in Auckland (49% cf. 35%) or Hamilton (9% cf. 5%). They are also more likely to have lived in their home for 1-10 years (64% cf. 52%), and have personal incomes over \$30,000 (76% cf. 25%). Not surprisingly, in the light of the previous table, they are also more likely to own their own home (80% cf. 71% of those with lower incomes).

Compared to those with higher household incomes, those with **lower household incomes** are more likely to be women (58% cf. 47% of those with higher incomes), be retired (23% cf. 2%), full-time homemakers (12% cf. 8%), or students, beneficiaries or unemployed (12% cf. 1%). They are more likely to live in the South Island (24% cf. 15%), especially in Christchurch (12% cf. 8%) or Nelson (4% cf. 1%). They are also more likely to have lived in their home for over 10 years (34% cf. 21%), and have lower personal incomes, ie. \$30,000 or less (73% cf. 23%). Not surprisingly, they are more likely to rent (29% cf. 20% of those with higher incomes).

NB: The green circles indicate results that are significantly **higher** than the comparison group.

	Base: Household income \$50,000 or under (n=217)	Base: Household income over \$50,000 (n=171)
<b>Gender</b>		
Male	42%	53%
Female	58%	47%
<b>Property owned by</b>		
Outright or with a mortgage	71%	80%
Owned by someone else	29%	20%
<b>Ethnic group</b>		
New Zealand European	81%	84%
Maori	9%	9%
Pacific Island	5%	2%
Asian (Indian/Chinese)	3%	1%
European	3%	8%
Other	1%	2%
Refused	0%	1%
<b>Number of years in household</b>		
Short term: less than 12 months	14%	15%
Medium term: 1-10 years	52%	64%
Long term: more than 10 years	34%	21%
<b>Occupation</b>		
Professional/managerial	18%	49%
White collar worker	18%	25%
Blue collar worker	15%	15%
Full time homemaker	12%	8%
Retired	23%	2%
Student/beneficiary/unemployed	12%	1%
Refused	0%	1%
<b>Personal income</b>		
Up to and including \$30,000	73%	23%
Over \$30,000 to \$50,000	25%	33%
Over \$50,000	0%	43%
Don't know	0%	1%
Refused	1%	0%

*Table continued overleaf*

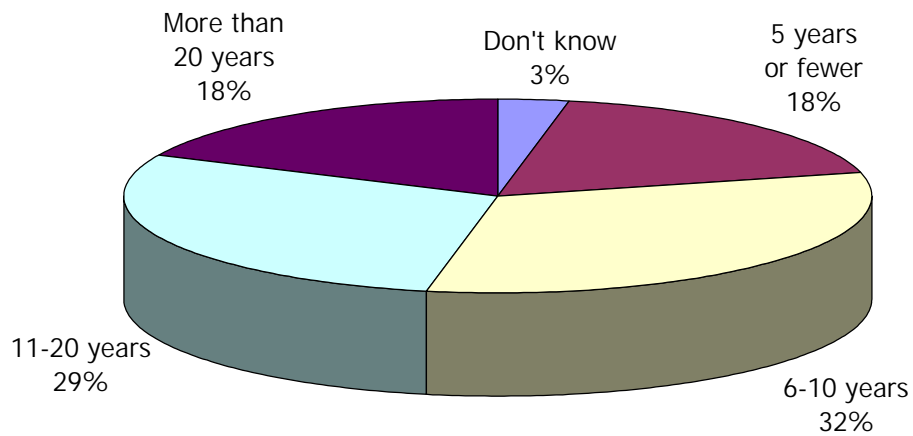
	Base: Household income \$50,000 or under (n=217)	Base: Household income over \$50,000 (n=171)
<b>Area</b>		
Auckland	35%	49%
Wellington	13%	15%
Christchurch	12%	8%
Hamilton	5%	9%
Dunedin	5%	5%
Hawke's Bay	5%	3%
Palmerston North	4%	2%
Tauranga	4%	2%
Invercargill	3%	1%
Nelson	4%	1%
Whangarei	1%	1%
Gisborne	1%	1%
New Plymouth	3%	2%
Wanganui	3%	0%
Rotorua	2%	2%
<b>Region</b>		
North Island	76%	85%
South Island	24%	15%
Upper North Island	36%	50%
Central North Island	20%	19%
Lower North Island	20%	16%

# Electrical appliances

## Almost half have older appliances (10+ years)

All households were asked how old their oldest electrical appliance is. As the graph below shows, electrical appliances tend to be quite old, with almost half (47%) being 10 years or older. One in three (32%) are aged 6-10 years, and one in five (18%) are relatively new, being bought within the last five years.

### Oldest Electrical Appliance



Base: Total Sample (500)

Those who have **appliances aged over 10 years** are significantly more likely than the New Zealand population to:

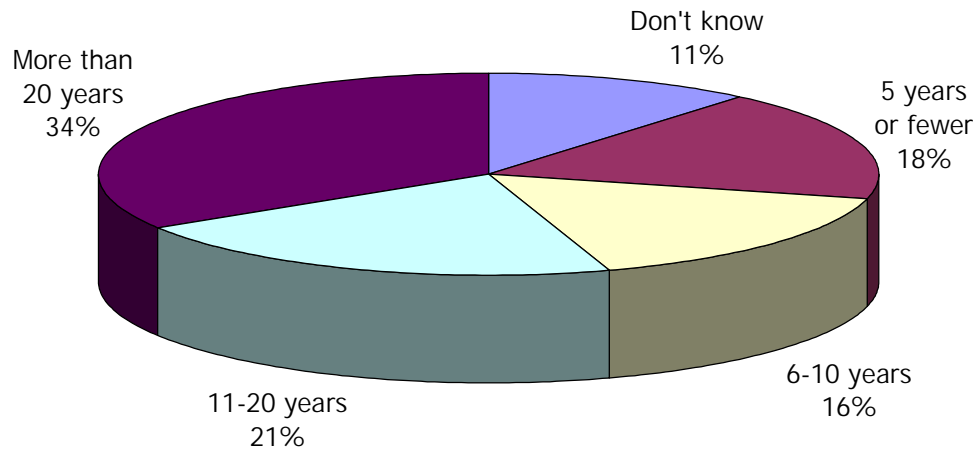
- be homeowners (83% cf. 76% in the total sample)
- have lived in the same place for more than 10 years (45% cf. 31%)
- be retired (20% cf. 15%)
- live in the lower North Island (23% cf. 18%).

# Electrical wiring

## Electrical wiring aged 20+ years in a third of households

Households were asked the age of the majority of the electrical wiring in their home. As the graph below shows, for one in three (34%) the majority of wiring is 10 years old or newer. For another one in three (34%), the majority of wiring is over 20 years old. For one in five (21%) the majority of wiring is between these two extremes, ie. 11-20 years old.

Age of Electrical Wiring



Base: Total Sample (500)

Those who have wiring aged **over 20 years** are significantly more likely than the New Zealand population to:

- be homeowners (82% cf. 76% in the total sample), although this difference is probably because half of renters (50%) are unsure of the age of the electrical wiring in their homes
- have lived in the same place for over 10 years (47% cf. 31%)
- have lower personal and household incomes, ie. \$30,000 or less (49% cf. 43%, and 32% cf. 25% respectively)
- live in the South Island (27% cf. 22%).

## Overwhelming majority believe electrical safety is adequate

Households were asked if they believed the electrical safety in their home, in terms of the existing wiring, installations, and appliances, was more than adequate, adequate, or less than adequate. As the table below shows, the predominant view is that electrical safety in the home is more than adequate or adequate (93%).

ADEQUACY OF ELECTRICAL SAFETY	Base: Total Sample (n=500)
More than adequate	38%
Adequate	55%
Less than adequate	7%

Those who feel safety is **inadequate** are significantly more likely than the New Zealand population to:

- have lived in their home for less than 12 months (27% cf. 14% in the total population)
- rent their home (48% cf. 24%)
- be students, beneficiaries, or unemployed (33% cf. 7%)
- have lower personal incomes (64% cf. 43%)
- have electrical wiring aged over 20 years (55% cf. 34%).

### ***Perceptions of adequate safety due to no problems or new installations***

Those who feel the electrical safety in their home is adequate or more than adequate were asked the reasons for this belief. The table below shows that the two most common reasons are not experiencing any problems with the existing system (50%), or the installations or appliances being new (34%). A few also mention having had the wiring or appliances checked recently (7%), their appliance(s) being fitted by a qualified electrician (7%), or being safety conscious and checking regularly (7%).

<b>REASONS FOR PERCEPTIONS OF ADEQUATE SAFETY</b>	<b>Base: Believe electrical safety adequate/more than adequate (n=466)</b>
No problems with existing system	50%
New wiring/installations/appliances	34%
Has been checked recently	7%
Safety conscious/I check it	7%
Fitted by qualified electrician	7%
Everything good quality	3%
Few problems/no major problems	1%
Because of age of house	1%
Other <sup>6</sup>	6%
Don't know	2%

<sup>6</sup> Reasons mentioned by three or fewer people.

***Perceptions of inadequate safety due to old wiring/  
appliances and fuses blowing***

The main reasons people believe their electrical safety is **inadequate** are that the wiring or appliances are old (45%), or fuses blowing (24%), or the lights or plugs being faulty or broken. Sparking and exposed or damaged wiring or insulators is a lesser concern with 12% mentioning each of these, as is not having the wiring checked recently (9%). Only 6% mention having had electrical shocks.

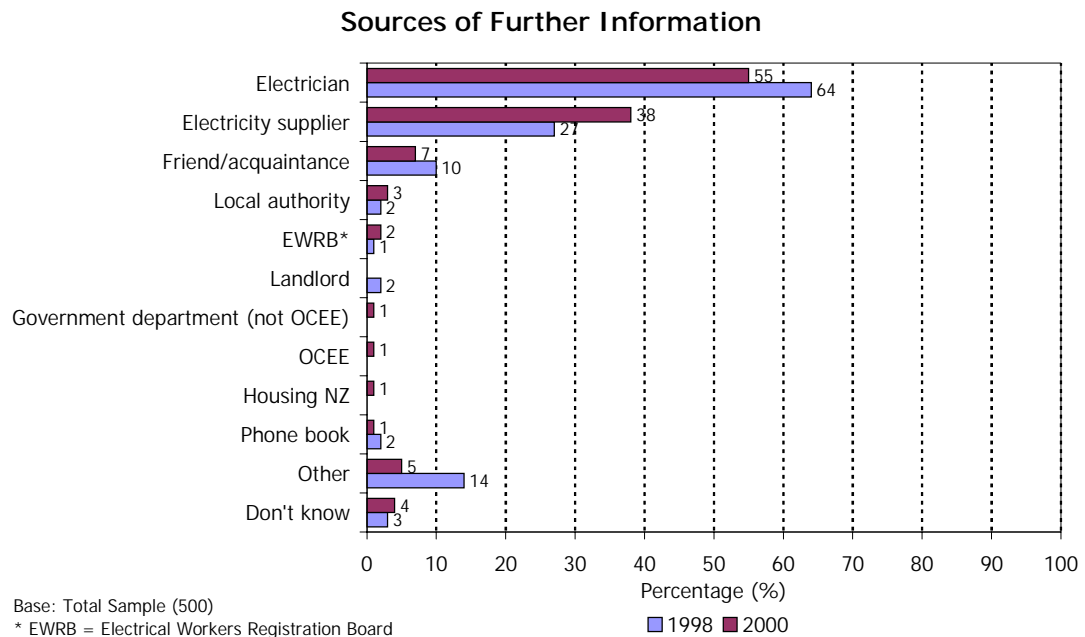
REASONS FOR PERCEPTIONS OF INADEQUATE SAFETY	Base: Believe electrical safety inadequate (n=33)
Old wiring/appliances	45%
Fuses blowing	24%
Faulty/broken lights or plugs	21%
Sparking (eg. appliances/sockets)	12%
Wires/insulator exposed or damaged	12%
Has not been checked at all/recently	9%
Have had electrical shocks	6%
Other <sup>7</sup>	9%

<sup>7</sup> Reasons mentioned by one person: power points in exposed or dangerous places, loose wiring, system overloaded, electrician says wiring should be replaced.

