

## The use of gas for cooking

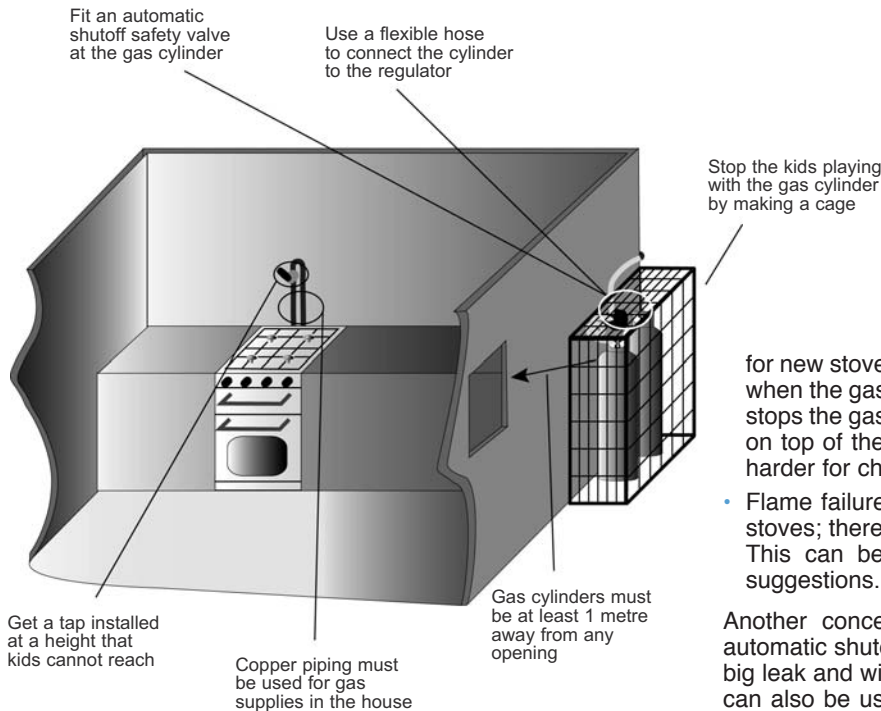
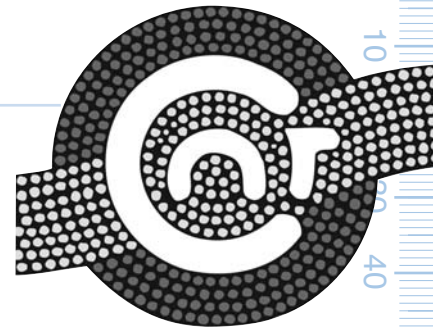


Figure 1

Gas provides an economical, safe and effective energy for use in the home. Gas can be used in hot water systems, home heating and cooking. In this BUSH TECH, we look at using gas for cooking and explore both the use of gas inside the house (gas stoves) and outside (gas burners). The most important consideration when deciding on gas – is the availability of gas suppliers and gas fitters close to your community, otherwise implementing and maintaining gas stoves can be costly. However, if these services are not available gas portable stoves/burners could be an option. Gas can be easily incorporated in a living environment, if certain precautions are taken. Where possible for both indoor and outdoor gas stoves, the burner and cylinder should be kept out of reach from children. This will reduce the risk of the valve on the cylinder or the knobs on the burner being turned on accidentally. Importantly, it is essential to ensure your gas appliances are installed by a licensed gas fitter and properly maintained over their lifetime.

### Cooking with gas inside the house

Cooking on gas stoves can be a popular option because it can be efficient and economical, in comparison with electric stoves. However consideration needs to be given for storage of gas cylinders, purchasing gas stoves, managing use of gas and maintenance of gas stoves to ensure that gas is used safely.

Gas cylinders need to be placed somewhere safe and away from children. Some households chose to build a cage around the cylinders, to stop children from playing with them. It is important to ensure that gas cylinders are at least 1 metre away from any door, window or other opening (this is an Australian standard).

