



WHAT COSTS ARE INVOLVED IN USING GAS APPLIANCES?

When building a home in a new estate or an existing suburb, mains gas will normally be available in the street.

Initially, there will be a cost to install the pipes for the gas from the street to the house, along with a meter. Usually this upfront cost is covered by the gas network business, which will recover its costs through bills to the customer over a number of years.

Sometimes the customer pays for the pipe and meter directly up-front, and sometimes the developer pays as part of a house-and-land package. In any case, some cost will be incurred by the householder.

Gas appliances for space heating, water heating and/or cooking as well as pipes through the home to take gas from the meter to appliances are installed by a plumber at the expense of the householder, either directly or as part of a package.

Gas consumers are charged for the amount of gas they use as well as the fixed cost to be connected to the gas network.

Like most appliances, those using gas require maintenance at some stage during their life.

What is an efficient electric appliance?

Using electricity to heat water or air has traditionally been very expensive – as older technologies were inefficient (e.g. resistance elements in bar heaters or storage water tanks). This is changing with the evolution of heat exchanger and solar technologies.

A heat exchanger is a device that allows heat from a liquid or gas to pass to another liquid or gas without the two fluids having to mix. Your fridge uses a heat exchanger – whereby heat from the air within the fridge is sucked out and dispersed through the coils at the rear.

Modern split-system air conditioners and “heat pump” electric hot water systems also use heat exchangers. Their systems are so efficient they create multiple units of heat for every single unit of electricity input to the system.

Split-system air-cons can have a “co-efficient of performance” (CoP) of over 5.0 – meaning that for every 1 kilowatt hour (kWh) of electricity input to the system, 5 kWh of heat is generated. CoPs for heat pump hot water systems now exceed 4.0. These systems can use as low as 1/5th to 1/7th of the input energy as a gas appliance for the same end use.

Solar hot water has also improved in efficiency in recent years, with the development of “evacuated tube collectors”. Solar hot water systems can also be run with electric back-up, negating the need for mains gas.

For cooking, modern induction cook tops offer high efficiency and similar (or greater) amenity to gas cook tops. These have become increasingly affordable in recent years and continue to drop in price as they gain popularity as a mass market product.



The Alternative Technology Association (ATA) is a not-for-profit organisation that enables, represents and inspires people to live sustainably in their homes and communities.

For more information go to:
www.ata.org.au or call (03) 9639 1500



IS GAS STILL A CHEAP OPTION?

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Should you install gas appliances in your new or existing home? Are you better off switching from gas to efficient electric appliances?

These questions were thoroughly explored by the Alternative Technology Association (ATA) in its report, *Are we still cooking with gas?*

Gas prices in Australia's eastern states have already gone up, and will rise sharply as more of Australia's gas is shipped overseas. At the same time, costs and performance are improving for electric appliances for space heating, hot water and cooking.

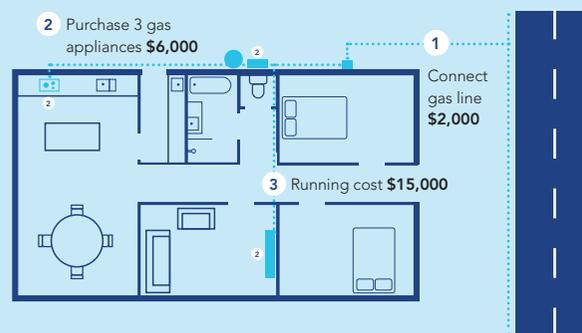
ATA's research found that it is no longer cost-effective to connect a new home or an existing all-electric home to mains gas when compared with efficient electric appliances.

Most efficient electric appliances also have lower greenhouse gas emissions, even in Victoria where most electricity comes from dirty coal-fired power plants.

Of course, if you access electricity from your own solar panels or through GreenPower, then it can be 100% environmentally friendly to go electric. Mains gas from renewable sources, on the other hand, is not available.

LET'S LOOK AT A CASE STUDY:

Chris and Jo are building a new, medium-sized home in urban Melbourne and considering whether to use gas or electricity for space heating, hot water and cooking. The diagram below outlines **1** the costs to Chris and Jo of connecting to the mains gas network **2** purchasing three gas appliances for space heating, hot water and cooking and **3** running them.



As you can see, the cost to Chris and Jo to connect to the gas supply is in the order of **\$2,000**.

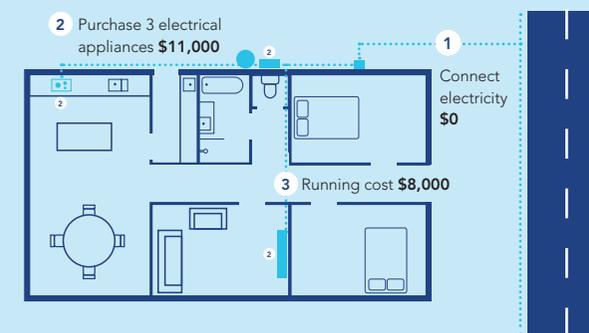
The cost to purchase and install three new, high efficiency gas appliances for space heating, hot water and cooking is in the order of **\$6,000**.

And the cost to run these three new gas appliances over 10 years, including the fixed charge for being connected to the gas network, will be about **\$15,000**.

This comes to a total cost to Chris and Jo over 10 years of **\$23,000**.

If we compare this with electricity, the first thing to note is that **1** there is no additional cost to connect to the electricity network and no additional fixed daily charge - as the majority of new and existing homes will be connected to the mains electricity grid anyway.

Therefore the additional cost to Chris and Jo in choosing electricity over gas only includes the cost to purchase, install and run those electric appliances. The diagram below outlines **2** the costs to Chris and Jo of purchasing, installing and **3** running their electric appliances.



The cost to purchase and install three new, efficient electric appliances for space heating, hot water and cooking is in the order of **\$11,000**.

And the cost to run these three electric appliances over 10 years¹ will be about **\$8,000**.

This comes to a total cost over 10 years for choosing efficient electric appliances of **\$19,000** – **\$4,000** less than gas appliances.

And the best news is that if you have your own solar power system, the running costs for your electric appliances will be even lower – as electricity generated by solar power is now significantly cheaper than what you pay for electricity from the mains electricity grid.

¹ Future running costs discounted at inflation (2.5%).