

SOLID FUEL HOME HEATERS

GUIDELINES FOR APPLICATION, INSTALLATION & OPERATION

These guidelines relate to solid fuel home heaters otherwise known as slow combustion heaters, wood fire heaters or pot belly stoves.

INTRODUCTION

Solid fuel home heaters are also known as 'slow combustion heaters/ cookers', 'pot belly stoves', 'wood fire heaters' or 'tile fires'. Currently they are more popular than open fireplaces because of their higher combustion efficiency which results in a lower fuel consumption for the same heat output. However, because it is possible to restrict the quantity of combustion air and slow the combustion speed, their potential for serious emissions of air pollutants is far greater than for an open fireplace.

PUBLIC HEALTH AND AIR QUALITY

The health of the public can be adversely affected from the smoke created from wood burning. Pollutants include carbon monoxide, fine particles and other chemical compounds such as oxides of nitrogen and a range of organic compounds, some of which are toxic or carcinogenic. These pollutants can cause breathing difficulties even at relatively low levels, especially for young children, the elderly and people who are already suffering from respiratory conditions such as asthma.

By following these guidelines, you will assist in minimising air pollution within The Hills Shire Council Local Government Area and the Sydney Region whilst also minimising the health impacts of the public.

AIR QUALITY AND HEATING YOUR HOME

Things to consider before making an application to install a wood fire heater include:

1. Smoke from a solid fuel / oil fuelled home heater can be a nuisance to your neighbours, especially in a valley or where houses are very close.
2. Smoke produced from solid fuel or home heaters is a significant source of air pollution.
3. Consider alternatives such as:
 - a. Insulating your home;
 - b. Natural gas heaters; or
 - c. Reverse cycle air conditioning.

LEGAL CONSIDERATIONS

It is a legal requirement to gain approval from Council before you install a solid fuel home heater.

Prevention Notices and fines can be issued under the Protection of the Environment Operations Act, 1997 if the solid or oil fuelled home heater is being operated in an environmentally unsatisfactory manner.

APPROVAL FOR A SOLID FUEL HEATER

Before you install a solid home heater you must obtain approval from Council as per Section 68 of the Local Government Act, 1993. The application form can be found on Council's website www.thehills.nsw.gov.au

You should consult Council's *Local Approvals Policy - Solid fuel or oil fuelled heaters* for the criteria you are required to comply with. Please note that there are some exemptions for land in the rural zones.

To seek approval from Council you will need to:

1. Complete an *Application for Approval to Install a Solid or Oil Fuelled Heater*. This application incurs a fee. See Council's *Schedule of Fees and Charges* for the current charge. Payment is to be made when the above application form is submitted
2. Your application must demonstrate compliance (section 7 of the application form) with *Australian Standards AS2918:2001 Domestic solid fuel burning appliances - Installation*, and Council's *Local Approvals Policy - Solid Fuel or Oil Fuelled Heaters*
3. Your application must also demonstrate compliance with the guidelines published by the Environmental Protection Authority (EPA) *Selecting, Installing and Operating Domestic Solid Fuel Heaters*. Compliance will require a minimum discharge height of the chimney (flue) of 1-metre above any structure within a 15-metre horizontal radius.
4. Your immediate neighbours (there are exemptions) may be notified in writing by Council regarding your proposal to install a solid fuel home heater.

DESIGN POINTS TO LOOK FOR

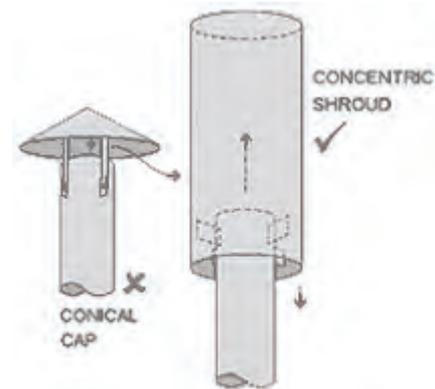
When purchasing a solid fuel home heater you will need to ensure that you purchase the right sized heater for the space you want to heat. You should also consider the following to improve your heaters efficiency and reduce pollution:

1. Internal baffle plates;
2. Combustion air controls to allow wood to burn more slowly;
3. Provision for preheated incoming air;
4. Secondary combustion chamber;
5. Insulated flue to minimise condensation and assist dispersion; and
6. Designed to current Australian Standard requirements.

RAIN EXCLUDERS

Most modern chimney installations incorporate some form of rain excluder. A concentric extended shrouded rain excluder should be installed.

A 'Conical Cap' or 'Rotating Vane' should be avoided as they tend to hinder the natural upward flow of hot exhaust gases, as they initially direct the gases horizontally or downwards. (See image right)



INSULATION

A well-insulated house can be kept significantly warmer in winter and significantly cooler in summer when compared to an uninsulated house.

Consider the following to increase the efficiency of the heater:

- Insulate ceilings, walls and floors where possible;
- Seal off draughts;
- Ensure there are effective window coverings; and
- Zone living and sleeping areas.

