IMPLICATIONS OF

further insulating

small hot water heaters Phase II

- PREPARED FOR: AUSTRALIAN GREENHOUSE OFFICE
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- J6054 AUGUST 2000

Background

- The Australian Greenhouse Office (AGO) is the leading Commonwealth agency for greenhouse matters
- Small (under 80 litres) electric hot water heaters are responsible for a significant amount of energy usage and greenhouse emissions which could be reduced by increasing the insulation around them
- These small units are typically kept in confined spaces and therefore the AGO required a study to investigate the impact of increasing the insulation and hence the size of the unit
- TNS conducted a study in June 1999 which involved measuring the impact of an extra 80mm (3 inches) of insulation in diameter
- The study found that:
  - 31% of small hot water heaters would no longer fit in the current space
  - The cost to alter or relocate it was estimated by Master Plumbers to be $350 per small electric hot water heater
- The AGO required further measurements to be taken of those cases where the increased insulation would not fit to determine the impact of a reduced amount of insulation - 20mm in diameter

Objectives

The key business issue for the AGO is to determine the optimum amount of insulation that will minimise heat loss and the impact on owners of these units. The decision needs to be based on the following, which were the objectives of this study...

- The number of cases where the small hot water heater with an extra 20mm in diameter of insulation would not fit
- The options available in cases where a larger unit would not fit in the current space

Study Design

The study involved the following elements...

- Those cases from phase I in Sydney, Melbourne and Brisbane where the unit would not fit with an extra 80mm in diameter of insulation were recontacted by TNS to gain their participation and determine suitable times and days for the Plumber to call
- A Master Plumber then called each case and set up a time to visit
- The Plumber visited the case and completed a short survey which involved taking measurements and making a judgement about whether the unit would fit with the extra insulation
- Respondents were given a $20 gift voucher for their time

Executive Summary

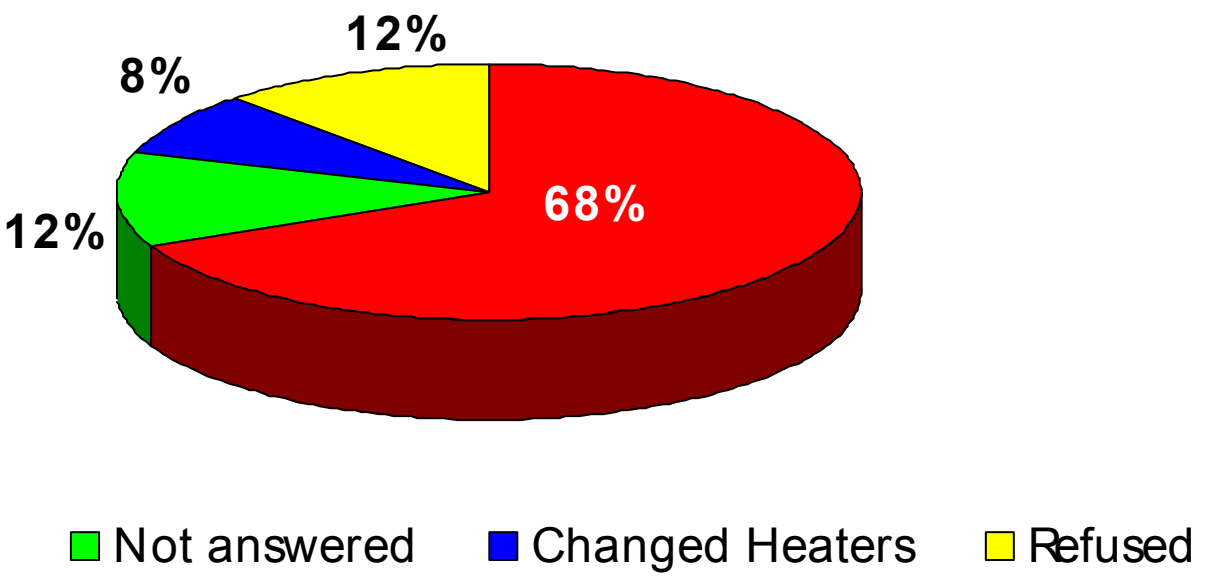
Key outcomes were…

- If 20 mm in diameter of insulation was added to small electric hot water heaters (under 80 litres), approximately…
  - 98% of units will still fit in their current space
  - 2% of units will not fit

Findings

What Proportion Of Small Electric Hot Water Heater Were Revisited?