## Electrician or supplier main source of further information

All decision-makers were asked who they would contact if they wanted more information about some aspect of electrical safety. The graph below compares the results of this survey to those in the 1997 survey.<sup>8</sup>

As the results show, in 2000 just over half (55%) would turn to an electrician. To a lesser extent, a third (38%) would contact their electricity supplier. These two results are significantly lower than in 1997. As in 1997, currently only 1% claim they would contact the Office of the Chief Electrical Engineer (Ministry of Economic Development).



Those who mention an **electrician** are significantly more likely than the New Zealand population to:

- be home owners (82% cf. 76% in the total sample)
- live in the central North Island (25% cf. 19%), and especially in Hamilton (9% cf. 6%).

Those who mention an **electricity supplier** are significantly more likely than the New Zealand population to:

- live in Christchurch (19% cf. 13% in the total sample).

<sup>8</sup> This is the only question with which comparisons with previous surveys can be made.

Too few people (three) mention the **Office of the Chief Electrical Engineer (OCEE)** or Ministry to provide any demographic analysis of this group.

## Safety checks

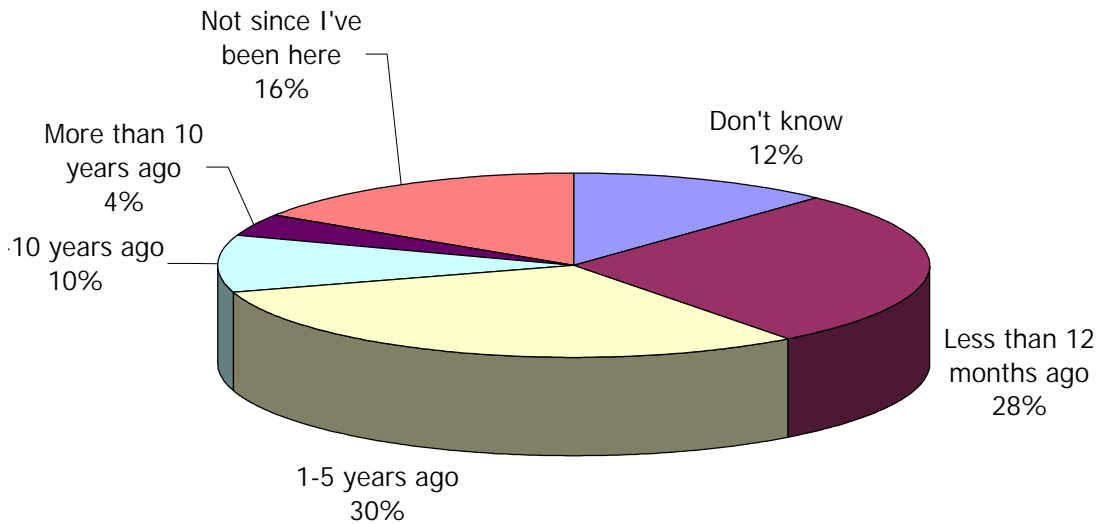
### Over half had electrical wiring safety checked in last five years

The following graph shows the last time some form of an electrical wiring check was conducted, either by an electrician whilst doing work in the house, or by someone whose purpose was to conduct a safety check.<sup>9</sup>

As the graph below shows, over one in two have had their home's electrical safety checked within the last five years (59%). One in 10 have had it checked in the last 6-10 years (10%), and only 4% have not had it checked at all in the last 10 years.

Sixteen percent also say they have not had it checked since they have been living in their home. Most of this group have lived in their home for five years or less (72%). Only 6% have lived there for 20 years or longer.

### When Last Had Work Done/Checks



Base: Total Sample (500)

<sup>9</sup> There was very little difference in timeframes for getting specific safety checks versus having work done by a electrician. These results are appended.

Those who have had a check in the last **12 months** are significantly more likely than the New Zealand population to:

- be white collar workers (28% cf. 22% in the total sample)
- have a high personal income, ie. over \$50,000 (21% cf. 16%).

Those who have had a check in the last **1-5 years** are significantly more likely than the New Zealand population to:

- be home owners (85% cf. 76% of the total sample).

Those who have had a check in the last **6-10 years** are significantly more likely than the New Zealand population to:

- be home owners (98% cf. 76% of the total sample)
- be New Zealand European (96% cf. 82%)
- have lived in their home for more than 10 years (59% cf. 31%)
- be retired (31% cf. 15%).

Although there are only 22 people who have had a safety check **more than 10 years ago**, making the results indicative only, the data suggests that this group may be more likely than the New Zealand population to:

- be home owners (91% cf. 76% of the total sample)
- be Maori (18% cf. 8%)
- have lived in their home for more than 10 years (86% cf. 31%)
- be retired (36% cf. 15%)
- have low personal and household incomes, ie. \$30,000 or less (59% cf. 43%, and 45% cf. 25% respectively).

## Over half believe safety checks should be done at least every 10 years

All households were asked how often they believe that household installations, appliances, and wiring should be checked for electrical safety by a qualified person. The table below shows the results.

Overall, people mention a variety of timeframes. There is little consensus about an appropriate time frame for safety checks. The most commonly mentioned time frames are once every five years (22%), and once every ten years (17%), and 15% say only when things go wrong. A substantial proportion (16%) can not provide any timeframe. Over half (55%), however, feel electrical safety should be checked at least every 10 years.

HOW OFTEN SHOULD CHECK ELECTRICAL WIRING	Base: Total Sample (n=500)
Every six months	2%
Once a year	7%
Every 2 years	5%
Every 3 years	2%
<b>Every 5 years</b>	<b>22%</b>
<b>Every 10 years</b>	<b>17%</b>
Every 15 years	1%
Once every 20 years	3%
Depends on age of wiring/appliance	1%
<b>Only when things go wrong</b>	<b>15%</b>
When you buy it	2%
Other	6%
Never	1%
<b>Don't know</b>	<b>16%</b>

Those who prefer a longer timeframe, ie. every **6-20 years**, are significantly more likely than the New Zealand population to:

- be retired (22% cf. 15% of the total sample)
- have a personal and household annual income of \$30,000-\$50,000 (33% cf. 25%, and 25% cf. 19% respectively).

Those who are **unsure** are significantly more likely than the New Zealand population to:

- be women (61% cf. 53%)
- be home owners (87% cf. 76%)
- live in Auckland (50% cf. 39%), or Dunedin (11% cf. 5%).

Although the base size is small (17), making the results indicative only, those who say **only when things go wrong** may be more likely than the New Zealand population to:

- be home owners (93% cf. 76% in the total sample)
- be New Zealand European (89% cf. 82%)
- have lived in their home for more than 10 years (47% cf. 31%)
- be blue collar workers (25% cf. 15%) or retired (23% cf. 15%)
- live in the South Island (32% cf. 22%), and especially in Christchurch (22% cf. 13%).

## Over half want compulsory checks

All households were asked if they believe that household electrical safety checks, such as those mentioned above, should be made compulsory. As the table below shows, over half of households (55%) feel that professional electrical safety checks in the home should be compulsory.

CHECKS SHOULD BE COMPULSORY	Base: Total Sample (n=500)
Yes	55%
No	36%
Don't know	9%

Those who feel professional electrical safety checks **should be compulsory** are significantly more likely than the New Zealand population to be:

- renters (34% cf. 24% in the total sample)
- full-time homemakers (13% cf. 10%)

Those who feel professional electrical safety checks should **not be compulsory** are significantly more likely than the New Zealand population to be:

- men (56% cf. 47% in the total sample)
- home owners (86% cf. 76% in the total sample)
- living in the lower North Island (23% cf. 18%), and especially in Palmerston North (6% cf. 3%).

### ***Owners should be responsible for compulsory electrical checks***

Those who feel professional electrical safety checks should be compulsory clearly feel the owner of the property should be responsible (75%). To a much lesser extent, 16% believe electricity suppliers should be responsible.

NB: Figures sum to over 100% as people could provide more than one answer.

<b>WHO SHOULD BE RESPONSIBLE</b>	<b>Base: Believe electrical safety checks should be compulsory (n=276)</b>
Owner/landlord/property manager	75%
Electricity suppliers	16%
Government	5%
City/local council	4%
Insurance companies	3%
Other	3%
Don't know	1%

## Communications on electricity safety

To gain an idea of where New Zealanders are getting their electricity safety information from, if at all, households were asked a number of questions related to safety communications.

### Two in five aware of information about electricity

All households were asked if they had seen or heard of any information about electricity safety in the last 12 months. The results show that almost two in five (39%) have.

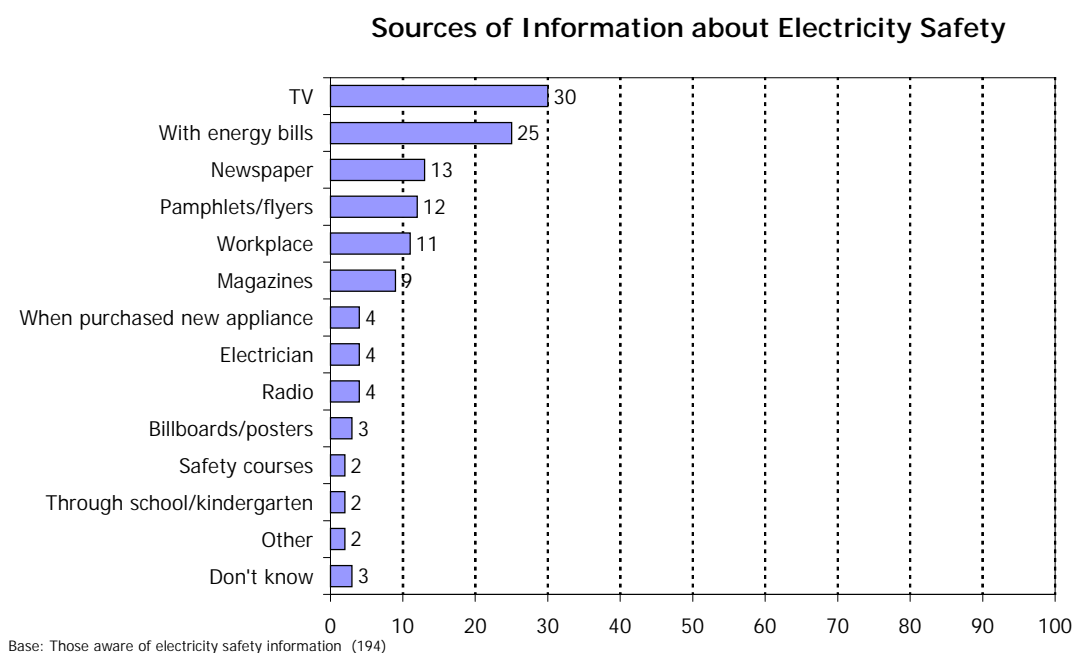
SEEN/HEARD INFORMATION ABOUT ELECTRICITY	Base: Total Sample (n=500)
Yes	39%
No	58%
Don't know	3%

Those who are **aware of information** about electricity safety are significantly more likely than the New Zealand population to:

- be New Zealand Europeans (88% cf. 82% in the total sample)
- have a personal annual income of over \$30,000 to \$50,000 (30% cf. 25%).

### TV and bills main source of information

Those who were aware of any electricity safety information in the last 12 months were asked where they had seen or heard this information. The graph below shows the most commonly mentioned source is TV, mentioned by almost one in three (30%), followed by energy bills (25%). Print media (the newspaper, pamphlets/flyers, magazines) and the workplace are the next most commonly mentioned information sources.



Those who utilise energy bills/accounts as a source of information about electricity safety are significantly **less** likely than the population to be:

- blue collar workers (8% cf. 18%)
- people living in Wellington (4% cf. 11%)
- people living in Dunedin (0% cf. 6%).

Those **more** likely than the population to glean information from energy bills/accounts:

- live in Palmerston North (10% cf. 5%).

