

Fact Sheet – IPART 2015 Household Survey — About the survey



20 September 2016



WHAT

This fact sheet explains IPART's 2015 household survey of water and energy usage in NSW.

The 2015 survey is our seventh household survey since 1993. It collected:

- ▼ quantitative information including households' income, number of occupants, dwelling characteristics and appliance ownership
- ▼ qualitative information such as attitudes to a range of water saving measures, and
- ▼ households' actual water, electricity and gas usage data from the relevant utilities.



WHY

Our household surveys provide background information to help us understand the context of our decisions, and to inform broader policy debates. We will use analysis of our surveys to help inform our decisions on water pricing and other reviews.

They also provide information that is useful to the wider NSW community. For example, data from past surveys have been used by government agencies, community organisations, research bodies, and energy and water utilities.



WHERE

As in previous surveys, we collected data from the wider metropolitan areas. For the first time, we also collected data from regional NSW. The survey areas were:

- ▼ Sydney Water Corporation's area of operation (Sydney)
- ▼ Hunter Water Corporation's area of operation (Hunter)
- ▼ Gosford City Council area (Gosford)
- ▼ Riverina region, mainly Wagga Wagga and Albury (Riverina)
- ▼ Mid-North Coast and Northern Rivers regions (North Coast).



WHO

A total of 4,404 households were surveyed, including:

- ▼ 2,197 from Sydney
- ▼ 842 from Hunter
- ▼ 419 from Gosford
- ▼ 380 from Riverina, and
- ▼ 566 from North Coast.



HOW

We commissioned Roy Morgan Research to conduct the survey between May and July 2015.

It selected a representative sample of households in each survey area. It collected data using a combination of Computer Assisted On-line Interviews (CAWI) and Computer Assisted Telephone Interviews (CATI). These interviews took about 30 minutes.

It also asked each household to give permission for the relevant utilities to provide electricity, gas and water billing data for their property. This enabled us to match their survey and billing data, to better understand residential energy and water usage.



WHAT NEXT

The information paper with this fact sheet provides more information about the 2015 survey. We have also published:

- ▼ other fact sheets and information papers on the survey findings on water and energy usage, water and energy conservation, solar PV panels, payment difficulties, and concession cards and rebates,
- ▼ reports on water and energy usage (which include technical appendices), and
- ▼ output tables of the survey responses (Excel files).

These documents are available on our [website](#).

1 Why do we undertake household surveys?

The Independent Pricing and Regulatory Tribunal (IPART) determines the maximum prices that can be charged for certain retail energy and water services in NSW. We also monitor retail competition in the energy market now that retail electricity prices are no longer regulated.

In making our decisions and recommendations, we require background information on these industries. To obtain such information, from time to time we commission a survey of household energy (electricity and gas) and water usage, with the support of the relevant utilities. These surveys collect:

- ▼ quantitative information about each household in the survey sample, including their income, number of occupants, dwelling characteristics and appliance ownership, and
- ▼ qualitative information, such as the household's attitudes to different water saving measures.

We also obtain each household's electricity, gas and water usage data from their utilities (after obtaining their permission). This allows us to match the information they provide in the survey with their actual usage data.

Our surveys also provide useful information to the wider NSW community. For example, government departments, community organisations and research institutions have made extensive use of our previous survey data. We aim to make our surveys as beneficial as possible, by publishing written reports and detailed output tables. However, for legal (privacy) reasons, we do not make the (de-identified) unit records publicly available.

2 What areas were included in the 2015 household survey?

Both metropolitan and regional areas were surveyed

The 2015 survey collected data from households in five different areas across NSW. As in past surveys, we included households in the areas served by the metropolitan water utilities we regulate.¹ In addition, for the first time, we included two regional areas.