One concern that people have with gas, is that it will be accidentally left on, for example when children play with the stove knobs. There are several ways to deal with this:

- One of the cheapest ways to avoid this is to cut the gas at times when the gas is not required. A tap (see figure 1) can be fitted by a licensed gas fitter and should be placed in an area out of reach of children.
- Alternatively, if purchasing a new gas stove, you could look

for new stoves that have a “flame out”, a device which detects when the gas has been turned on but not lit and automatically stops the gas from coming out. Other features, such as knobs on top of the stove rather than the front of oven will make it harder for children to reach.

- Flame failure devices can also be retrofitted on existing gas stoves; there are a variety of commercially available devices. This can be a more expensive option than the previous suggestions.

Another concern is leaking gas cylinders. A gas fuse (an automatic shutoff safety valve) is able to detect when there is a big leak and will stop the gas from coming out of the cylinder. It can also be used to check for small gas leaks and to monitor amount of gas in a cylinder. Both a tap and gas fuse are available from gas stores. CAT has previously looked at retrofitting regulators to gas cylinders (see BUSH TECH #5). To check for gas leakage, spray soapy water on any suspect connection or hose and watch for bubbles. If in doubt, turn off the gas and have a licensed gas fitter attend to the hose or connection.

### Tips

- Fit an automatic shutoff valve or regulator to gas cylinders.
- Use a flexible hose to connect the cylinder to a regulator.
- Stop kids playing with or near the gas cylinder by making a cage.
- Gas cylinders must be at least 1 metre away from any opening.
- Copper piping must be used for gas supplies in the house.
- Get a tap installed (at height children cannot reach) to turn gas off.
- Widely investigate new stoves, if possible buy a stove with a “flame out” or “flame failure device”.
- Fit a gas fuse to gas cylinders.

### Cooking efficiently with natural gas

- Keep gas flames to the same size as or smaller than the base of your saucepan.
- Put lids on saucepans.
- Use the minimum amount of water for boiling or steaming.
- Turn gas down as soon as the saucepan contents boil. Use the high-speed burners for rapid cooking or boiling and the simmer burners for long, slow cooking.
- Use heavy based saucepans for cooking to get the best conduction of heat.
- Conventional gas ovens do not need to be pre-heated.
- Clean your gas cooking appliances and have them serviced regularly to ensure maximum efficiency.

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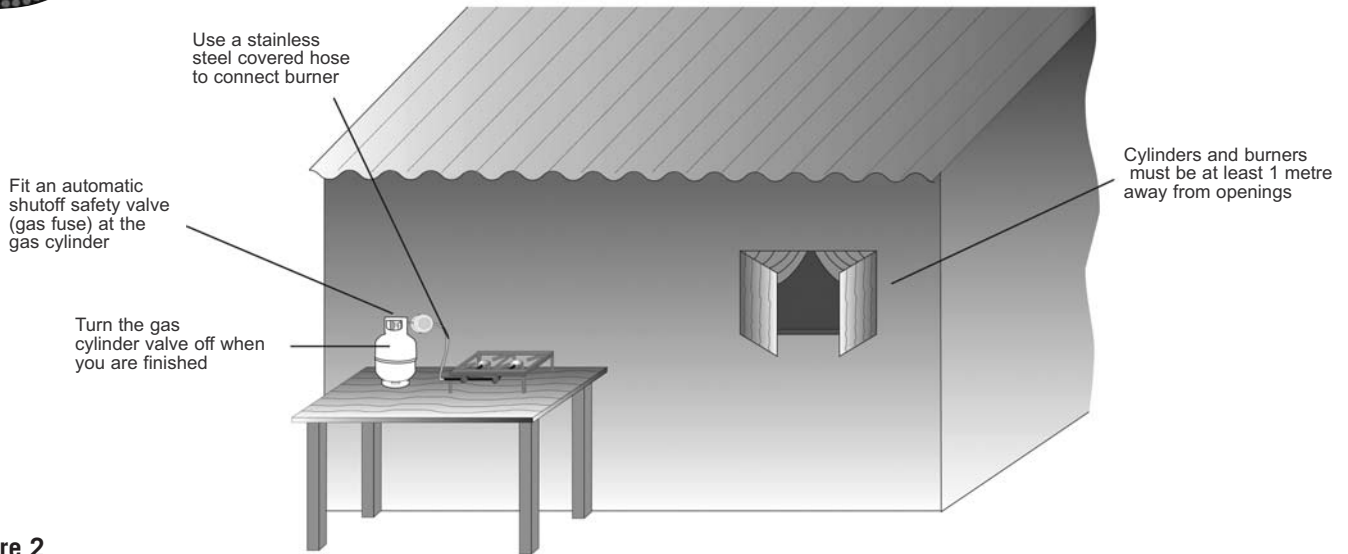