### ***Most common takeout is to 'leave it up to the professionals'***

Those who were aware of any electrical safety information in the last 12 months were also asked what they thought the main messages of the safety information were. As the table below shows, using qualified tradesmen rather than carrying out work yourself was most commonly mentioned (17%).

There is, however, a noticeable emphasis on checking all aspects of electrical connections/appliances, particularly carrying out regular checks (15%), having electric blankets tested (13%) and ensuring compliance with regulations (12%).

NB: Figures sum to over 100% as people could provide more than one answer.

<b>MAIN MESSAGES</b>	<b>Base: Aware of Electrical Safety Information (n=194)</b>
<b>Check/repair electrical appliances</b>	
Have everything checked regularly	15%
Have electric blankets tested	13%
Make sure things are safe/comply with regulations	12%
Do maintenance work regularly	2%
<b>General usage/rules/guidelines</b>	
Protect children from electrical sockets	8%
Check things are turned off	6%
Use safety switches when working outside	5%
Don't have electrical appliances near water	5%
Keep flammable materials away	4%
Don't overload plugs/switches/powerpoints	4%
Switch power off before doing home maintenance	3%
Safety with cords – hanging, near heat	3%
<b>Others</b>	
Shouldn't do anything yourself/leave it to professionals	17%
Use fire alarms/smoke detector	5%
Take care around powerlines – watch height	2%
Miscellaneous <sup>10</sup>	16%
Don't know	13%

<sup>10</sup> Includes mentions of: wiring, fire prevention, general safety issues, safety standards/legalities.

Of the main messages that people had understood from the electrical safety information they had seen or heard, those who were of the opinion that you “*shouldn’t do anything yourself*” (in terms of approaching electrical problems) were significantly **more** likely than the population to be male (67% cf.52%).

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## Section 3: Gas Safety

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The purpose of this section is to profile gas users in New Zealand, and their perceptions of gas safety in the home. Where appropriate, we also examine non-gas users' perceptions.

### Section summary: vast majority believe safety adequate but most still want safety checks

- **Households which use gas comprise 60% of all New Zealand households:** Gas users are more likely than New Zealanders generally to be home owners, have higher households incomes and live in the lower North Island.
- **Type and age of appliances:** Few have gas water heaters in the bathroom (3%) or gas heaters in the bedroom (4%). One in five households have appliances (18%) over 10 years old.
- **Safety instructions for gas appliances:** Most read the instructions (86%) that come with new appliances. The vast majority of those who read the instructions (98%) believe the safety instructions are adequate or more than adequate.
- **Age and perceived safety of plumbing:** At least 7%<sup>11</sup> of mains gas users have plumbing over 20 years old. Almost all (98%) believe the gas safety in their home is adequate or more than adequate.
- **Safety Checks:** Three in four mains gas users (75%) say they have had a safety check or a gasfitter visit in the last five years. Few (3%) say they have not had any in the last 10 years. Two in three New Zealand households (64%) feel gas safety checks should be conducted at least every five years, and a similar proportion (66%) feel there should be compulsory gas safety checks conducted by a professional, showing a high level of support for compulsory checks.

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<sup>11</sup> Ten percent are unsure of the age of their gas plumbing.

## Demographic profile of gas users

### Gas users are homeowners

Three in five households in this survey (60%) use gas, either via a mains gas supply or a gas bottle or tank system.<sup>12</sup> The table below provides a profile of households that use gas.

The results show that gas is more popular amongst homeowners (80% use gas cf. 76% of the general population who are homeowners), those with high household incomes (22% cf. 17%), and those who live in the lower North Island (22% cf. 18%). Gas users are rarer in the South Island (17% cf. 22% in New Zealand), and especially in Christchurch (8% cf. 13%).

NB: The green circles indicate results that are significantly **higher** than the total sample. The red squares indicate results that are significantly **lower** than average.

	Base: Total Sample (n=500)	Base: Gas Users (n=301)
<b>Gender</b>		
Male	47%	50%
Female	53%	50%
<b>Property owned by</b>		
Outright or with a mortgage	76%	80%
Owned by someone else	24%	20%
<b>Ethnic group</b>		
Other	2%	2%
Refused	1%	1%
New Zealand European	82%	84%
Maori	8%	8%
Pacific Island	4%	2%
Asian (Indian/Chinese)	2%	1%
European	6%	6%
<b>Number of years in household</b>		
Short term: less than 12 months	14%	12%
Medium term: 1-10 years	55%	60%
Long term: more than 10 years	31%	29%

*Table continued overleaf*

<sup>12</sup> The 1996 Census data from Statistics NZ suggests this figure is much higher than the real figure, which is no more than 38% of the New Zealand population (13% use mains gas and 25% use bottled gas). This figure could be even lower due to some households using both mains and bottled gas. This does not, however, affect the majority of results as most are based only on those who use gas.

	Base: Total Sample (n=500)	Base: Gas Users (n=301)
<b>Occupation</b>		
Professional/managerial	31%	34%
White collar worker	22%	21%
Blue collar worker	15%	16%
Full time homemaker	10%	11%
Retired	15%	12%
Student/beneficiary/unemployed	7%	6%
Refused	0%	0%
<b>Personal income</b>		
Up to and including \$30,000	43%	40%
Over \$30,000 to \$50,000	25%	27%
Over \$50,000	16%	19%
Don't know	2%	2%
Refused	15%	12%
<b>Household income</b>		
Up to and including \$30,000	25%	21%
Over \$30,000 to \$50,000	19%	19%
Over \$50,000 to \$80,000	18%	20%
Over \$80,000	17%	22%
Don't know	7%	5%
Refused	16%	13%
<b>Area</b>		
Auckland	39%	39%
Wellington	13%	15%
Christchurch	13%	8%
Hamilton	6%	7%
Dunedin	5%	3%
Hawke's Bay	4%	4%
Palmerston North	3%	5%
Tauranga	3%	4%
Invercargill	2%	3%
Nelson	2%	3%
Whangarei	2%	1%
Gisborne	1%	2%
New Plymouth	2%	2%
Wanganui	2%	2%
Rotorua	2%	2%
<b>Regions</b>		
North Island	78%	83%
South Island	22%	17%
Upper North Island	41%	40%
Central North Island	19%	21%
Lower North Island	18%	22%

## Homeowners who use gas have higher incomes than renters

The Ministry suspects that renters may have different perceptions of gas safety in their home compared to home owners. To construct a picture of renters and home owners who use gas, the table below and overleaf provides a profile of each and compares the two.

The results show that although the majority of **renters who use gas** are New Zealand European (63%), there is a higher proportion of Maori than for home owners (20% cf. 5%). Compared to home owners, renters are also more likely to have lived in their home for less than 12 months (28% cf. 7%), and be full-time homemakers (17% cf. 10%) or students, beneficiaries or unemployed (15% cf. 4%).

Conversely, compared to renters, **home owners who use gas** tend to be New Zealand European (90% cf. 63%), have lived in their home for more than 10 years (34% cf. 5%). They are also more likely to be retired (15% cf. 0% of renters), and to be in the higher personal income bracket, ie. over \$50,000 (21% cf. 10% of renters). They are also more likely to be in the Central North Island (23% cf. 13% of renters).

NB: The green circles indicate results that are significantly **higher** than the comparison group (eg. decisions makers who rent and use gas are significantly more likely to be males than decision-makers who own their own home).

	Base: Homeowners (n=241)	Base: Renters (n=60)
<b>Gender</b>		
Male	50%	48%
Female	50%	52%
<b>Ethnic group</b>		
Refused	0%	2%
New Zealand European	90%	63%
Maori	5%	20%
Pacific Island	2%	3%
Asian (Indian/Chinese)	1%	2%
European	5%	8%
Other	1%	5%
<b>Number of years in household</b>		
Short term: less than 12 months	7%	28%
Medium term: 1-10 years	58%	67%
Long term: more than 10 years	34%	5%

*Table continued overleaf*

	Base: Homeowners (n=241)	Base: Renters (n=60)
<b>Occupation</b>		
Professional/managerial	35%	28%
White collar worker	20%	22%
Blue collar worker	16%	18%
Full time homemaker	10%	17%
Retired	15%	0%
Student/beneficiary/unemployed	4%	15%
<b>Personal income</b>		
Up to and including \$30,000	38%	45%
Over \$30,000 to \$50,000	26%	32%
Over \$50,000	21%	10%
Don't know	2%	3%
Refused	13%	10%
<b>Household income</b>		
Up to and including \$30,000	22%	18%
Over \$30,000 to \$50,000	18%	25%
Over \$50,000 to \$80,000	20%	20%
Over \$80,000	23%	17%
Don't know	4%	10%
Refused	14%	10%
<b>Area</b>		
Auckland	38%	42%
Wellington	14%	18%
Christchurch	8%	8%
Hamilton	9%	0%
Dunedin	4%	0%
Hawke's Bay	3%	7%
Palmerston North	4%	7%
Tauranga	4%	3%
Invercargill	3%	2%
Nelson	2%	7%
Whangarei	1%	2%
Gisborne	2%	2%
New Plymouth	2%	0%
Wanganui	2%	2%
Rotorua	2%	2%
<b>Region</b>		
North Island	83%	83%
South Island	17%	17%
Upper North Island	39%	43%
Central North Island	23%	13%
Lower North Island	21%	27%

## Those with higher incomes tend to be professional men in Auckland; lower incomes tend to be women, retired or students/beneficiaries

Previous gas safety surveys have highlighted a difference in behaviour or perception dependent on income level. The table below provides a profile of both those with lower, and higher, household incomes.

Compared to those with lower household incomes, those with **higher household incomes**, ie. over \$50,000, are more likely to be men (54% cf. 44% of those with lower incomes), be in professional or managerial occupations (50% cf. 18%), and live in Auckland (51% cf. 32%). They are also more likely to have lived in their home for 1-10 years (66% cf. 55%), and have personal incomes over \$50,000 (44% cf. 0%).

Compared to those with higher household incomes, those with **lower household incomes**, ie. \$50,000 or less, are more likely to be women (56% cf. 46% of those with higher incomes), be retired (22% cf. 2%), or students, beneficiaries or unemployed (12% cf. 0%), and live in the lower North Island (25% cf. 16%). They are also more likely to have lived in their home for over 10 years (33% cf. 21%), and have lower personal incomes, ie. \$30,000 or less (69% cf. 24%).

NB: The green circles indicate results that are significantly **higher** than the comparison group.

	Base: Household income \$50,000 or less (n=121)	Base: Household income over \$50,000 (n=124)
<b>Gender</b>		
Male	44%	54%
Female	56%	46%
<b>Property owned by</b>		
Outright or with a mortgage	79%	82%
Owned by someone else	21%	18%
<b>Ethnic group</b>		
Other	2%	2%
New Zealand European	85%	84%
Maori	10%	9%
Pacific Island	2%	2%
Asian (Indian/Chinese)	2%	0%
European	2%	8%
<b>Number of years in household</b>		
Short term: less than 12 months	12%	13%
Medium term: 1-10 years	55%	66%
Long term: more than 10 years	33%	21%

	Base: Household income \$50,000 or less (n=121)	Base: Household income over \$50,000 (n=124)
<b>Occupation</b>		
Professional/managerial	18%	50%
White collar worker	18%	23%
Blue collar worker	17%	16%
Full time homemaker	12	8
Retired	22%	2%
Student/beneficiary/unemployed	12%	0%
Refused	0%	1%
<b>Personal income</b>		
Don't know	0%	1%
Refused	1%	0%
Up to and including \$30,000	69%	24%
Over \$30,000 to \$50,000	30%	31%
Over \$50,000	0%	44%
<b>Area</b>		
Auckland	32%	51%
Wellington	14%	14%
Christchurch	7%	7%
Hamilton	7%	9%
Dunedin	3%	4%
Hawke's Bay	5%	2%
Palmerston North	7%	2%
Tauranga	3%	3%
Invercargill	4%	2%
Nelson	6%	1%
Whangarei	2%	1%
Gisborne	2%	1%
New Plymouth	2%	2%
Wanganui	4%	0%
Rotorua	2%	2%
<b>Region</b>		
North Island	80%	86%
South Island	20%	14%
Upper North Island	34%	52%
Central North Island	21%	19%
Lower North Island	25%	16%

# Gas appliances

## Water heaters in bathroom or portable bedroom heaters uncommon

Having unflued gas appliances are potentially lethal in an unventilated room. Two common examples of this are portable gas bedroom heaters, and gas water heaters in the bathroom. Because of the potential danger, the Ministry wants to determine the prevalence of these types of gas appliances in New Zealand households. To this end, households with gas appliances were asked if they have gas water heaters in the bathroom, or have used portable gas heaters in a bedroom in the last 12 months.

