

Halt the Haze - Wood Heater Replacement Program 2006

AN INITIATIVE OF THE PERTH AIR QUALITY MANAGEMENT PLAN

Wood smoke from domestic heating contributes to reduced air quality and winter haze events in Perth. The most recent survey data shows there are 52 600 homes using firewood as the main or occasional heating source in Perth¹. They burn about 87 000 tonnes of firewood per year and emit about 970 tonnes of fine particles into the atmosphere. These fine particles contribute to a number of health risks particularly heart and respiratory illness.

The Department of Environment and Conservation (DEC) recognises that wood smoke emissions can be reduced through social and economic intervention. The Perth Home Heating (2004) Survey indicated that the majority of wood heaters are at the end of their recommended working lives and are declining in their operating efficiency². Improved wood heater operation, fewer wood heaters in the Perth airshed and low emission wood heaters can all contribute to improved winter air quality. DEC and local governments are continuing to pursue interventions which will lead to reduced wood smoke.

Introduction

DEC's Wood Heater Replacement Program for 2006 offered an economic incentive to encourage people using wood heaters or fireplaces as the main source of heating in their homes to convert to an alternative heating source.

The program was developed as part of the Perth Air Quality Management Plan (AQMP), a 30-year-plan released in December 2000 to ensure that clean air is achieved and maintained throughout the Perth metropolitan area³.

A \$600 rebate was made available to eligible Perth residents for the removal of a wood heater or disablement of a fireplace and installation of a ducted or flued gas heater. The program, offering a total of 400 rebates, was exceptionally popular.

The program began in July 2006. It was advertised in community newspapers and attracted media coverage on television and radio and in State and local newspapers.

This document summarises the major findings of the Wood Heater Replacement Program 2006.



Results

The program initially offered 300 individual rebates which were quickly fully subscribed. A further 100 rebates were offered in an extension of the program and were also taken up rapidly. Once the rebates were fully subscribed, additional applicants were placed on a notification list for similar future programs.

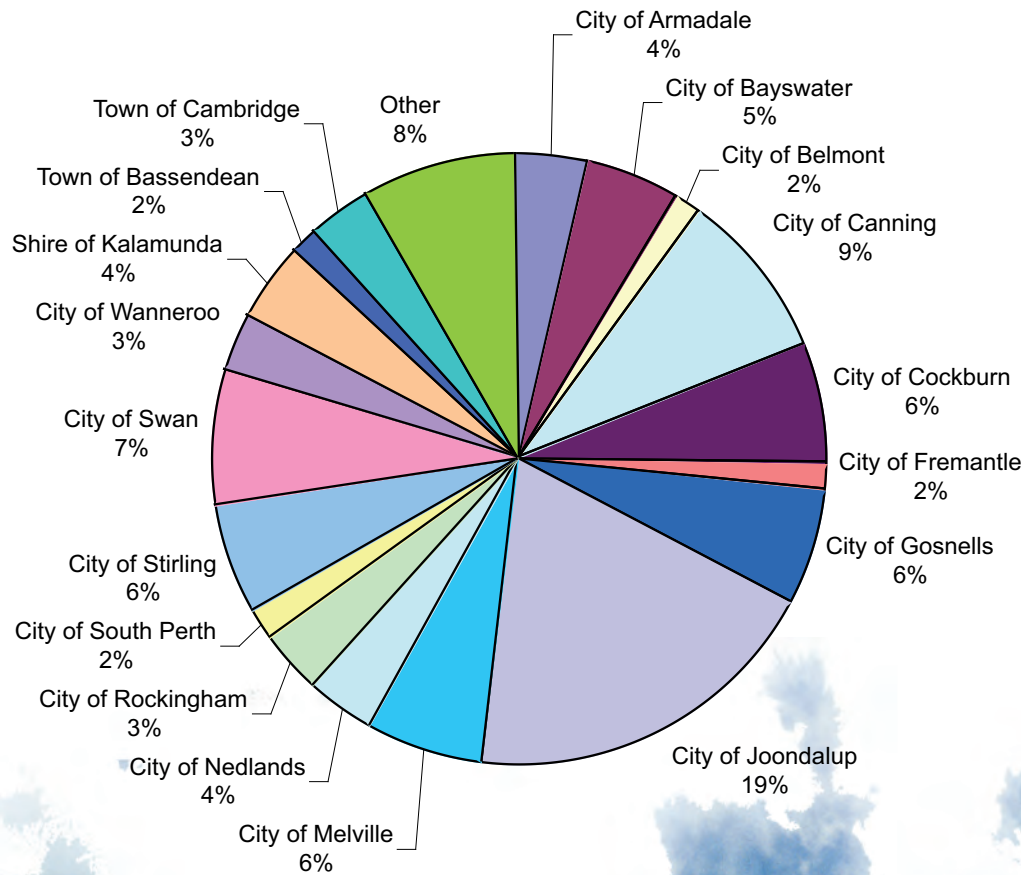
Thirty households on the notification list were offered a rebate as a result of earlier applicants not wishing to continue with the program. The program officially closed on 15 September and anyone who pulled out after this date was not replaced by a person on the notification list. A total of 378 rebates were allocated in 2006.

