

# Victorian Utility Consumption Survey 2007: Technical Information

## Data

- The data is organised in five worksheets of an excel workbook:
  - The first worksheet "Data Layout" contains definitions of column headings for the data
  - Worksheets 2 to 4, namely "Data1", "Data2" and "Data3" contain person and household information as at the time of the interview
  - Worksheet 5 "Data4" contains Utility billing information from the previous 12 month period as collected from the utilities
- The data is not always proportionally representative of the Victorian population. Several smaller groups of interest had a rescaled sample size to improve the statistical robustness of these groups. In particular, about 50 per cent of the sample were concession households. The data was collected from Melbourne and four regional centres (Geelong, Ballarat, Bendigo and Shepparton) as well as a sixth location category defined as areas outside the mains gas supply network.
- The data can be scaled up to either represent the number of households state wide by using the "weighth2" field as a household multiplier or to give the number of households within the interviewed area by using the "weighth1" column. The weightings are scaled by factors such as household size, concession status, household income and age ranges; and in comparison with 2006 ABS data, to represent the entire population.

## Sampling Issues

- Findings made on the basis of a small sample are all referenced in the report with the footnote "caution small sample size".
- Although the survey used a robust stratified random sampling technique, systematic sampling bias cannot be ruled out completely. In particular, data was only collected in Melbourne and four regional centres. If utility usage patterns differ outside these areas, representing approximately quarter of households, the data will not imply this.
- The utility consumption and billing data was collected from the relevant utility companies with the permission of the responder. The data represents the billing information for the last year of bills. Utilities' billing periods do not fully correspond with the survey's definition of winter and summer billing periods.

## Trend Analysis

- Comparison of 2007 data with 2001 and 1996 data. As questions evolved from 1996, 2001 and 2007, changes to wording have made direct comparisons in some few cases less reliable. Questions related to the following illustrate this:
  - Lighting (new section)
  - Air conditioning (significantly modified)
  - Frequency of use of clothes driers (new question)
  - Frequency of use of dishwashers (new question)
  - Attitudes to the use of solar power (new questions)
  - Purchase of Green Power energy (new questions)
- Questions on municipal rates were included for the first time in 2001 and as a result comparisons can only be made between 2001 and 2007.

- Note that for some questions that were significantly modified, derived values have been created to allow for comparison of survey results between survey years. Where this has occurred it is noted within the report.

## **Data Quality**

- It should also be further noted that consumption and billing data in 2001 was edited due to differing features of format and quality in data provided by suppliers. As such, comparison between 2007 and 1996 for billing and consumption data may be more accurate than comparisons between 2007 and 2001 billing and consumption data.
- However, it is still considered that the results provided in the VUCS report are more precise than the unweighted results provided in the 1996 report because data has been weighted to more accurately reflect Victoria's updated population characteristics.

## **Time Lag of Billing Data**

- Some 2006 calendar year data may have crept into the 2006-07 financial year data due to billing patterns of suppliers.
- It should also be noted that for energy and water bills, a household can be entitled to a DHS concession on one or more of the bills they pay within a 12 month period and not be entitled to a DHS concession on the rest of the bills they pay in the same period. In terms of billing data, a respondent receiving a concession on just one bill in a 12 month period would be classified as receiving a DHS concession. Therefore, it is possible that significant discrepancies can occur when comparing respondent survey information with supplier provided billing information. In particular, there is a possible over-estimation of the proportions receiving concessions from partial receipt throughout the year.