As the table below shows, 7% have used portable gas heaters in a bedroom in the last 12 months, and 5% have a gas water heater in their bathroom. These figures equate to approximately 33,993 – 22,359 households in New Zealand having used a portable gas heater, and approximately 15,971 – 24,281 households in New Zealand having a gas water heater in the bathroom.<sup>13</sup>

GAS APPLIANCES IN HOME	Base: Gas Users (n = 301)
Gas water heaters in bathroom	5%
Portable gas heaters used in bedrooms	7%

Although there are only 17 respondents who say they use **gas water heaters in the bathroom**, making the results indicative only, the data suggests that these users are more likely than the New Zealand population to:

- be blue collar workers (35% cf. 15% in the total sample)
- have high household annual incomes, ie. over \$80,000 (29% cf. 17%).

<sup>13</sup> This figure was calculated using the Statistics 1996 Census data. Further information on how these figures are calculated is appended.

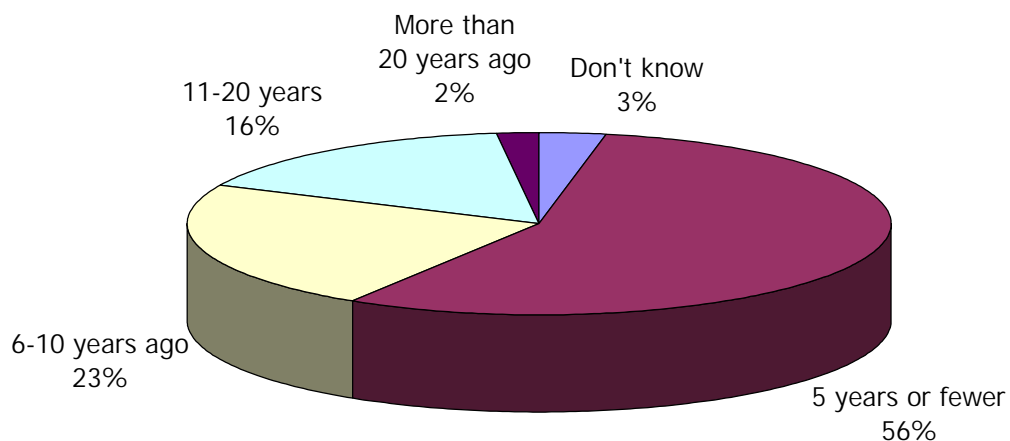
Although there are only 19 respondents who have used a **portable gas heater in a bedroom** in the last 12 months, making the results indicative only, this group appear to be more likely than the New Zealand population to:

- be Maori (21% cf. 8% in the total sample)
- have lived in the same home for 1-10 years (74% cf. 55%)
- be blue collar workers (32% cf. 15%)
- have a personal annual income of \$30,000-\$50,000 (42% cf. 25%)
- have a household annual income of \$50,000-\$80,000 (47% cf. 18%)
- live in the central North Island (42% cf. 19%).

### One in five gas appliances over 10 years old

All gas appliance users were asked how old their oldest gas appliance is. As the graph below shows, just over half (56%) are relatively new, being bought within the last five years. One in five (18%), however, are over 10 years old.

#### Oldest Gas Appliance



Base: Use Gas (301)

Those who have **appliances aged over 10 years** are significantly more likely than all those with gas appliances to:

- have lived in the same place for more than 10 years (52% cf. 29% of those who have gas appliances)
- be retired (21% cf. 12%)
- live in the lower North Island (46% cf. 22%), especially in Wellington (27% cf. 15%) and Palmerston North (14% cf. 5%).

## Gas safety instructions perceived to be adequate

Households who have bought gas appliances in the last five years (38% of all households) were asked if they had read the instructions on usage. Of those who have bought new gas appliances, most (86%) have read the instructions.

READ INSTRUCTIONS	Base: Bought Gas Appliance in Last Five Years (n=189)
Yes	86%
No	11%
Don't know	1%
No instructions supplied	2%

Although the number of people not reading instructions is small (21), making the results indicative only, the data suggests that those who are **unlikely to read instructions** may be:

- students, beneficiaries, or unemployed (19% cf. 6% of those who have bought a gas appliance in the last five years)
- in Wellington (24% cf. 10%).

***Vast majority believe instructions are adequate***

Of the 163 who did read the instructions, the overwhelming majority (98%) believe the instructions are adequate, and one in four (41%) believe they are more than adequate.

ADEQUACY OF INSTRUCTIONS	Base: Read Instructions (n=163)
More than adequate	41%
Adequate	57%
Less than adequate	1%
Don't know	1%

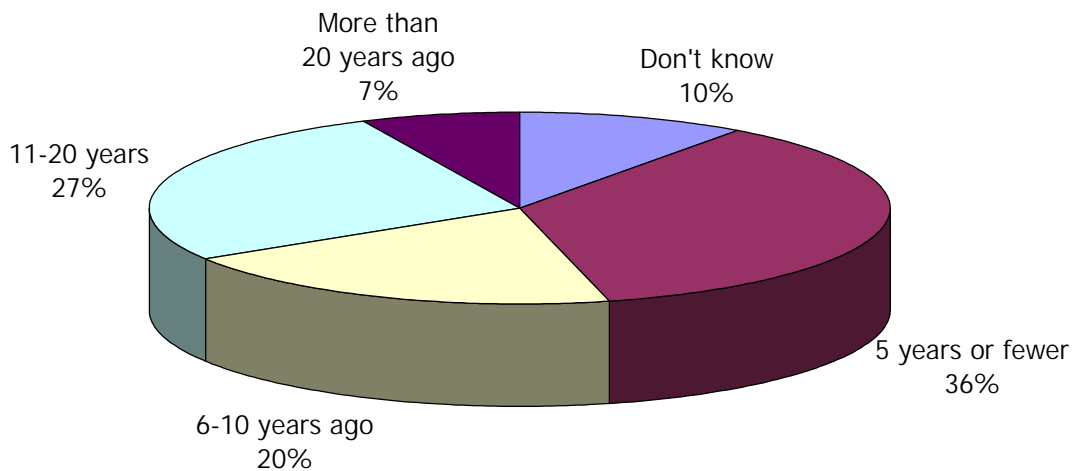
## Mains gas

Mains gas users<sup>14</sup> constitute 18% of the total sample.<sup>15</sup> Households which use mains gas have a similar profile to households which use gas appliances. The key differences are that mains gas users are significantly more likely to be financially better off than gas users generally, and are significantly more common in the lower North Island. This profile is appended.

### Over half of gas plumbing is 10 years old or less

Mains gas users were asked the age of the majority of the gas plumbing in their home. As the graph below shows, for just over half (56%) their plumbing is 10 years old or newer. For one in four, gas plumbing is between 10 and 20 years old (27%), and for 7% it is over 20 years old.

**Age of Gas Plumbing**



Base: Use Mains Gas (91)

There is no demographic analysis of those who have **plumbing aged over 20 years** due to a small sample size of six.

Those who have plumbing aged **over 10 years** are significantly more likely than all those with mains gas to live in Palmerston North (23% cf. 9%).

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<sup>14</sup> This excludes any households who only have portable gas appliances.

<sup>15</sup> This is slightly higher than the 1996 Census figure of 13%.

## Overwhelming majority believe gas safety is adequate

Those who have mains gas were asked if they believed the gas safety in their home, in terms of plumbing, installations, and appliances, was more than adequate, adequate, or less than adequate. The table below shows the predominant view is that gas safety in the home is more than adequate or adequate (98%).

ADEQUACY OF GAS SAFETY	Base: Have Mains Gas (n=91)
More than adequate	52%
Adequate	46%
Less than adequate	2%

Due to the small sample size of those who feel safety is inadequate there is no demographic analysis.

### *Perceptions of adequate safety due to no problems or new installations*

Those who feel the safety of gas in their home is adequate or more than adequate were asked the reasons for this belief. The table below shows that the two most common reasons are not experiencing any problems with their gas installations (51%), or gas installation being new (29%). One in 10 also mention having had the plumbing or appliance checked recently or their gas appliance(s) being fitted by a qualified gasfitter.

REASONS FOR PERCEPTIONS OF ADEQUATE SAFETY	Base: Believe Gas Safety Adequate/ More than Adequate (n=89)
No problems with existing system	51%
New appliances/plumbing	29%
Plumbing/appliances have just been checked	12%
Fitted by qualified gasfitter	10%
Safety conscious/I check it	2%
Cannot smell any gas	2%
Other <sup>16</sup>	8%
Don't know	1%

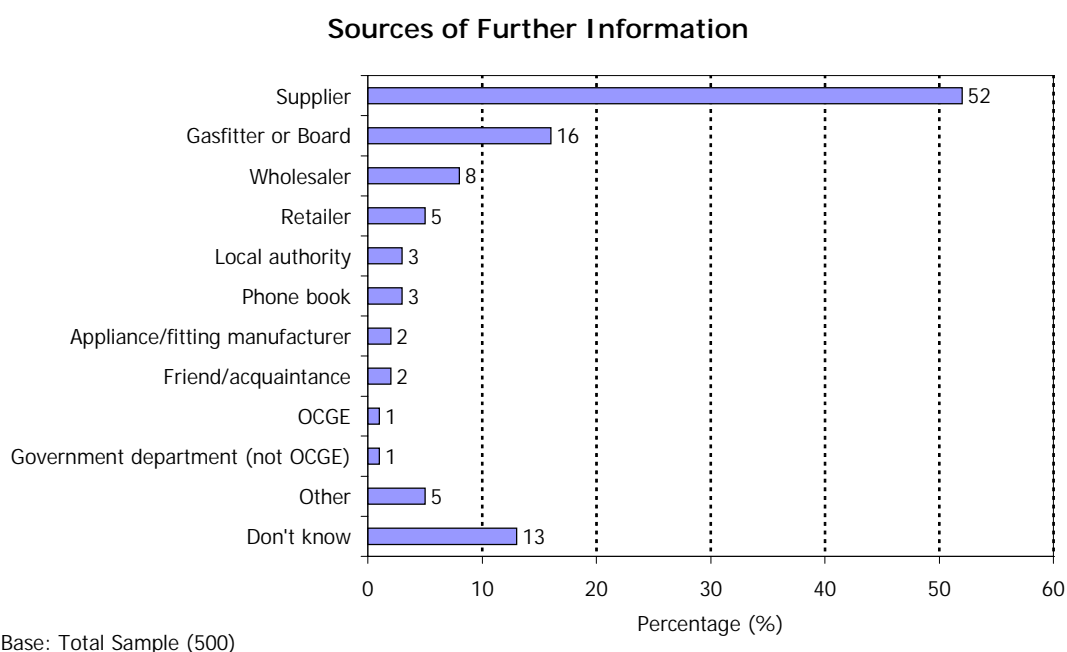
<sup>16</sup> Reasons mentioned by one person.

### *Perceptions of inadequate safety due to lack of permit or checks*

The two people who believe their gas safety is inadequate say the people installing it did not have a gas fitting permit or that there were no compulsory safety checks.

### Supplier main source of further information

All decision-makers were asked who they would contact if they wanted more information about some aspect of gas safety. As the following graph shows, half (52%) would turn to their gas supplier. To a much lesser extent, 16% would contact a gasfitter or the Gasfitters, Plumbers, and Drainlayers Board. Only 1% claim they would contact the Office of the Chief Gas Engineer (Ministry of Economic Development). One in eight (13%) are unsure who they would contact.



