

# Natural Gas. Your questions answered.



Envestra, one of Australia's largest Natural Gas distribution companies, is providing Natural Gas to your area. Recently several new towns have been connected to Natural Gas with the assistance of the Victorian Government's \$70 million Natural Gas extension program. To help maximise the impact of Envestra's and the Victorian Government's

investment in the program, we are informing potential customers about the economic and environmental advantages of switching across to running Natural Gas appliances, and with this in mind the following **Answers to Frequently Asked Questions** have been developed.



# Questions and Answers relating

## Q. What are the similarities and differences of LPG and Natural Gas?

### A. Similarities

- Both gases provide clean burning, environmentally friendly, energy quickly on demand to your home.
- The gases can be easily compared by energy value in megajoules (MJ) as the gas appliances only utilise their rated energy consumption in MJ, and it is the energy cost per MJ which determines the running **cost** (1 litre LPG = 25.4MJ). There is negligible difference in the running **efficiency** of a given appliance whether it operates on LPG or Natural Gas.

### A. Differences

- LPG is dependant on truck deliveries, be it bulk supplied or bottle delivery. Where as Natural Gas is transported to your community via a small diameter polyurethane pipe.
- Natural Gas enjoys long term price stability and is a significantly lower cost energy source compared to LPG.
- Natural Gas is billed every 2 months after it is used while LPG is purchased upfront before use.
- Natural Gas is reliably and accurately metered via an asset that complies to weights and measures regulations.
- LPG is heavier than air whereas Natural Gas is lighter than air and readily dissipates to the atmosphere, should there be a gas leak.

## Q. Can you convert LPG appliances to Natural Gas?

### A. Note: All LPG 'flue-less' heaters are not able to be converted to Natural Gas in Victoria.

Most of the other appliances can be converted, however it is best to check with your plumber regarding particular models. We recommend obtaining several conversion quotes to ensure you are getting good market rates. The costs of converting your LPG appliance to Natural Gas are usually recovered within a short period after conversion.

Conversion costs can vary with the make and model of the appliance based on the different designs and component costs. If you are buying a new LPG appliance with a view to converting later, we recommend asking for a conversion quote for the particular model of appliance or obtaining the Natural Gas components as part of the purchase.

## Q. What is the typical price difference between LPG and Natural Gas and why is this so?

A. Depending on the energy retailer, area tariff and usage profile, natural gas households will typically be charged at a rate ranging from \$0.010 to \$0.015/MJ.

To put this in context, if you were on Natural Gas it would be equivalent to buying 45kg bottles of LPG at prices ranging from \$23 to \$34, instead of the current prices of around \$85 to \$90. The pricing of Natural Gas is typically very stable. The Essential Services Commission (ESC) monitors closely the pricing of Natural Gas to the end user. In contrast the LPG pricing is influenced by variations in world oil pricing and local market forces. Extra activities such as refining process, decanting, road transportation and cylinder rental and handling costs of LPG also contribute to the higher energy price of LPG.

Actual appliance running cost differences are difficult to predict as some customers will use appliances more once they have a less expensive fuel and hence "before and after" bill comparisons can be misleading without understanding the amount of energy being consumed. (i.e. 1 litre of LPG = 25.4 MJ of Natural Gas use). Be aware that each home has unique operating conditions making cost comparisons difficult.

Worked examples of typical running costs of gas appliances can be found on the government web site: [www.energyrating.gov.au/stars/](http://www.energyrating.gov.au/stars/), pages 34-38 in the "Appliance Energy Labelling-Retailer Training Kit".

# g to Natural Gas.

## Q. How can I save energy usage when heating my home?

A. Where possible install high efficiency appliances and use your heater wisely. The government website: [www.sustainability.vic.gov.au/www/html/1529-heating.asp](http://www.sustainability.vic.gov.au/www/html/1529-heating.asp) recommends the following tips for lowering heating costs:

- Set your thermostat at around 18-20°C. For every degree you increase the thermostat setting in winter, your bill can increase by up to 15%.
- Close windows and doors in heated areas.
- Close drapes and blinds when heating, especially at night.
- Turn your heater off overnight or when not at home.
- Install or top up insulation in the roof.

## Q. What is the price difference between Electricity and Natural Gas?

A. Natural Gas is consistently cheaper than electricity across all its various tariff rates. For example a conventional electric storage hot water service unit operating on Night Rate electricity is significantly **more expensive to operate** compared to a Natural Gas storage hot water service unit. Energy costs to run a Continuous Flow Natural Gas hot water service are also comparatively attractive as they have the advantage of providing

endless hot water supply and the convenience of immediate hot water without using gas in standby mode. It is worth noting that if your electric storage hot water service unit uses Day Rate electricity, this is typically more expensive than heating your water using LPG.