Overall 46 applicants pulled out of the program. Reasons given for this included the purchase and installation costs were too expensive; they had problems getting an installer; decided on another form of heating such as reverse-cycle or unflued gas heating; or they realised they were ineligible. The program was most popular in the City of

Joondalup (74 rebates). Other council areas where the rebate was very popular included the cities of Canning (35 rebates), Swan (28 rebates), Cockburn (24 rebates), Melville (24 rebates) and Gosnells (24 rebates). Figure 1 below shows the percentage of rebates each council secured. Council areas where fewer than five rebates were allocated were combined in the 'other' category.

To ensure all wood heaters were removed from the Perth airshed, they were collected from participant's houses by a steel merchant. The heaters were then crushed, becoming scrap metal ready for recycling (see pictures).

Figure 1: Depicts the spread of program participants over the Perth Metropolitan Area.



The wood heaters from the program were crushed and recycled.

Results continued...

Flued gas heating was the most popular choice for people participating in the program. However, there was no significant difference between the average cost of purchase and installing of either flued or ducted gas heating systems. The average total cost of purchase and installation of any gas heater prior to receiving a rebate was \$3085.85 (see Table 1). The prices paid for flued and ducted gas heating ranged from \$1100 to \$7298, however most participants paid between \$2000 and \$4000 for their replacement heater (see Figure 2.)



Wood heaters removed from homes in the Perth metropolitan area during the Wood Heater Replacement Program 2006.