There are no significant differences for those who mention a **gas supplier**.

Those who mention **gasfitters or the Plumbers, Gasfitters and Drainlayers Board** are significantly more likely than the New Zealand population to:

- own their own home (88% cf. 76% in the total sample)
- have been in the house long term, ie. more than 10 years (39% cf. 31%)
- be retired (21% cf. 15%)
- live in the central North Island (35% cf. 19%), and especially in Hamilton (15% cf. 6%) and Gisborne (6% cf. 1%)
- use gas (79% cf. 60%).

Those who are **unsure** are significantly more likely than the New Zealand population to:

- be female (62% cf. 53% in the total sample)
- rent (37% cf. 24%)
- have a low household annual incomes, ie. under \$30,000 (35% cf. 25%)
- live in Christchurch (22% cf. 13%)
- not use gas (55% cf. 40%).

Too few people (five) mention the **Office of the Chief Gas Engineer (OCGE)** or Ministry to provide any demographic analysis of this group.

### ***Gas users more likely to go to gasfitter or board***

The following table shows who **gas users** would go to for further information. Compared to the general public shown in the previous graph, gas users are significantly more likely to mention a gasfitter or the Plumbers, Gasfitter, and Drainlayers Board. Mains gas users are even more likely to mention this source of information than gas users generally.

<b>WHO CONTACT FOR INFORMATION</b>	<b>Base: Gas Users (n= 301)</b>	<b>Base: Mains Gas Users (n=91)</b>
Gas supplier/authority/Company	50%	55%
<i>Gasfitter/Plumbers, Gasfitter, and Drainlayers Board</i>	21%	32%
Gas wholesaler	11%	8%
Retailer	7%	2%
Appliance/fitting manufacturer	3%	3%
Yellow pages/phone book	3%	5%
Friend or acquaintance	1%	1%
OCGE	1%	0%
Govt dept/ministry other than OCGE	1%	2%
Local authority	1%	1%
Other	5%	4%
Don't know	10%	4%

## Safety checks

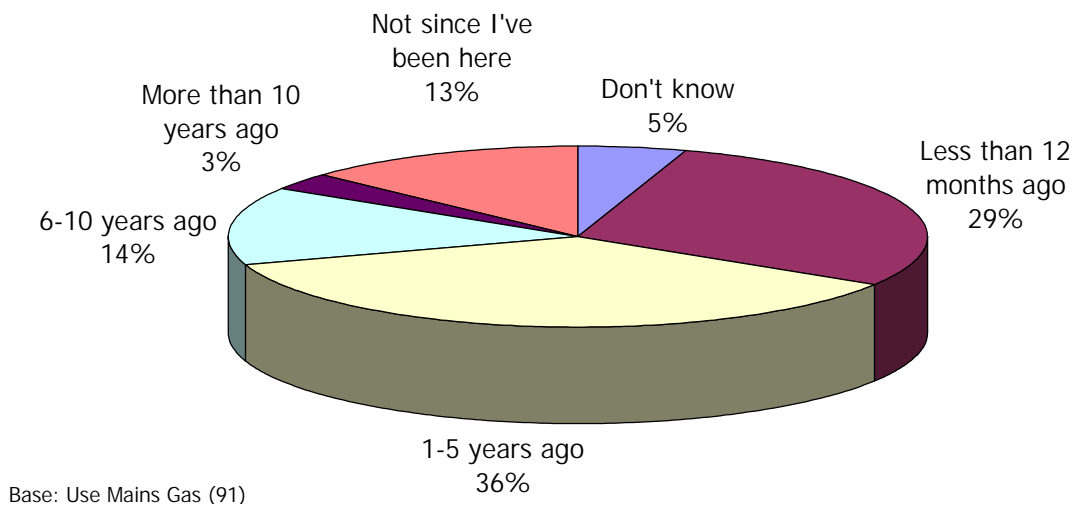
### Two in three had gas plumbing safety checked in last five years

The following graph shows the last time some form of a gas plumbing check was conducted in a home that uses mains gas, whether by a gasfitter whilst doing work in the house, or by someone whose purpose was to conduct a safety check.<sup>17</sup>

As the graph below shows, almost two in three have had gas plumbing checked within the last five years (65%). One in eight (14%) have had it checked in the last 6-10 years, and only 3% have not had it checked in the last 10 years.

One in eight (13%) also say they have not had work done or the safety checked since they have been living in their home. Most of this group have lived in their home for five years or less (69%). Only 5% have lived there for 20 years or longer.

### When Last Had Work Done/Checks



<sup>17</sup> There was very little difference in timeframes for getting specific safety checks versus having work done by a gasfitter. These results are appended.

Those who have had a check in the last **12 months**<sup>18</sup> are significantly more likely to:

- have a high personal income, ie. over \$50,000 (42% cf. 27% of those who use mains gas)
- be white collar workers (31% cf. 14%)
- have lived in the house for less than 12 months (27% cf. 12%).

Those who have had a check in the last **1-5 years** are significantly more likely to:

- own their own home (94% cf. 84% of those who use mains gas).

Sample sizes are too small to analyse other timeframes.

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<sup>18</sup> Warning – these figures are based on a sample size of 26 and therefore indicative only.

## Two in three believe safety checks should be done at least every 10 years

All households, regardless of whether they currently use gas or not, were asked how often they believe that household gas plumbing, installations, and appliances should be checked for gas safety by a qualified person. The table below shows the results for all households, and also compares gas users to those who do not currently use gas.

Overall, people mention a variety of timeframes ranging from every six months to once every 20 years or only when things go wrong. There is little consensus about when is an appropriate time for safety checks. The most commonly mentioned timeframes are once every five years (24%), and once a year (16%), and one in five can not provide any time frame. Two in three (64%), however, feel gas plumbing should be checked at least every 10 years – more frequently than the Energy Safety Service would recommend.

HOW OFTEN SHOULD CHECK GAS PLUMBING	Base: Total Sample (n=500)	Base: Have Gas in Home (n=301)	Base: No Gas in Home (n=199)
Every six months	4%	2%	8%
<b>Once a year</b>	<b>16%</b>	<b>14%</b>	<b>19%</b>
Every 1-2 years	2%	3%	0%
Every 2 years	8%	11%	5%
Every 3 years	2%	3%	2%
Every 3-5 years	1%	1%	2%
<b>Every 5 years</b>	<b>24%</b>	<b>29%</b>	<b>16%</b>
Every 5-10 years	0%	0%	1%
Every 10 years	7%	6%	8%
Every 15 years	0%	1%	0%
Once every 20 years	1%	1%	1%
On a refill	1%	2%	0%
Depends on age of wiring/appliance	0%	0%	1%
Only when things go wrong	5%	6%	3%
When you buy it	2%	1%	3%
Other	5%	5%	6%
Never	0%	0%	1%
<b>Don't know</b>	<b>20%</b>	<b>15%</b>	<b>29%</b>

Overall, gas users are more likely to say safety checks should be conducted at least every 10 years compared to those who do not use gas (69% cf. 61%). Those who do not use gas tend to be less sure of a time frame (15% cf. 29% of those who do not use gas say they do not know).

*The following demographics are based on those who use gas in the home:*

Although the base size is small (25), making the results indicative only, those who prefer a longer time frame, ie. every **6-20 years**, appear to be more likely than gas users generally to:

- be male (72% cf. 50% of gas users)
- own their own home (92% cf. 80%)
- have a personal annual income of \$30,000-\$50,000 (40% cf. 27%)
- live in the North Island (96% cf. 83%), especially those in the Hawke's Bay area (12% cf. 4%).

Those who are **unsure** are significantly more likely than gas users generally to:

- live in the North Island (93% cf. 83% of gas users) , especially Auckland (58% cf. 39%)
- be full-time homemakers (20% cf. 11%).

Although the base size is small (17), making the results indicative only, those who say **only when things go wrong** are all home owners, and also appear to be more likely to have lived in their home for more than 10 years (47% cf. 29% of all gas users), be retired (29% cf. 12%), and live in Wellington (29% cf. 15%).

## Two in three want compulsory checks

All households were asked if they believed that household gas safety checks, such as those mentioned above, should be made compulsory. As the table below shows, two out of every three households (66%) feel that professional gas safety checks in the home should be compulsory. Compulsory safety checks are just as popular amongst those with gas as those without gas.

CHECKS SHOULD BE COMPULSORY	Base: Total Sample (n=500)	Base: Have Gas in Home <sup>19</sup> (n=301)	Base: No Gas in Home (n=199)
Yes	66%	65%	67%
No	26%	28%	22%
Don't know	8%	7%	11%

*The following demographics are based on the total sample:*

Those who feel professional gas safety checks **should be compulsory** are significantly more likely than the New Zealand population to be renters (30% cf. 24% in the total sample).

Those who feel professional gas safety checks should **not be compulsory** are significantly more likely than the New Zealand population to be:

- home owners (86% cf. 76% in the total sample)
- those with high personal annual incomes, ie. over \$50,000 (21% cf. 16%)
- those with high household annual incomes, ie. over \$80,000 (23% cf. 17%)
- living in the lower North Island (25% cf. 18%)
- be in professional/managerial occupations (38% cf. 31%).

<sup>19</sup> This includes people who have appliances but no gas plumbing.

### *Owners should be responsible for compulsory gas checks*

Those who feel professional gas safety checks should be compulsory clearly feel the owner of the property should be responsible (76%). To a much lesser extent, one in four (25%) feel gas suppliers should be responsible.

NB: Figures sum to over 100% as people could provide more than one answer.

<b>WHO SHOULD BE RESPONSIBLE</b>	<b>Base: Believe gas safety checks should be compulsory (n=330)</b>
Owner/landlord/property manager	76%
Gas suppliers	25%
Government	5%
City/local council	3%
Insurance companies	2%
Other	3%
Don't know	1%

## Communications on gas safety

To gain an idea of where New Zealanders are getting their gas safety information from, if at all, households were asked a number of questions related to safety communications.

### One in eight aware of information about gas

All households were asked if they had seen or heard any information about gas in the last 12 months. The results show that one in eight (12%) have.

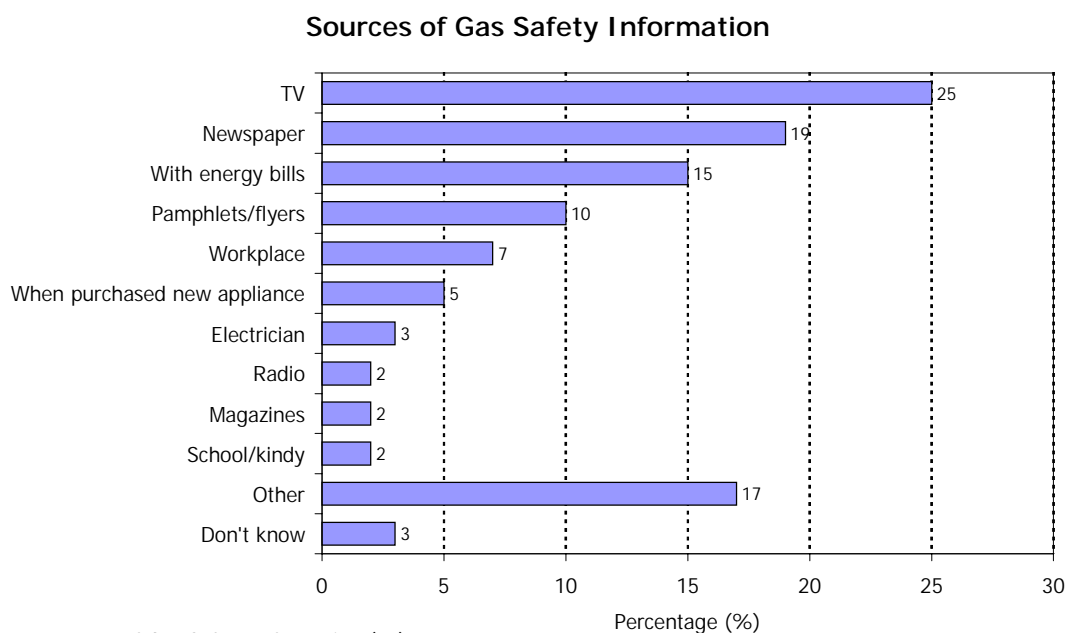
SEEN/HEARD INFORMATION ABOUT GAS	Base: Total Sample (n=500)
Yes	12%
No	86%
Don't know	2%

Those who are **aware of information** about gas safety are significantly more likely than the New Zealand population to:

- be men (59% cf. 47% in the total sample)
- believe the safety of gas in their home is more than adequate (77% cf. 52% of those who use mains gas)
- have high household annual incomes, ie. over \$80,000 (27% cf. 17% in the total sample).