Base: Small Hot Water Heaters That Would Not Fit With 80mm Insulation N=68



What Are The Measurements Around The Unit?

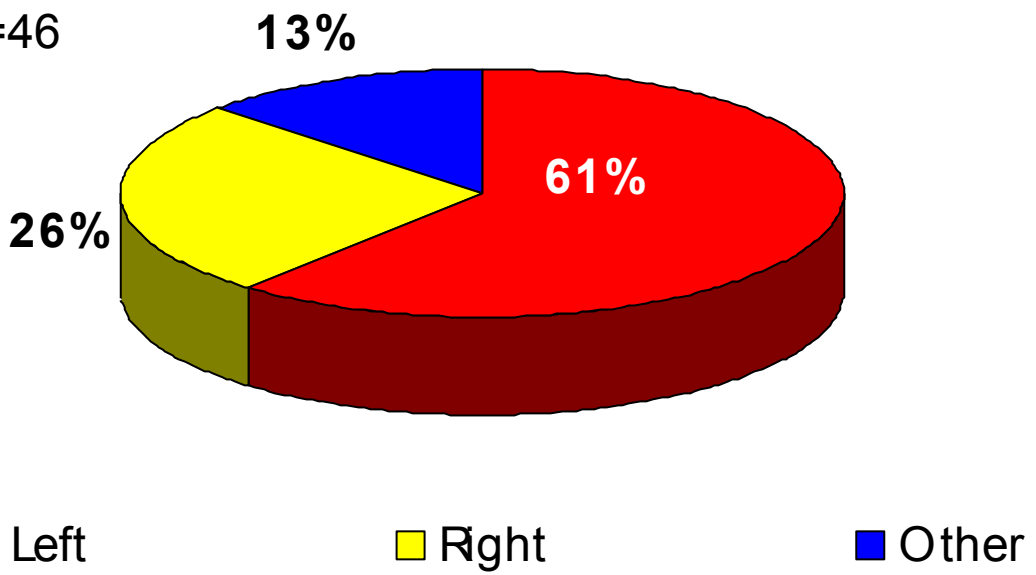
Q.2 ***Please measure the available space and record below*** (Plumber)

Base: Total Phase II N= 46	Total N= 46 Mean (mm)
Above the heater	401
Below the heater (including the false bottom)	259
On the right of the heater	149
On the left of the heater	294
At the back of the heater	55
At the front of the heater	254
The height of the cylinder	653
The diameter of the cylinder	356

Are the Heaters Right Or Left Hookup?

Q.4b ***Is the electric water heat a left or right hook-up?*** (Plumber)

Base: Total Phase II N=46

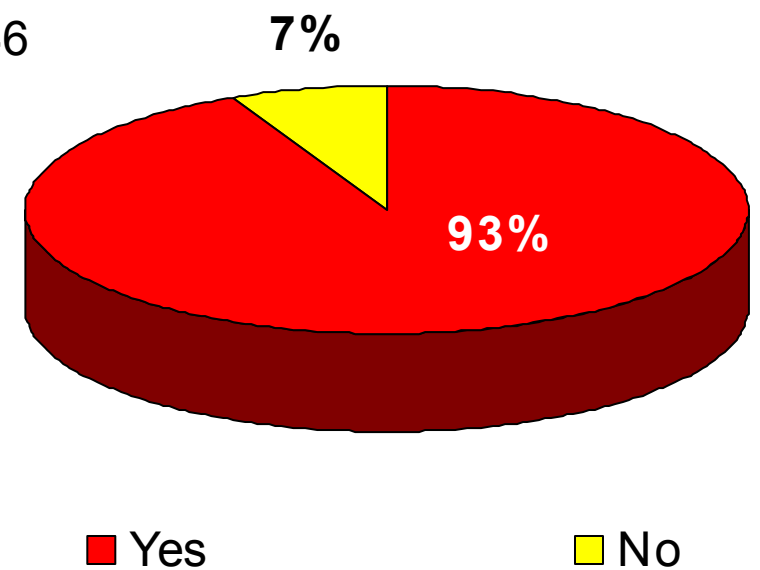


Close to two thirds (61%) of hot water heaters are left hookup with one quarter (26%) left hook-up

Will The Heaters Fit With 20mm Extra Insulation?