The five survey areas were:

- ▼ Sydney Water area, including the Greater Sydney Metropolitan, Blue Mountains and Illawarra areas (Sydney)
- ▼ Hunter Water area, including Newcastle, Lake Macquarie, Cessnock, Maitland, Dungog and Port Stephens council areas (Hunter)
- ▼ Gosford City Council area (Gosford)²
- ▼ Riverina region, mainly Wagga Wagga and Albury (Riverina), and
- ▼ Mid-North Coast and Northern Rivers (North Coast).

¹ Sydney Water Corporation, Hunter Water Corporation and (the then) Gosford City Council. We also regulate water prices in (the then) Wyong Shire Council and Broken Hill, but we did not include these areas in our survey.






² In May 2016 Gosford City Council and Wyong Shire Council were dissolved and the newly proclaimed Central Coast Council consists of the former two council areas. (See <https://centralcoast.nsw.gov.au/>)

In the Riverina, we focussed mainly on the major towns of Albury and Wagga Wagga, as we were interested to know how regional households use mains gas (ie, gas that is piped onto their property from gas mains on the street). These towns are among the few regional areas that have access to mains gas.

The survey areas have different profiles

Our survey areas differ in terms of their demographic and socio-economic characteristics (see Table 1). For example, on average, households in Sydney are younger and larger and have higher incomes than those in the other areas. They also differ in terms of their dwelling characteristics. A smaller proportion of Sydney households live in free-standing houses, and more live in flats, than households in the other areas. As our other information papers and reports discuss, a household's profile has an impact on its energy and water usage.

Table 1 Area profiles from 2011 Census

Characteristic	Comment	Sydney ^a	Hunter/ Gosford ^b	Riverina ^c	North Coast ^d
Dwelling structure 	More households in Sydney live in flats	▼ 61% houses ▼ 26% flats	▼ 81% houses ▼ 9% flats	▼ 85% houses ▼ 10% flats	▼ 79% houses ▼ 9% flats
People per household 	Households in Sydney are larger and those in North Coast are smaller	▼ 29% with 4 or more ▼ 31% with 2 ▼ 23% one person	▼ 23% with 4 or more ▼ 35% with 2 ▼ 26% one person	▼ 21% with 4 or more ▼ 37% with 2 ▼ 29% one person	▼ 20% with 4 or more ▼ 39% with 2 ▼ 28% one person
Type of household 	More households in Sydney are couples with children	▼ 48% couples with children ▼ 17% couples no children	▼ 25% couples with children ▼ 24% couples no children	▼ 22% couples with children ▼ 24% couples no children	▼ 22% couples with children ▼ 23% couples no children
Age 	More people in Sydney are of working age	▼ 44% are 25-54 years old ▼ 24% are over 55	▼ 39% are 25-54 years old ▼ 29% are over 55	▼ 36% are 25-54 years old ▼ 32% are over 55	▼ 35% are 25-54 years old ▼ 36% are over 55
Median household income per week 	Household income is higher in Sydney	\$1,447	\$1,133	\$921	\$774-\$881
Home ownership	More households outside Sydney own their homes outright	30% own home outright 35% have a mortgage 32% rent	35% own home outright 34% have a mortgage 28% rent	36% own home outright, 32% have a mortgage 28% rent	41% own home outright, 28% have a mortgage 28% rent

^a We have used Greater Sydney (1GSYD) region to represent Sydney.

^b We have used Newcastle and Lake Macquarie (SA4) region to represent Hunter/Gosford.

^c We have used the Murray (SA4) region to represent the Riverina.

^d We have used Mid North Coast (SA4), Coffs Harbour-Grafton (SA4) and Richmond-Tweed (SA4) to represent North Coast.

Sources: ABS, 2011 Census - Basic Community Profiles for dwelling structure (Table B31), household size (Table B30), home ownership (Table B32), age (Table B01a), median weekly household income (Table B02). ABS Table Builder for Household Composition.

3 Technical information about the survey

Survey timing

Roy Morgan Research (Roy Morgan) conducted a pilot survey in April 2015 and the main survey between May and July 2015.