### ***TV, newspapers and bills main source of information***

Those who were aware of any gas safety information in the last 12 months were asked where they had seen or heard this information. The graph below shows the most commonly mentioned source is TV, mentioned by one in four (25%), followed by the newspaper (19%), and energy bills (15%). This is unsurprising as TV generally has a much wider reach than other communication sources.



Base sizes are too small to conduct any demographic analysis.

### ***Most common takeout is 'check for leaks'***

Those who were aware of any gas safety information in the last 12 months were also asked what they thought the main messages of the safety information were. As the table below shows, checking for leaks was the most commonly mentioned (23%), followed by a variety of general usage guidelines such as being aware of potential danger (17%), carrying out regular maintenance checks on appliances (14%) and keeping flammable materials away from gas heaters (12%).

NB: Figures sum to over 100% as people could provide more than one answer.

<b>MAIN MESSAGES</b>	<b>Base: Aware of Gas Safety Information (n=59)</b>
<b>Check for leaks</b>	
Check gas leaks after appliances have been connected	20%
Check for leakages (unspecified)	3%
<b>General usage rules/guidelines</b>	
Be aware of danger/be careful	17%
Carry out regular maintenance checks on gas appliances	14%
Keep flammable materials away from gas heaters	12%
Make sure gas is turned off when finished using	8%
Operate gas appliances in well ventilated areas	7%
Careful with children around gas appliances	5%
<b>Others</b>	
Use qualified tradesmen to install or maintain gas plumbing/appliances	5%
How to use appliances (eg. gas cylinders in barbecues)	5%
If in doubt, check it out	3%
Test bottles	3%
Miscellaneous <sup>20</sup>	14%
Don't know	12%

Base sizes are too small to conduct any demographic analysis.

<sup>20</sup> Mentioned by one person: If you smell gas don't check it with a match; Phone number to ring in case of leaks; careful where you're digging; check all faulty appliances; be careful using gas in caravans; keep appliances safe; safety issues; report worn gas bottles; appliances better than they used to be.

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## Section 4: Price Points

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The purpose of this section is to determine whether or not people would be prepared to pay for electrical and gas safety checks, and if so, approximately how much would New Zealanders be prepared to pay. This has been done in a preliminary fashion, recognising that in order to determine accurate price points, a more detailed study would have to be undertaken.

### One in four prepared to pay for comprehensive safety check

Gas users in the house were asked if they would be prepared to pay \$300 to have a comprehensive safety check carried out on their household electrical wiring and gas plumbing. Those with only electricity were asked if they would be prepared to pay \$200 to have a comprehensive safety check carried out on their household electrical wiring.

As the table below shows, 14% of the total sample would pay \$300 for a comprehensive electrical and gas safety check. This equates to one in four (23%) gas users.<sup>21</sup> A similar proportion (26% of those who do not use gas, 10% of the total sample) would have a comprehensive electrical safety check. Together this equates to one in four (24%) New Zealanders being prepared to pay for a comprehensive safety check in their home.

<b>PREPARED TO PAY \$300</b>	<b>Base: Total Sample (n=500)</b>
Have \$300 gas and electricity safety check	14%
Have \$200 electricity safety check	10%
<b><i>Total prepared to pay for comprehensive check</i></b>	<b>24%</b>

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<sup>21</sup> There is only a slight difference between those who have gas plumbing and those who only have appliances but no plumbing: One in four (24%) of those who have gas appliances but no plumbing are prepared to pay \$300 for the safety check, compared with one in five (20%) of those who have gas plumbing.

As we have already seen earlier in this report, half of electricity users (55%) and two in three gas users (66%) believe that safety checks should be compulsory. Does this affect the amount they would be prepared to pay? As the sub-group analysis discussed below shows, those who are willing to pay for comprehensive safety checks tend to be those who believe that such checks should be compulsory. However, those who feel the safety (gas or electrical) of their home is **inadequate** are **unlikely** to be prepared to pay. This is not surprising as we have seen previously that those who feel the safety of their home is inadequate are more likely to have lower personal incomes (see electrical safety section).

Those who are prepared to pay **\$300 for comprehensive gas and electrical safety checks** are significantly more likely than the New Zealand population to:

- believe that electrical safety checks should be compulsory (73% cf. 56% of gas users)
- believe that gas safety checks should be compulsory (79% cf. 65% of gas users)
- be white collar workers (29% cf. 21%).

Those who say they would **not pay \$300** do not differ significantly from the New Zealand population.

Those who are prepared to pay **\$200 for comprehensive electrical safety checks** are significantly more likely than the New Zealand population to:

- believe that electrical safety checks should be compulsory (67% cf. 54% of non-gas users)
- believe that gas safety checks should be compulsory (80% cf. 67%).

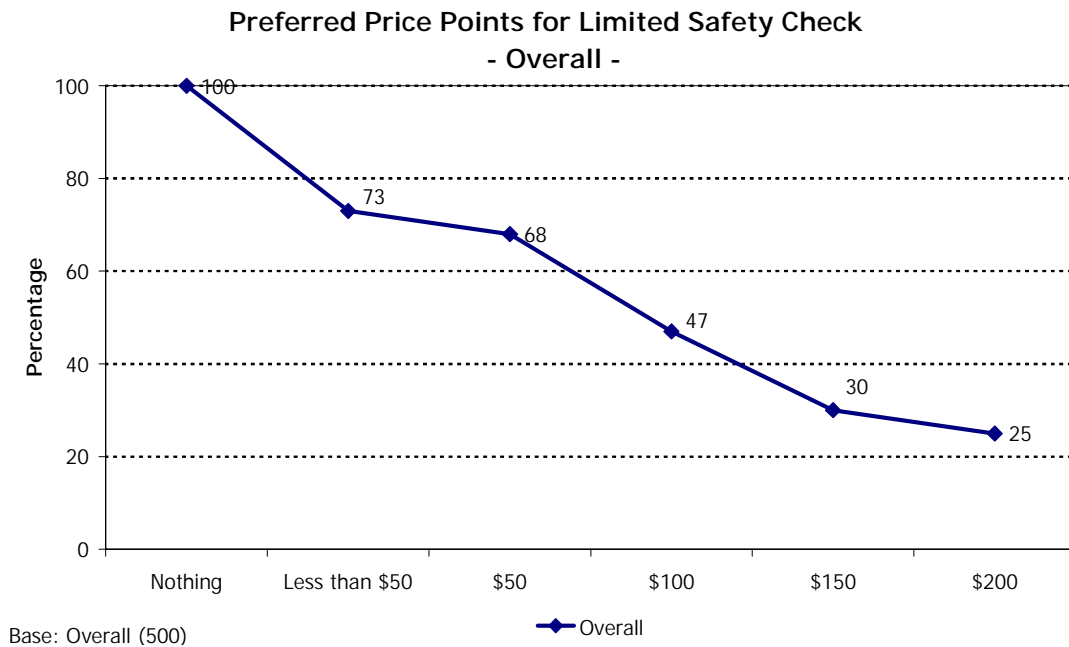
Those who say they would **not pay \$200** do not differ significantly from the New Zealand population.

## Half will only have safety checks if it is less than \$50

Those who are not prepared to pay for a comprehensive gas check were asked how much they would be prepared to pay for a **limited check** which would cover major fixed appliances, but not smaller appliances. The graph below provides a cumulative presentation of the results, eg. 44% are prepared to pay \$50 or more for a limited safety check.<sup>22</sup>

The results show that the majority will only have safety checks if they cost \$50 or less (68%). Less than half (47%) are prepared to pay \$100 or more.

NB: The figure for those who are not prepared to pay anything (“*Nothing*”) includes those who are unsure (9%). This graph includes the 24% who say they are willing to pay for a comprehensive safety check (see previous table).

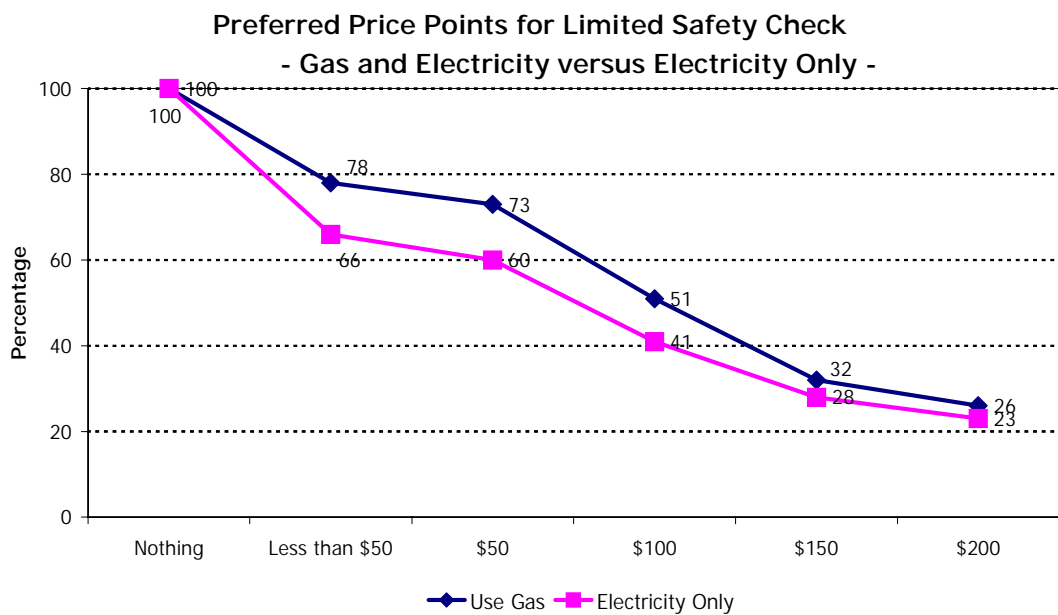


<sup>22</sup> A table with the complete set of data is appended.

## Gas users may pay more

The following graph examines the above results by gas users and those who only use electricity. As the results show, 73% of gas users are prepared to pay \$50 or more (compared to 60% of those who only use electricity), and 51% of gas users are prepared to pay \$100 or more (compared to 41% of those who only use electricity).

NB: This graph includes those who say they are willing to pay for a comprehensive safety check.



Base: Have Gas (301), Electricity Only (199)

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# Section 5: Electricity and Gas Compared

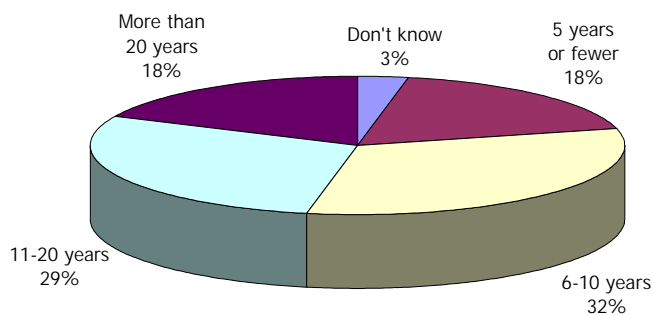
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This section compares, where possible, the previous results for both electricity and gas.