This will save fuel and reduce smoke emissions. In Spring and Autumn, a well insulated house may not require any extra heating. See the www.livingthing.net.au for more ideas on how to insulate your home.

CORRECT INSTALLATION

The solid fuel home heater may only be installed once you have received Council's written approval. The solid fuel home heater is to be installed in accordance with relevant provisions of the Building Code of Australia, the manufacturer's instructions and Council's written approval.

The solid fuel home heater is to only be installed by an appropriately experienced and qualified person. The details of this person are to be supplied on your application form.

You will be required to have a final inspection conducted by Council's Environmental Health Officer. At the time of the inspection you will be required to provide a copy of the certification that the installation complies with the Building Code of Australia.

TYPE OF WOOD

You should always burn small to medium sized pieces of dry, aged hardwood. Green or unseasoned wood contains up to 50% water, which causes a fire to smoke.

FUELS NOT TO BE BURNED

Some fuels can release harmful toxins which can pose a serious health risk to the public as well as the people in your home. The following fuels should never be burned:

1. Rubbish;
2. Driftwood;
3. Coal;
4. Varnished or painted timber; or
5. Timber that has been treated with creosote, copper-chronic-arsenite (CCA) or lead based paint.

If you are not sure - Do not burn it. Some hardwoods offered as fire wood may have been used as railway sleepers or fencing and could be contaminated.

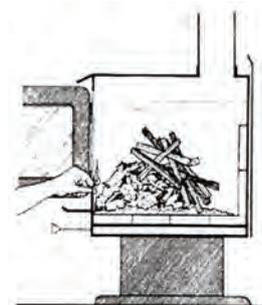
WOOD STORAGE

Wood storage is an important factor in how much smoke your fire will create. You should store your wood under a cover in a dry ventilated area. Fresh cut wood should be stored for eight to twelve months in a criss-cross fashion.



LIGHTING YOUR FIRE

1. Always follow the manufacturer's instructions;
2. Start with the combustion air-supply wide open and a kindling fire built up using paper or firelighters. Softwood and nutshells make very good kindling because they burn hot and quickly. Use this hot fire to ignite small hardwood logs and do not adjust the air supply until the logs are burning well;
3. Always burn small to medium logs of dry, aged hardwood;
4. Keep the fire compact;
5. Do not cram the firebox full of wood; stack wood loosely so that the air can circulate; and
6. When more fuel is needed, open the air inlet to maximum, open the flue damper and wait for approximately 5 minutes. Then add the additional fuel and keep the air inlet and flue damper open for at least 20 minutes. This will create a hot enough fire to ignite a fresh load of wood quickly.



SMOKE

Your fire should only smoke when you initially light it. Check the chimney regularly for excessive smoke. If the heater smokes for more than 10 minutes after the initial light-up from cold or after re-fuelling, there is a problem with either the wood the flue or the operating method (not enough air supply), or both.

Excessive smoke is when the flue emits invisible plume of smoke for more than 10 minutes.

DO NOT LET YOUR HEATER SMOULDER OVERNIGHT

In winter, the highest concentrations of fine particles in the air occur after midnight. This suggests that most of fine particle pollution is caused by wood heaters left to smoulder overnight.

One of the worst things you can do to contribute to air pollution in the Hills Shire is to dampen down your fire overnight.

Leaving your heater overnight at the minimum air setting with a full firebox generates very little heat and lots of smoke causing pollution outside and inside your home. If it is necessary for you to keep the fire alight overnight, you should burn it on high for at least 20 minutes before going to bed. This will ensure that a good bed of coals is established and all gases are burnt off.

With the air intake closed, the fire is starved of oxygen and cannot burn properly.

MAINTENANCE

1. Clean the chimney and flue at the end of every heating season;
2. Inspect the flue and chimney regularly to check for a build-up of soot and creosote; and
3. Remove all ash at the end of the heating season to prevent corrosion of the heater and during the heating season maintain a shallow layer of ash on the hearth.

BE AWARE

Solid fuel home heaters can cause significant air pollution. Improper installation and operation can aggravate the problem.

It must be stressed that air pollution can cause adverse health effects including breathing difficulties, especially for people suffering from existing respiratory conditions such as asthma, and for very young children and the elderly.

The Hills Shire Council is committed to improving air quality in The Hills Shire Local Government Area and the Sydney Region.

FURTHER INFORMATION

The Hills Shire Council
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PO Box 7064 Baulkham Hills BC 2153
Telephone: (02) 9843 0555
Fax (02) 9843 0409
council@thehills.nsw.gov.au

Office of Environment and Heritage
www.environment.nsw.gov.au
Phone: 1300 361 967

RELEVANT SITES

Australian Home Heating Association Inc
www.homeheat.com.au

The Firewood Association of Australia
www.firewood.asn.au

Green Power
www.greenpower.com.au

Living Thing - How to Save Energy
www.livingthing.net.au

RELEVANT DOCUMENTS

The Hills Shire Council
Local Approval's Policy - Solid Fuel or Oil Fuelled Heaters

Information for this brochure has been collected from The NSW Office of Environment and Heritage.