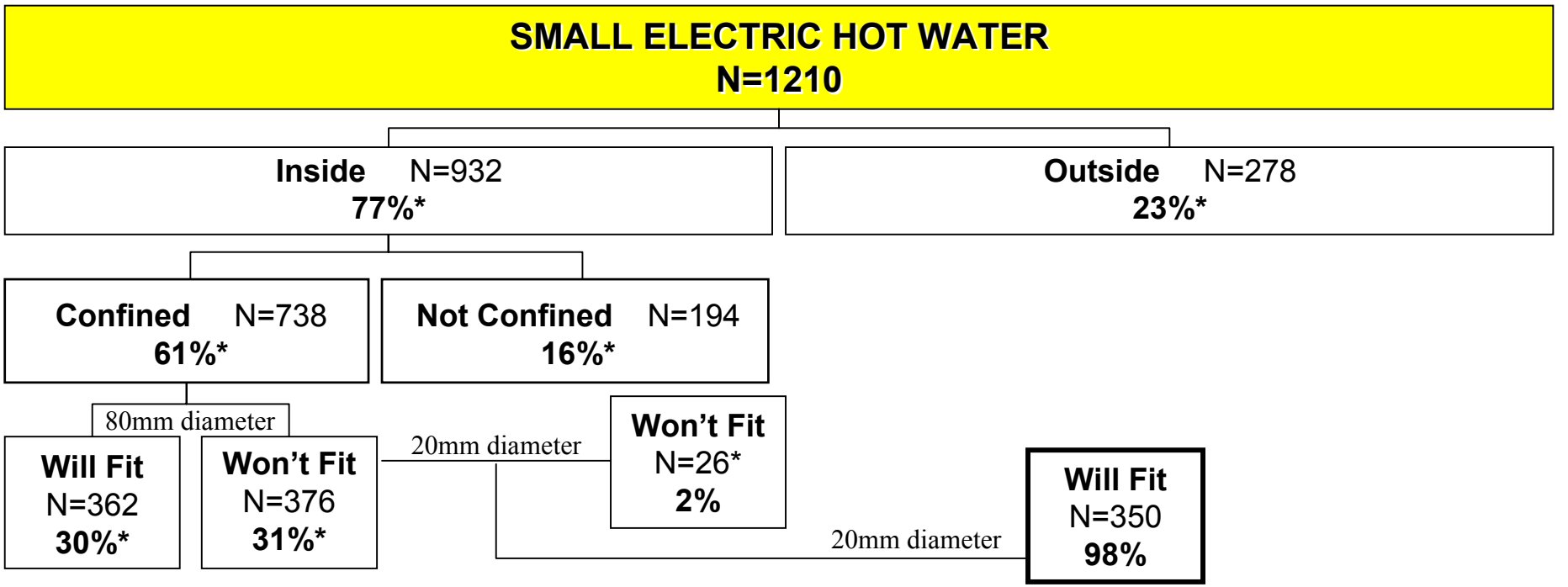
Q.4a ***If an additional 10mm of insulation was added around the entire water heater increasing the diameter by 20 mm , would it still fit in the space it is now?***
(Plumber)

Base: Total Phase II N=46



The majority of cases (93%) would still fit in their current space if an additional 20mm of insulation was added

What Proportion Of Small Electric Hot Water Heaters Will Fit If The Size Of The Unit Is Increased By 20mm?



Based on the perceptions of Master Plumbers and by combining the figures from Phase I and Phase II, approximately 2% of small electric hot water heaters will not fit with an extra 20mm in diameter

*Percentages are based on all small electric hot water heaters

What Option Is Most Practical If The Small Hot Water Heater Will Not Fit?

Q.5 ***If an additional 20mm of insulation was added around the entire water heater increasing the diameter by 40mm, which option would be the most practical in this situation?*** (Plumber)

Base: Will not fit in current space	Total
	N= 3*
	%
Widening or deepening the space it is currently in	67
Moving it to another location	33

* Caution small base - indicative only

The majority of cases require widening or depending of the current space