## Q. What is the comparative impact on the environment of Electricity and LPG versus Natural Gas?

A. The Australian Greenhouse Office (AGO Factors and Methods Workbook, Dec 2005) estimates that the full cycle carbon dioxide emissions are as follows:

### Victorian Electricity

401.4 kg of CO<sub>2</sub> Per GJ of energy consumed

### Briquettes

115.3 kg of CO<sub>2</sub> Per GJ of energy consumed

### LPG

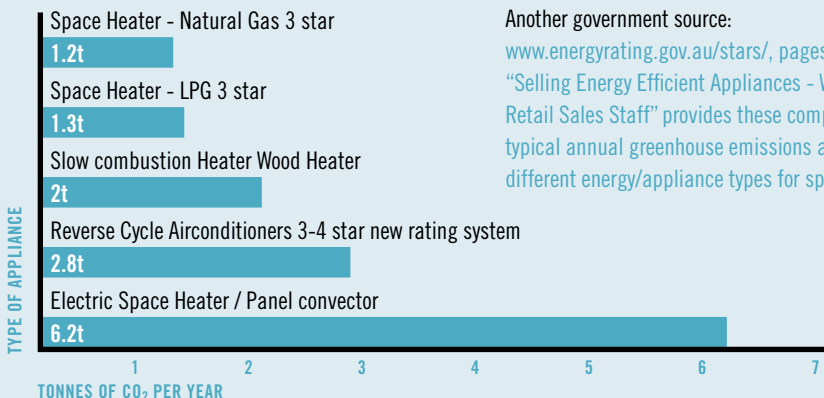
67.1 kg of CO<sub>2</sub> Per GJ of energy consumed

### Natural Gas

63.7 kg of CO<sub>2</sub> Per GJ of energy consumed

The above figures indicate Natural Gas as an energy source is about 6 times more environmentally friendlier than electricity. Fuels such as LPG and wood have the disadvantage that vehicle transport is required which adds CO<sub>2</sub> emissions to its use.

## Annual Greenhouse Emissions



Another government source:

[www.energyrating.gov.au/stars/](http://www.energyrating.gov.au/stars/), pages 7-8 of the "Selling Energy Efficient Appliances - Workbook for Retail Sales Staff" provides these comparisons of the typical annual greenhouse emissions attributable to different energy/appliance types for space heating.

**Q. Aside from green house gas emissions, how do wood fires affect the outside environment compared to Natural Gas heaters?**

**A.** Natural Gas is a clean burning gaseous energy type that has no particulate matter produced from its combustion. EPA Victoria research shows that as much as 60% of fine particles emitted into air during cooler months is due to domestic wood heating (EPA Publication 632). Passive inhalation of smoke fumes should always be avoided. Switching from your wood fire across to a gas log fire or other Natural Gas heater would contribute to the long term health of residents in your neighbourhood.

**Q. Only licensed Natural Gas energy retailers can sell Natural Gas, and they manage your gas application and meter connection. What issues are involved in selecting a retailer?**

**A.** To help ensure you select the energy retailer for your usage profile, it is always best to ask questions about their offer; for example:

- **What is the unit rate price I will be charged (per MJ) for the Natural Gas?**
- **What is the fixed monthly supply charge that will be applied on my bill?**
- **Does the offer involve any a minimum time contract or fees and charges if I choose to switch to another retailer before the end of the contract?**

Furthermore customers that become dissatisfied with their energy retailer should first discuss their complaint with the retailer and then if not resolved satisfactorily, seek recourse via the Ombudsman.

**Q. Where do the Natural Gas street mains go?**

**A.** Envestra's objective is to locate the gas service riser and meter in a position that is both safe and secure and that is known to emergency services. This position is usually on the opposite side to the driveway. A site visit by our field representative will

discuss this with you when they receive your application for gas connection. If the gas main has been installed on the other side of the street from your house, Envestra will in most instances make a gas service pipe available to your address at no cost (subject to OEIG standard conditions).

**Q. Where is my meter up stand going to be located?**

**A.** Envestra employs the following connection guidelines for residential connections:

1. A service pipe (to the house) of up to 50 metres from the front boundary can be provided, subject to being in compliance with OEIG standard conditions and meeting an economic evaluation.
2. A service pipe will be left at the front boundary where the house is more than 50 metres distance from the front boundary. The service line and meter remain the property of Envestra and as such, Envestra is responsible for the future maintenance, removal or replacement of these assets.

**Q. Will the customer piping need to be replaced once the appliances are converted to Natural Gas?**

**A.** For most residential connections Envestra installs its own meter upstand piping up to the front non-driveway corner of the home where the meter is fixed. After this point customer piping connects your appliances to the gas meter and all work on this section is the householder's responsibility. Envestra provides a pressure of 2.75 kPa (at the gas meter) to match the pre-existing pressure of LPG so that customer piping replacement costs, if any, are kept to a minimum, provided it was originally installed to the plumbing code AS5601. We recommend checking with your plumber to determine if customer piping needs to be changed. In all cases LPG appliances need to be converted to run on Natural Gas to enable sufficient energy to the appliance.