## Electrical appliances older than gas appliances

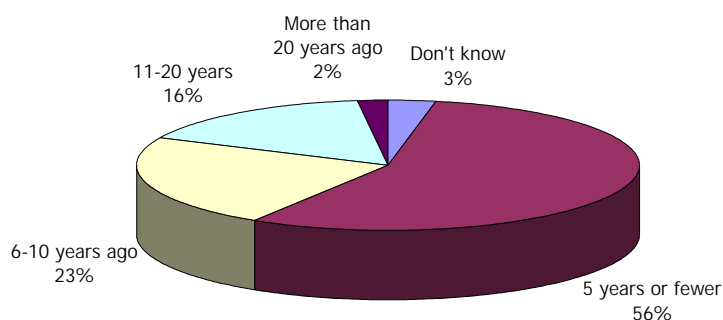
Almost half (47%) of the **electrical** appliances in use are over 10 years old, whereas only one in five (18%) of the **gas** appliances used by New Zealand households are over 10 years old.

Oldest Electrical Appliance



Base: Total Sample (500)

Oldest Gas Appliance

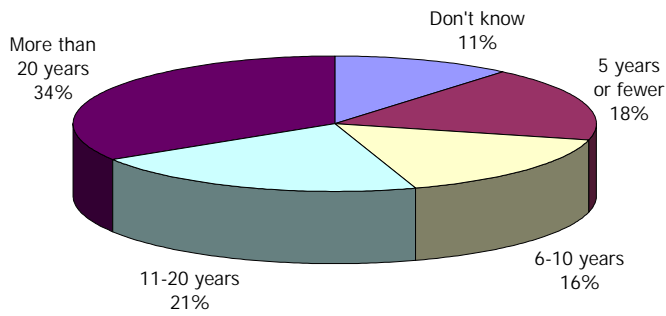


Base: Use Gas (301)

## Electrical wiring perceived to be older than gas plumbing

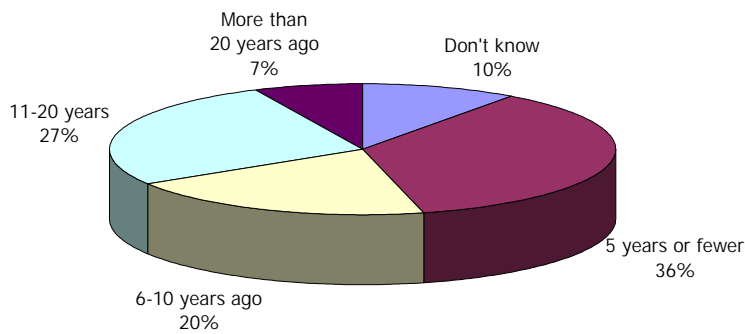
One in three (34%) electricity users report electrical wiring to be over 20 years old, while a much smaller proportion (7%) of mains gas users have plumbing over 20 years old.

### Age of Electrical Wiring



Base: Total Sample (500)

### Age of Gas Plumbing



Base: Use Mains Gas (91)

## Gas and electrical safety in the home overwhelmingly viewed as adequate

**Electricity safety** in the home is seen as more than adequate or adequate by 93% of users, and **gas safety** by 98% of users.

	ADEQUACY OF ELECTRICAL SAFETY Base: Total Sample (n=500)	ADEQUACY OF GAS SAFETY Base: Have Mains Gas (n=91)
More than adequate	38%	52%
Adequate	55%	46%
Less than adequate	7%	2%

### *Similar reasons for perceptions of adequate safety*

Reasons for perceptions of adequate safety are similar for both and gas and electricity users.

REASONS FOR PERCEPTIONS OF ADEQUATE SAFETY	Base: Believe Electrical Safety Adequate/ More than Adequate (n=466)	Base: Believe Gas Safety Adequate/ More than Adequate (n=89)
No problems with existing system	50%	51%
New wiring/plumbing/installations/ appliances	34%	29%
Has been checked recently	7%	12%
Safety conscious/I check it	7%	2%
Fitted by qualified electrician/gasfitter	7%	10%
Everything good quality	3%	-
Cannot smell any gas	-	2%
Few problems/no major problems	1%	-
Because of age of house	1%	-
Other <sup>23</sup>	6%	8%
Don't know	2%	1%

<sup>23</sup> Reasons mentioned by three or fewer people.

### *Reasons for perceptions of inadequate safety not comparable*

As stated earlier, the two people who believe their gas safety is inadequate say the people installing it did not have a gas fitting permit or that there are no compulsory safety checks. The results for electrical safety are shown in the table below.

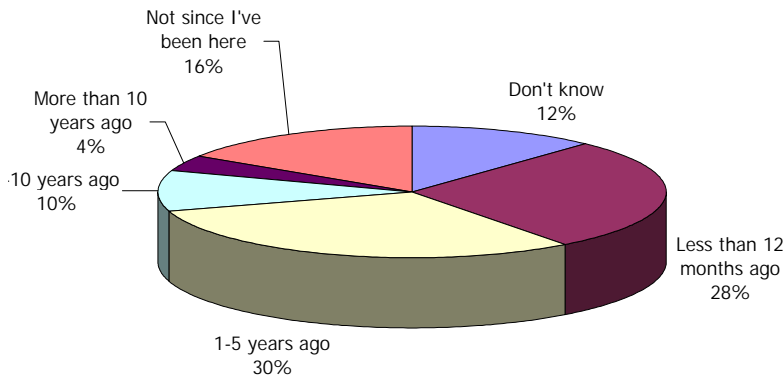
<b>REASONS FOR PERCEPTIONS OF INADEQUATE SAFETY</b>	<b>Base: Believe Electrical Safety Inadequate (n=33)</b>
Old wiring/appliances	45%
Fuses blowing	24%
Faulty/broken lights or plugs	21%
Sparking (eg. appliances/sockets)	12%
Wires/insulator exposed or damaged	12%
Has not been checked at all/recently	9%
Have had electrical shocks	6%
Other <sup>24</sup>	9%

<sup>24</sup> Reasons mentioned by one person: power points in exposed or dangerous places, loose wiring, system overloaded, electrician says wiring should be replaced.

## Safety checks conducted by more than half

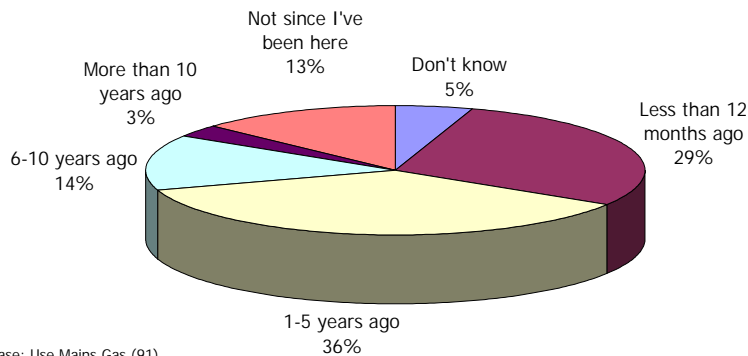
Over half (58%) of **electricity** users report having had the electrical wiring checked in the last five years, while a higher proportion of mains **gas** users (65%) say they have had a safety check or a gasfitter in their house during the same period of time.

### When Last Had Electrical Work Done/Checks



Base: Total Sample (500)

### When Last Had Gas Plumbing Work Done/Checks



Base: Use Mains Gas (91)

## Public believe gas checks should be done more frequently than electricity

Two in three (69%) **gas** users believe plumbing should be checked at least every 10 years, while a lesser proportion (55%) of **electricity** users believe safety checks should be done at least every 10 years.

HOW OFTEN SHOULD CHECK GAS PLUMBING OR ELECTRICAL WIRING	Base: Total Sample Asked About Gas (n=500)	Base: Have Gas in Home (n=301)	Base: Total Sample Asked About Electricity (n=500)
Every six months	4%	2%	2%
Once a year	16%	14%	7%
Every 1-2 years	2%	3%	–
Every 2 years	8%	11%	5%
Every 3 years	2%	3%	2%
Every 3-5 years	1%	1%	–
Every 5 years	24%	29%	22%
Every 5-10 years	0%	0%	–
Every 10 years	7%	6%	17%
Every 15 years	0%	1%	1%
Once every 20 years	1%	1%	3%
On a refill	1%	2%	–
Depends on age of wiring/appliance	0%	0%	1%
Only when things go wrong	5%	6%	15%
When you buy it	2%	1%	2%
Other	5%	5%	6%
Never	0%	0%	1%
Don't know	20%	15%	16%

## Compulsory safety checks more popular amongst gas users

Perhaps not surprisingly, compulsory **gas** safety checks in the home are favoured by a higher proportion (66%) than compulsory **electricity** checks (55%).

	ELECTRICAL SAFETY CHECKS SHOULD BE COMPULSORY Base: Total Sample (n=500)	GAS SAFETY CHECKS SHOULD BE COMPULSORY Base: Total Sample (n=500)
Yes	55%	66%
No	36%	26%
Don't know	9%	8%

## Owners should be responsible for compulsory checks

Regarding who should be responsible for these proposed compulsory checks, three out of four people in both groups (gas and electricity users who believe safety checks should be compulsory) are of the opinion that owners should have the responsibility.

WHO SHOULD BE RESPONSIBLE	Base: Believe electrical safety checks should be compulsory (n=276)	Base: Believe gas safety checks should be compulsory (n=330)
Owner/landlord/property manager	75%	76%
Electricity suppliers	16%	25%
Government	5%	5%
City/local council	4%	3%
Insurance companies	3%	2%
Other	3%	3%
Don't know	1%	1%

# APPENDICES

## A: Research Methodology

### Population represented by survey (Sample Universe)

The sample for the study is representative of

- those aged 18 years and over who are decision-makers about any electrical work or gas work that might need to be done in the house
- those with telephones
- those who live in the 15 main centres (see below)

### Sampling procedure

New Zealand's population was stratified into population centres of differing sizes. Within each strata, population centres were randomly selected to represent the strata. The centres selected were as follows:

- Auckland
- Wellington
- Christchurch
- Hamilton
- Dunedin
- Hawkes Bay
- Tauranga
- Palmerston North
- Invercargill
- Nelson
- Rotorua
- New Plymouth
- Whangarei
- Wanganui
- Gisborne.

Approximately 80% of New Zealand's permanently resident population live in these 15 urban centres.

Telephone numbers for households located within the territorial authority boundaries of these main urban centres, were randomly generated by computer.<sup>25</sup> Interviewers made up to three attempts to contact households on these lists, before replacement. Call backs were made on different days of the week and at different times of the day, to ensure mobile/busy respondents were included in the sample.

Finally, if more than one individual per household was eligible to be interviewed, a single individual was selected using the last birthday method.

## Interviewing

All interviewing was carried out by experienced interviewers employed by Colmar Brunton's fieldwork company, Consumer Link. Consumer Link maintains a network of trained interviewers in most main centres throughout New Zealand.

All interviewers worked from paper-based questionnaires, and were personally briefed by their supervisor before beginning interviewing. Supervisors are briefed via telephone by Consumer Link's National Field Manager, working from extensive briefing notes prepared by the Colmar Brunton research executive in charge of the project.

All interviewing was carried out between 8-19 May 2000. Telephone interviewing during weekdays was carried out primarily during the hours of 7.30 pm – 9.00 pm. Call backs and interviewing during the weekends was carried out from 10.00 am through to 9.00 pm. The average length of the telephone interviews was 8 minutes.

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<sup>25</sup> Further details of this process are available upon request.

## Response rate

The response rate for this survey is 27%. The response rate is calculated as follows:

$$\text{Response rate} = \frac{x}{y}$$

where  $x =$  number of achieved interviews  
 $y =$  number of eligible households contacted and attempted to be contacted in the universe, who qualify for inclusion.

The response data for this survey is as follows:

<b>TOTAL NUMBER OF CONTACTS</b>	
<b>Not eligible for inclusion</b>	
Fax machine	400
Number disconnected	106
Business number	475
Non-qualifier	56
Sub-total	1,037
<b>Eligible for inclusion</b>	
Contact refusal	619
Interview refusal	323
Respondent unavailable	175
Language difficulties	134
No reply after three calls	617
Engaged	93
Answering machine	226
<b>Completed interviews</b>	<b>500</b>

Of the attempted contacts, an estimation of the proportion of ineligible households is made in order that these may be excluded from the calculation. Amongst those households where contact was made and eligibility was determined, 51% were not eligible for inclusion in the survey.