Figure 2

### Cooking with gas outside the house

Burners and gas stoves should be used outside. In locations where it is difficult to obtain gas fitters and suppliers, a portable gas stove may be an appropriate option. The advantage of a portable gas stove is that it can be moved around. When cooking outside there are a number of options that increase the safety and efficiency of your gas stove:

- Place the gas cylinder and burner away from the house, particularly windows and doors. This will stop any gas from going into the house if the gas is accidentally turned on but not lit or if there is a leak.
- Use hose covered with stainless steel rather than just a rubber hose, as these are stronger and will last longer.
- When you are finished using the burner, the safest way to turn the gas off is at the gas cylinder, this will ensure that no gas is left in hose. The correct steps for turning off a burner after use: turn the gas cylinder off, wait until the flame on the burner has stopped and turn the gas off at the burner.
- A gas fuse (see figure 2) can be fitted to the gas cylinder.
- After you have completed cooking, place the cylinder and burner in well ventilated area out of reach of children.
- Do not use a burner in windy conditions, i.e. more than 10 km per hour and where possible, place a burner in area that is protected from the wind but not indoors or confined spaces.
- A gas cylinder is required to be tested and re-stamped every 10 years.
- To check for gas leakage, spray soapy water on any suspect connection or hose and watch for bubbles. If in doubt, turn off the gas and have a licensed gas fitter attend to the hose or connection.

### Gas cylinders

Protecting gas cylinders should be considered as important as safety at the point of use. Below are some tips to ensure cylinders are kept and store safely.

- When carrying cylinders in the car the total capacity must not exceed 9 kg and the cylinders should be transported in an upright position.
- Do not connect or disconnect cylinders in the vicinity of a naked flame.
- Cylinders should not be exposed to heat or left in an enclosed vehicle in the sun.

- Do not attempt to refill dented or corroded cylinders, they must be returned to a test station for recertification.
- Stand your cylinder upright at all times.
- Cylinders should be stored outside in a well ventilated area.
- Replace cracked or damaged hoses.
- Cylinders used for household purposes must not be filled with automotive LP Gas.
- Do not store or use petrol, flammable liquids or aerosols near cylinders.

### If you smell gas inside your home:

- Turn OFF all appliances and pilot lights.
- Turn OFF the supply at the gas meter or cylinder.
- Open all doors and windows for ventilation.
- Contact your licensed gas fitter or current gas supplier to repair the escape of gas and relight appliances.
- If you suspect a gas leak, do not use a naked flame or other ignition source (ignition sources include light switches, power points, mobile phones and cigarettes).
- Do not operate electrical equipment in the vicinity of a gas leak. Isolate power at the main switchboard.
- Neither natural gas nor LP Gas is poisonous or toxic, but if an area becomes filled with gas, it can cause nausea and dizziness due to the lack of oxygen. In extreme cases it can result in asphyxiation .
- Call 000 in the event of an emergency.

### More information

BUSH TECH #5 **Gas fittings**

TECHNOLOGY POSTER **Buyers Guide to Stoves**

BUSHLIGHT FLYER **Using Gas Stoves Safely and Using Gas Burners Safely**

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