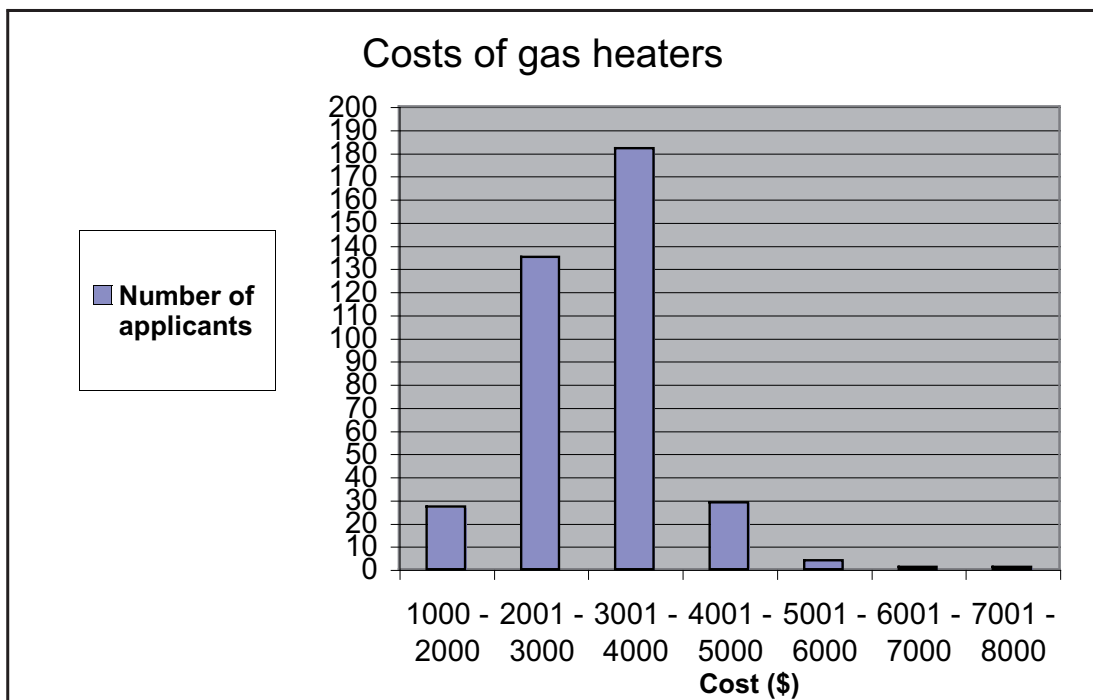
On average the financial rebate offered represented 20 per cent of the replacement heater purchase cost (range: 8 - 55 per cent).

Table 1: Shows the average prices applicants paid for flued/ducted heating and the installation.

	Flued gas heating	Ducted gas heating
Average price	\$3000	\$3798
Average Cost Installation	\$597.60	*
Range (both)	\$1100 - 7298	
Average price (both)	\$3085.85	

*note: ducted gas heaters always included installation in the total price.

Figure 2: Price ranges for both flued/ducted heating paid by applicants.



Conclusions

The 2006 Wood Heater Replacement Program removed 378 wood heaters/fireplaces from the Perth metropolitan area by providing a significant financial contribution to the purchase and installation of alternative heating in the form of flued or ducted gas. This program builds on previous work undertaken by DEC to reduce domestic wood smoke emissions to manage winter haze. The 2004 pilot wood heater replacement program removed approximately 280 wood heaters. This brings the total for the two programs to approximately 650 wood heaters removed from the Perth airshed.

The incentive offered in these programs made the changeover from wood to gas heating more affordable for applicants, accelerating the replacement process.



The end product: scrap metal ready to be recycled.

The targeted reduction of wood heaters, particularly older non-compliant models, plays an important role in managing and improving Perth's air quality. The 2006 Wood Heater Replacement Program not only removed wood heaters, but provided a valuable tool to increase public awareness of wood smoke, the potential associated health effects and the role the community can play in reducing wood heater emissions. This program supports the implementation of the broader haze management plan.

DEC encourages the community to consider alternative methods of home heating and remove older non-compliant models of wood heaters from their homes.

Feedback and future programs

DEC received important and valuable feedback from program participants, stakeholders and community members that will be used for planning future programs.

If you would like to be placed on a list to receive information on similar programs or would like to give us feedback on the program, please email: haze@dec.wa.gov.au.

More information

More information on wood heaters, smoke and particle haze is available online at airquality.environment.wa.gov.au. Click on the 'Halt the Haze' link on the right hand side of the page.

- ¹ Australian Bureau of Statistics, 2005, *Environmental Issues: People's Views and Practises*, Cat. No. 4602.0; Australian Bureau of Statistics, Canberra.
- ² DoE, 2006; *Perth Home Heating Survey 2004 Technical Report*; Department of Environment, Perth.
- ³ DEP, 2002; *Implementing the Perth Air Quality Management Plan – Supporting Document*, Department of Environmental Protection, Perth.