Out of the 1,689 numbers where eligibility was not determined, it is estimated that 828 would have been eligible for the survey. Therefore the response rate is calculated to be 27% (where  $x = 500$  and  $y = 1826$ ).

## Data processing

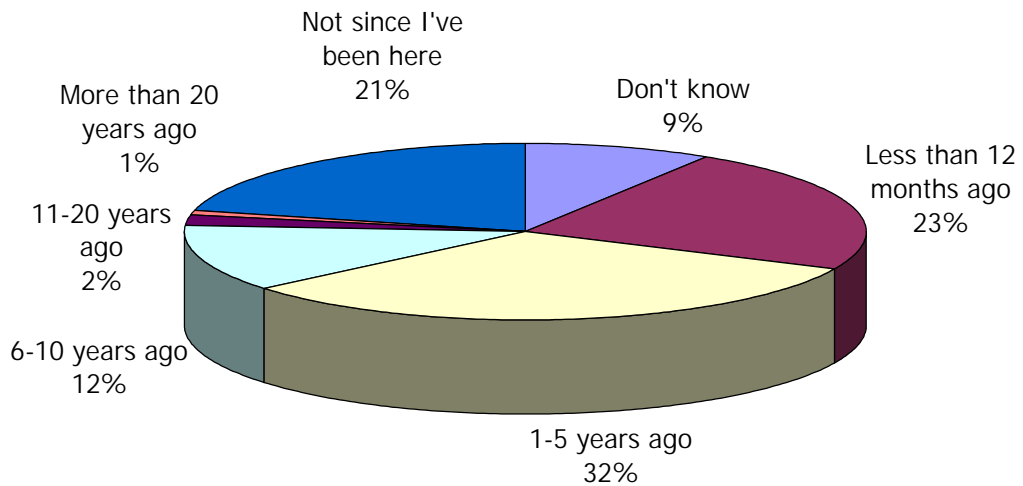
The local supervisor checks all questionnaires before being dispatched for processing. Trained staff from Consumer Link handle all subsequent editing and post-coding of questionnaires and data entry. The following quality control measures are used for all processing and editing procedures:

- An audit of 10% of all interviews is carried out. This involves:
  - i) confirming the interview took place
  - ii) adherence to respondent selection procedure
  - iii) confirming the answers to at least three of the questions in the questionnaire
  - iv) feedback on interviewer's manner.
- Coders check all questionnaires for accuracy and completeness, before data entry.
- Data is entered using SurveyCraft™ software. A minimum of 10% of each coder's work is checked. If errors are detected, 100% checks are carried out. A minimum of 10% of all data entry work is verified, and again, if errors are found, then 100% checks are carried out.
- The SurveyCraft™ data entry software also provides feedback on the level of interviewer error by interviewer name.

## B: Safety Checks: Electricity and Gas

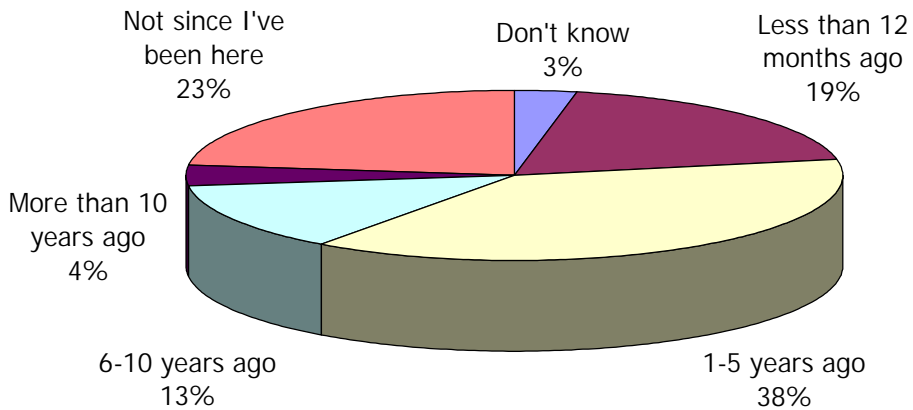
### Gas safety checks or work done by gasfitter

#### When Last Had Safety Checked



Base: Use Mains Gas (91)

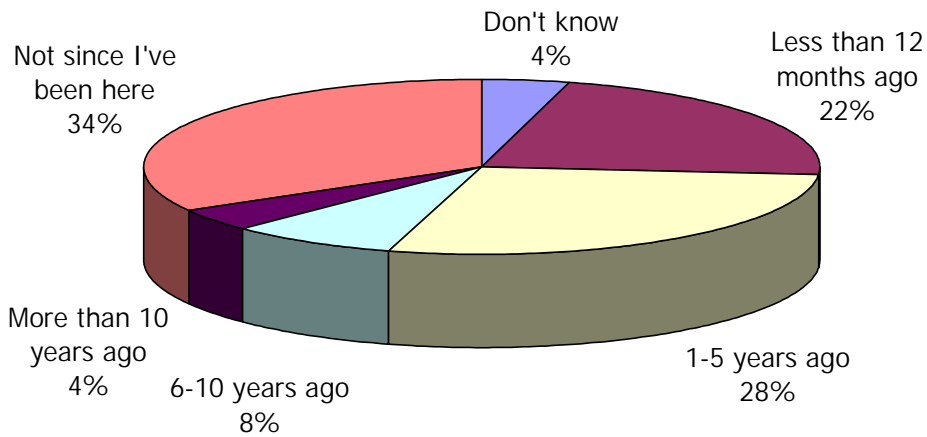
#### When Last Had Work Done by Gasfitter



Base: Use Mains Gas (91)

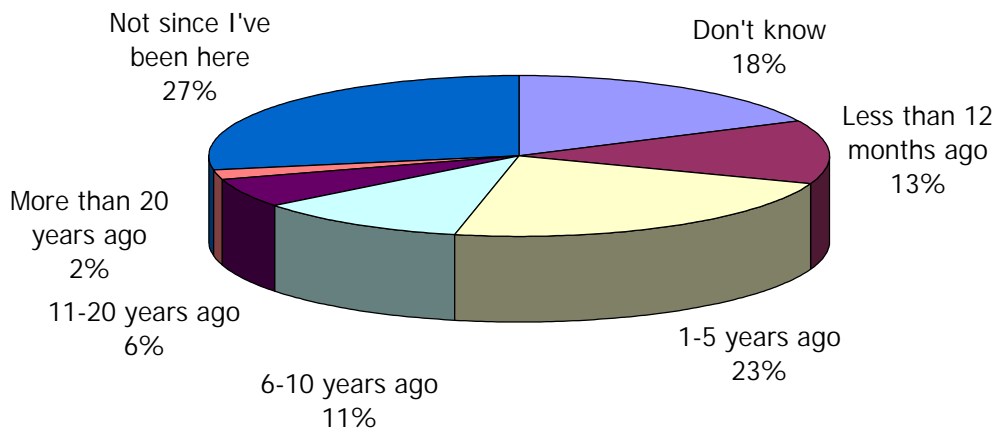
## Electrical safety checks or work done by an electrician

### When Last Had Work Done by Electrician



Base: Total Sample (500)

### When Last Had Safety Checked



Base: Total Sample (500)

## C: Profile of Mains Gas users vs All Gas Users & Total Sample

	Base: Total Sample (n=500)	Base: Gas Users (n=301)	Base: Mains Users (n=91)
<b>Gender</b>			
Male	47%	50%	48%
Female	53%	50%	52%
<b>Property owned by</b>			
Outright or with a mortgage	76%	80%	84%
Owned by someone else	24%	20%	16%
<b>Ethnic group</b>			
New Zealand European	82%	84%	82%
Maori	8%	8%	7%
Pacific Island	4%	2%	1%
Asian (Indian/Chinese)	2%	1%	2%
European	6%	6%	8%
Other	2%	2%	2%
Refused	1%	1%	0%
<b>Number of years in household</b>			
Short term: less than 12 months	14%	12%	12%
Medium term: 1-10 years	55%	60%	55%
Long term: more than 10 years	31%	29%	33%
<b>Occupation</b>			
Professional/managerial	31%	34%	34%
White collar worker	22%	21%	14%
Blue collar worker	15%	16%	13%
Full time homemaker	10%	11%	15%
Retired	15%	12%	15%
Student/beneficiary/unemployed	7%	6%	7%
Refused	0%	0%	1%
<b>Personal income</b>			
Up to and including \$30,000	43%	40%	38%
Over \$30,000 to \$50,000	25%	27%	18%
Over \$50,000	16%	19%	27%
Don't know	2%	2%	2%
Refused	15%	12%	14%

*Table continued overleaf*

	Base: Total Sample (n=500)	Base: Gas Users (n=301)	Base: Mains Users (n=91)
<b>Household income</b>			
Up to and including \$30,000	25%	21%	22%
Over \$30,000 to \$50,000	19%	19%	10%
Over \$50,000 to \$80,000	18%	20%	15%
Over \$80,000	17%	22%	31%
Don't know	7%	5%	4%
Refused	16%	13%	18%
<b>Area</b>			
Auckland	39%	39%	35%
Wellington	13%	15%	23%
Christchurch	13%	8%	0%
Hamilton	6%	7%	12%
Dunedin	5%	3%	0%
Hawke's Bay	4%	4%	4%
Palmerston North	3%	5%	9%
Tauranga	3%	4%	2%
Invercargill	2%	3%	0%
Nelson	2%	3%	1%
Whangarei	2%	1%	0%
Gisborne	1%	2%	2%
New Plymouth	2%	2%	4%
Wanganui	2%	2%	5%
Rotorua	2%	2%	1%
<b>Regions</b>			
North Island	78%	83%	99%
South Island	22%	17%	1%
Upper North Island	41%	40%	35%
Central North Island	19%	21%	26%
Lower North Island	18%	22%	37%

## D: Calculations from Census Data

Statistics New Zealand census data publications provide two overall figures for gas users:

- Mains users (some of whom also use bottled gas) – 166,194
- Bottled gas users (some of whom also use mains gas) – 319,416

As there is no freely available figure for the total number of gas users, and no indication of how many mains users also use bottled gas, the following figures have been used in this report to extrapolate certain results to the New Zealand population:

- Maximum total number of gas users (assumes no mains users use bottled gas)  
–  $166,194 + 319,416 = 485,610$
- Minimum total number of gas users (assumes all mains users use bottled gas) =  
319,416

These maximum and minimum figures have been used as upper and lower limits in the calculations to estimate the total number of households with particular types of gas appliances.

## E: Full Data for Safety Check Price Points

The following table shows the amount people are prepared to pay for a limited safety check covering major fixed appliances, but not smaller appliances.

NB: Figures in the table below do not sum to 100% as those who said they were prepared to pay for a comprehensive safety check were not asked about limited safety checks.

WHAT PREPARED TO PAY	Base: Total Sample (n=500)	Base: Have Gas (n=301)	Base: Electricity Only (n=199)
Nothing	20%	16%	26%
\$1	0%	0%	0%
\$5	0%	0%	1%
\$10	0%	0%	1%
\$20	1%	2%	1%
\$25	1%	1%	2%
\$30	1%	1%	2%
\$40	1%	1%	1%
\$50	14%	16%	12%
\$55	0%	0%	1%
\$60	2%	2%	2%
\$65	0%	0%	0%
\$70	0%	0%	1%
\$75	2%	2%	2%
\$80	2%	1%	3%
\$85	0%	0%	1%
\$90	0%	1%	0%
\$100	16%	17%	14%
\$120	1%	1%	1%
\$125	0%	0%	0%
\$150	5%	7%	1%
\$180	0%	1%	0%
\$200	1%	1%	0%
\$250	0%	0%	0%
\$300	0%	0%	0%
Don't know	7%	5%	9%

## F: Research Instruments