



Now you're cooking

Switch to gas for easier, more cost effective and eco-friendly cooking





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1. Cook like a chef, care for the environment and save electricity

People the world over prefer cooking with gas - and once you've cooked with gas, you'll understand why. It's fast, efficient and delivers just the right amount of heat with utmost control for all types of cooking.

While electricity is still the most commonly used energy source for cooking in South African homes and guest houses, more and more people are starting to make the switch to gas. This is largely due to the changing energy landscape, marked by electricity supply constraints and rising costs. And, with the wide array of attractive built-in hobs and free standing stoves available today, gas cooking is a growing trend.

There are over nine million electric hotplates and stoves in use in households in South Africa. When all of them are in operation during peak periods, it places major strain on the country's power supply. By using alternative fuel sources for cooking such as Liquid Petroleum Gas (LPG), you can help reduce the national electrical load.

More importantly, you'll be helping the environment. For every kWh of electricity you save by not using electricity for cooking, you'll save 0.56kg of coal and 1.5 litres of water that would have been used to generate that power, and harmful CO₂ emissions will be reduced by 1.03kg.

2. Why you should make the switch

- You won't be so heavily dependent on electricity. Plus, if you keep a spare cylinder of LPG on hand, you are assured of an uninterrupted, reliable source fuel for cooking.
- Using alternative fuel sources helps reduce the negative environmental effects of producing electricity.
- You can shrink your cooking carbon footprint by as much as 50% simply by switching from electricity to gas for cooking.
- LPG is well suited for use indoors because it is inherently clean and burns without smoke or residual particulate matter.
- LPG is highly controllable and efficient with instant heat and immediate heat reduction for faster, more economical cooking.
- You'll be doing your bit to save electricity and lighten the load on the country's over-stretched supply – especially during peak usage times.
- LPG is completely safe like electricity, when used correctly.
- LPG is versatile and can be used in a variety of applications, from cooking and heating to refrigeration and even lighting.
- LPG is becoming an affordable alternative to electricity.

3. What is LPG?

Liquid Petroleum Gas (LPG) is made up of two liquefiable hydrocarbon gases – propane and butane. Both of these are by-products of the crude oil and natural gas refining process.

LPG is kept under pressure as a liquid in specialised containers, pressure vessels and gas bottles/cylinders. LPG cylinders are made in compliance with SABS Standard Specifications. Cylinders for appliance use come in various sizes, i.e. 9kg, 14kg, 19kg and 48kg.

In an appliance such as a stove, the LPG is mixed with oxygen in the burner and combusted under controlled conditions, producing heat for cooking.

4. More uses for gas

LPG can replace a number of applications around the home and in small commercial buildings.

4.1 Hot water heating

Modern gas water heaters are easy to install and maintain. They are also automatic and safe. When the hot tap is turned on, hot water flows within seconds and continues to do so until the tap is turned off. There is no need for a bulky storage tank and because hot water isn't actually stored, no heat is lost due to cooling. This makes gas water heaters much more cost effective and energy efficient than electric geysers that are the biggest electricity users in South African households.

4.2 Space heating

There is a wide range of gas powered heaters available. These are safe and economical to use in homes and small commercial buildings in place of electric heaters and air conditioners.

5. The benefits of using LPG

5.1 LPG makes for an eco-friendly kitchen

Electric stoves rely on energy generated by coal-burning power plants which are one of the main contributors of carbon dioxide and other emissions that are negatively impacting on our planet. By using gas for cooking, you lower your demand for electricity and thereby reduce the negative environmental impacts of generating power.

LPG stoves provide instant heat, and because they offer you greater control over the temperature, they are more energy efficient. To save gas, all new models use an electric ignition rather than a continuously burning pilot light.

5.2 There's enough to go around

Some might argue that switching from electricity to LPG is just shifting the burden from one scarce energy source to another. It's not. There's no shortage of LPG. On a global basis, there is an abundance of LPG and other liquid fuels which can be simply imported. A substantial amount of LPG is also produced locally from indigenous coal and natural gas and as a by-product of refineries. What this means, is that increases in demand can be met quicker and more efficiently than is possible with electricity.