Survey methodology

Roy Morgan used a combination of Computer Assisted On-line Interviews (CAWI) and Computer Assisted Telephone Interviews (CATI) to conduct the survey. It considers this to be a better approach than using only online or only telephone interviews, because it is more likely to provide a representative sample.

Roy Morgan used its Single Source respondent panel as the basis for both the online and telephone interviews. Where required, it also used a sample source provided by SSI, a fully-accredited online sample provider.

Sample size

A total of 4,404 households completed the survey. Roy Morgan obtained matching energy usage data for 97% of these households. It only obtained water usage data for households in Sydney, Hunter and Gosford that own their homes or rent **and** pay the water usage charge (Table 2).

Table 2 Sample size by region and survey method

	Number of interviews			Number of interviews with matching usage data		
	CAWI	CATI	Total	Electricity ^a	Gas ^b	Water ^c
Sydney	1,584	613	2,197	2,103	1,028	1,732
Hunter	449	393	842	836	282	612
Gosford	165	254	419	415	102	344
Riverina	114	266	380	375	226	not obtained
North Coast	413	153	566	557	no gas	not obtained
<i>Total</i>	2,725	1,679	4,404	4,286	1,638	2,688

^a Electricity usage data were provided by the electricity network businesses (Ausgrid, Endeavour Energy and Essential Energy).

^b For households that have mains gas, usage data were provided by the gas network businesses (Jemena and AGNL).

^c Water usage data were provided by Sydney Water Corporation, Hunter Water Corporation and Gosford City Council, for households that pay the water usage charge (ie, all home owners and some tenants).

Source: Roy Morgan Research, *IPART Household Survey 2015 Technical Report*, March 2016, pp 17-19.

Consent to release billing data

The electricity, gas and water utilities can only release a household's usage data if the household provides consent for the utility to do so. Roy Morgan obtained consent from CATI respondents by recording the telephone interview in real time and taking a 'voice print' of the respondent as they formally agreed to the release of their billing data. CAWI (online)

respondents were simply asked to record their agreement by completing a formal consent form embedded in the online interview.

Weighting the data

We use weights to correct for sample biases. These weights ensure that income distribution, dwelling types and household structures correspond as closely as possible to Australian Bureau of Statistics data for that area. We use two sets of weights:

- ▼ Area weights, which correct for sample biases within each survey area.
- ▼ Overall weights, which correct for sample biases within each survey area as well as the size of the sample relative to the NSW population.³

We use the area weights when we report the survey findings for a particular survey area. We use the overall weights when we report the survey findings for NSW as a whole.

You will find more detailed technical information about the survey in Roy Morgan’s technical report, [here](#).

Box 1 Further information on our household survey

We have published the results of the 2015 household survey in a series of fact sheets and information papers together with two reports that investigate our findings on water and energy usage. We have also published a set of output tables (Excel files) that report the detailed responses to each survey question.

Fact sheets and information papers:

- ▼ About the survey (this one)
- ▼ Water usage (fact sheet only)
- ▼ Energy usage (fact sheet only)
- ▼ Energy and water conservation
- ▼ Solar PV panels
- ▼ Payment difficulties
- ▼ Concession cards and rebates

Reports:

- ▼ Residential energy usage (electricity and gas)
- ▼ Residential water usage

Output tables:

- ▼ Each survey area and NSW as a whole (the latter weighted to represent the regional distribution of the population)
- ▼ Sydney, by income group and as a whole
- ▼ Hunter, by income group and as a whole

We cannot report on the other survey areas by income group because the sample sizes for some of the income categories are too small.

We engaged Frontier Economics (Frontier) to conduct statistical analysis of the survey data for our reports. Frontier analysed the energy usage data and produced a separate report on its findings. It also analysed the water usage data, and we have included its findings in our report on water usage. The reports include detailed technical appendices to allow other parties to conduct further research into residential energy and water usage.

You will find the documents on our [website](#).

³ Roy Morgan was commissioned to provide area weights only. They kindly agreed also to provide a set of overall weights, however they did not include an explanation of these weights in their technical report.