**Q. My house is currently being built or renovated and I do not know if Natural Gas is going to be available by the time it is completed.**

**What actions should I take?**

**1.** First consult with Envestra/OEIG by contacting us on 1300 001 001 and we will give you a guide as to when gas will be available.

If Natural Gas is not available it is best to initially select LPG appliances then convert across to Natural Gas when it becomes available over the next 12 to 18 months or so.

The savings are likely to be more than recovered over the 15 yr lifetime of the appliance compared to running costs of an electric alternative appliance.

**2.** The new appliance should be purchased with the Natural Gas kit (it is usually cheaper to buy this at time of purchase rather than via the aftermarket spare parts channel) and then provide it to the plumber when the Natural Gas comes.

**3.** Sizing of the customer piping should be suitable for Natural Gas and also the location of the LPG tank should be where the Natural Gas meter typically is located (at the front corner of the home on the non-driveway side) this will minimise customer piping change costs later on.

**4.** Appliance selection should be made with conversion costs in mind. Customers should ask appliance retailers or manufacturers how much the Natural Gas components are and what it costs to convert. Note that particularly with cookers this can vary considerably.

The quoted conversion prices will probably be less if the customer has already purchased the Natural Gas components with the new appliance.

**5.** The customer piping lay out and design for any dwelling is important and should be built with future load and planned future appliances keep in mind.

This will lower overall plumbing costs for your site.

**Q. Apart from the low energy cost per MJ, why else would I value connecting to Natural Gas?**

**A.** There are several non-price related reasons why Natural Gas is worth connecting to:

- Natural Gas is convenient and has an excellent record for continuity of supply. LPG and Electricity supply is prone to interruption at the most inconvenient of times leaving you stranded with appliances that cannot operate.
- The small Natural Gas meter is very aesthetically pleasing compared to obtrusive LPG tanks.
- LPG delivery trucks are less likely to frequent your street making it safer for pedestrians and a more tranquil setting.
- Should you ever plan to sell your property it will typically be a more valued asset fitted with economical Natural Gas appliances.
- Compared to electricity, Natural Gas appliances are many times better for the environment in reducing Green House emissions.
- Natural Gas heating when replacing wood heating means cleaner air for the neighbourhood and the best in convenience.
- Your Natural Gas bill typically comes bimonthly, allowing you a longer period before payment is required, whereas LPG and wood are upfront purchases.
- Metering of Natural Gas is very accurate the meters are tested by the Victorian Government's licensed examiner.

**Q. I have two outdoor LPG appliances, a BBQ and an overhead heater. Can these be converted to Natural Gas and if so how do I connect them to mains gas?**

**A.** BBQ's are able to be converted across to Natural Gas by gas fitters; however before attempting any conversion of an LPG overhead heater we recommend seeking manufacturer's advice.

It should be noted that Natural Gas overhead heaters are available in the market and if you have a balcony or decking, this item will help you economically maximise its use during the cooler months.

Currently outdoor appliances can be connected to Natural Gas via a bayonet fitting plumbed into a wall. In the near future it is anticipated covered pits will also be approved to accept Natural Gas bayonet fittings.

**Q. My home is outside the current reticulation area and I want to know if in future I can get access to Natural Gas?**

**A.** The Natural Gas network is always growing, but it will only be extended if it is economically viable. Customers are encouraged to pool together with neighbours that also want gas and to send in all the applications in one hit to one selected energy retailer.

The energy retailer will then contact Envestra to assess the economics of the mains extension and a response will then be fed back to you via the energy retailer. If there is an economic shortfall to the main extension evaluation, customers will be required to contribute funds to gain access to Natural Gas.

**Q. Why is it important for householders to put in early applications for Natural Gas in the new town projects?**

**A.** The Natural Gas rollout for new towns is going to be guided by the number of applications we receive in from the energy retailers for given streets. Therefore where possible we will prioritise those streets where the most gas applications and the highest loads are so we can quickly build load and start achieving payback on the infrastructure investment.

**Q. How do I apply for Natural Gas?**

**A.** You are able to apply over the phone to your selected energy retailer (see the major energy retailers listed below) quoting the appliances to be connected to Natural Gas:

**Origin Energy 1300 132 480**

**TRU energy 1800 818 378**

**AGL 1800 680 430**

**Any queries regarding these questions and answers please call 1300 001 001 or log on to [www.natural-gas.com.au](http://www.natural-gas.com.au)**

Origin Energy Infrastructure Group (OIEG) acts as network operator for Envestra Ltd in the construction, maintenance and marketing of Envestra's Natural Gas distribution network.