South Africa has a well established LPG supply infrastructure and the industry continues to invest in supply capacity to ensure regular and reliable supplies. LPG is available from numerous retail shops, garages and dedicated LPG retailers.

When there have been major LPG shortages in South Africa, they've happened because refineries have gone down or because of distribution constraints such as a shortage of gas cylinders.

5.3 LPG is affordable

The cost of electricity is on the rise and is no longer considered inexpensive. Considering spiraling electricity costs and with the resale price of LPG now regulated, gas is an affordable alternative to electricity. Just remember that cooking costs for the average household are in the region of R60 to R90 per month depending on the size of family and amount of cooking. So, any cost saving is off a modest base. The relative costs of cooking with LPG and electricity, for non-indigent users, is already at par (in some electricity supply areas LPG is less expensive; in others more), but the agreed annual 25% electricity price increases will mean that LPG will continue to become cheaper.



Fuel cost to heat two litres of water to boiling point in a pot						
Fuel type	Fuel used to boil		Fuel Price		Cost to boil	Deviation from LPG as %
	Amount	Units	Unit price	Units		
Paraffin regulated max sales price >14 July 2010	0.0374	kg	7.07	R/l	R 0.34	-25%
LPG regulated max sales price >14 July 2011	0.0273	kg	16.48	R/kg	R 0.45	0%
Eskom home light Block 2 [51 - 350 kWh]	0.4381	kWh	0.5130	R/kWh	R 0.22	-50%
Eskom HomePower 4 [> 600 kWh]	0.4381	kWh	0.8673	R/kWh	R 0.38	-16%

From a national perspective, gas is cheaper than electricity. That's because it is expensive for Eskom to produce 'peak power' during times of high demand, for example when most households are preparing their dinner. It is far cheaper to invest in LPG infrastructure than electricity generating infrastructure. Thus, substituting peak load saves Eskom millions of Rands each year. This has implications for all of us down the line.

5.4 LPG is safe

LPG is clean, non-poisonous and safe. All LPG appliances supplied in South Africa are tested, approved in accordance with SABS standards and completely safe when used according to manufacturers' instructions. LPG is supplied in high quality, safe cylinders that are regularly inspected and maintained by gas distributors. LPG is odourless, but is given an odour by manufacturers in order for it to have a distinctive smell so that leakages can be easily identified.

Please remember, all fixed/built-in LPG appliances must, by law, be installed by a fully trained, qualified and registered LPG installer. Installers have to apply for registration with the LPG Safety Association. There are about 500 registered installers.

The Liquefied Petroleum Gas Association of Southern Africa (LPGSASA) promotes safety in the industry, working closely with fire departments in the control and approval of all LPG sites, and with the SABS with regard to installation and operational Standards, Codes and Practices. This is to ensure that safe operating and community protective practices are maintained.

6. Safety note: The importance of ventilation

Ventilation is the free entry and circulation of air in a confined space such as a room. You must ensure that there is always adequate ventilation in rooms where LPG is used. Inadequate ventilation could result in the formation of poisonous carbon monoxide.

All forms of combustion use oxygen and LPG is no exception. Your LPG appliance will use up available oxygen in the air at about the same rate as a person, depending on its size. If there isn't enough ventilation, existing oxygen in the air will be used up.

When the oxygen content in the air drops below healthy levels, you will begin to breathe rapidly and your pulse rate will increase. The longer you stay in an inadequately ventilated room, the more adverse side effects you will begin to experience, e.g. loss of muscular coordination, abnormal fatigue, nausea and vomiting.

To ensure adequate ventilation, there should be at least two air vents available. One must be at ground level to allow fresh air in and the other must be at higher (ceiling) level to allow stale air to leave the room. Don't assume that a flue, if fitted, will take out the stale air. A separate high level vent is essential - particularly if people are in the room.

7. Making the switch

There is a comprehensive network of highly trained and accredited LPG installers to take care of your LPG appliance and supply system installation needs. Be sure to employ accredited LPG installers so that your LPG installation complies with the various technical regulations and local fire prevention by-laws.

Call the Eskom Contact Centre on **08600 ESKOM (08600 37566)**
or visit www.eskom.co.za/idm for more energy efficiency information.





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