Switch to dti

Greener Cleaner Cheaper

2004/2005

■ 79.9 **39.9** Unleaded 78.9 Why Richard Hammond drives on LPG

Why should you get a vehicle that runs on LPG? Well, here are three good reasons... It's Cheaper...

Imagine paying around 39p for a litre of petrol. You'd have to take a time machine back to 1987 for that. Incredibly, LPG (also known as 'autogas') currently averages *half* the price of unleaded petrol or diesel. You do not need to be Carol Vorderman to work out that converting to LPG could pay for itself very quickly. You could also make savings which include:

• 100% discount for some vehicles on the congestion charge in London

It's Cleaner...

- 39.9

Paded 78.9

11

LPG is regarded as one of the cleanest fuels in the market because its simple chemical composition means it is a very clean burning fuel.

This is important for the quality of the air you breathe. Particulates accumulate in your lungs and an LPG engine was shown in recent European tests to emit substantially fewer particulates than a diesel one. And the emission of nitrogen oxide – which can damage your lungs and health – was demonstrated to be 20 times less in an LPG vehicle than in a diesel.

It's Greener...

Not only can you save money, you may even help to save the planet by converting. The main pollutant linked to the greenhouse effect is carbon dioxide (CO_2) and recent extensive tests showed that CO_2 emissions are 20% less when compared to petrol and nearly 2% less than diesel.

Plus an LPG-fuelled engine is about 50% quieter than a diesel one.

'Switch to Autogas' is published by Four by Four Publishing Limited (020 7938 1975) on behalf of Boost LPG. Editor Natalia Michault Sub-Editor Monica Kendall Art Director Andy Debens Assistant Art Director Louise Downer Cover Photographer Giles Jenkyn. Images and copy are copyrighted. For permission to reproduce contact the publisher. The publisher cannot accept any responsibility for any loss, injury, inconvenience or expense resulting from information contained within this magazine.

Richard Hammond says convert to LPG... he did!

What is LPG?

LPG stands for 'liquefied petroleum gas' and is also known as 'autogas'. It is a mixture of propane and butane and comes from the oil refining process, but it also occurs naturally in gas fields. At room temperature it's a gas, but when pressurised it turns into a liquid. Although in the past LPG was considered a waste product and burnt off, it is now produced in vast quantities – the UK produced 6.4 million tonnes in 2001 of which around half was exported.

Boost LPG is a campaign to boost the number of LPG drivers in the UK by increasing the availability of information and promoting the benefits and opportunities associated with using LPG-fuelled vehicles. **Right,** so converting your car to run on LPG is going to be expensive, complicated and dangerous. Well, er... no. It's not even a new thing. The Scandinavians have been running LPG-powered buses for years, and in Japan you will almost certainly be conveyed to your paper-walled hotel courtesy of an LPG cab.

You see, running your car on LPG is not only going to mean motoring at about 37p per litre, it's greener than petrol. As for dangerous, many experts reckon a properly installed LPG tank is more impact resistant than a conventional steel petrol tank.

How do I know? I was recently faced with the common dilemma of needing a family car. Obviously I know all about running costs and the need for a simple, basic family car. So I bought an eleven-year-old Range Rover Vogue SE with everything on it, for just four grand. It's a ridiculous car – huge, complicated and somewhat expensive to run. But how could I possibly afford to fuel such a thing?

Well, as it happened, the list of features included LPG conversion and it was this that made it all possible.

Richard Hammond: TV presenter and motoring journalist

A 3.9-litre V8 engine is a wonderful thing; it sounds marvellous and can transport a small army. Convert it to LPG and this can still

be done, for a fraction of the cost, and with no noticeable loss of power and no change in the lusty bellow. And it's not just old 4x4s and thirsty luxury cars that can benefit. Even an average family car, covering around 20,000 miles a year, could save its owner the best part of £800 a year if run on LPG. There's no shame in it – the Queen has one, although hers is, admittedly, a Roller.

Index

- 02 Convert your own car or buy already converted? 04 The converted preach: four autogas drivers tell all.
- 06 GB map: find out where you can refuel.
- 08 We road-test LPG cars from Vauxhall, Volvo, Ford.
- 12 Autogas: your questions answered.





Four LPG drivers gas about gas

We've told you about the benefits of converting your car to gas, but what's it really like running your car on LPG? We interview four drivers to find out their experiences



Vauxhall

Omega Name David Marriott Lodge Age 33 Profession IT Consultant Main use of car Business Miles per year 35,000 Favourite car BMW M3 How long have you been using LPG? Two years. How did you find an authorised converter?

Through the Internet, I went onto the LPGA website, www.lpga.co.uk.

How many places did you contact? Just one. I went to my local dealer, had a chat with him, and got some references from other people who had had conversions. How easy is it to use? Absolutely fine, it's like driving a normal car, except filling it up with gas rather than petrol, but that's the only difference.

What are the advantages? Cost! Conversion overall was about £1,800 and break even on my car was 20,000 miles.

Did you get a grant? No, my car didn't qualify. **How long to recoup the cost of conversion?** Probably about eight months. I do 35,000 miles per year and because the break even was 20,000, it paid for itself within a year.

Had you any concerns? Yes, about the performance. I'd heard that performance could be affected if you didn't get the right conversion. There are two types of conversion: there's an injection conversion and a mixer conversion. Injection is the more modern technique, which is what I had done.

Any difference after? No. My car is a big 2.5 litre, and you don't use all the power, so you only really notice if you are pushing it hard, which isn't that often.

Is it easy finding a place to refuel? Yes, I found a website called LPGmap [www.lpgmap.co.uk]. You can download, free of charge, overlays for Autoroute. When I plan my normal route it pops up and tells you all the gas stations on the route.

The cheapest you've paid? About 29p per litre. **What have you saved?** Over two years I've done around 70,000 miles, so I've saved in the region of £4–5,000. **How often do you use petrol?** Occasionally, but it's rare. I put £5 of petrol a month in because it always starts on petrol and then changes across when it reaches about 30°C in the engine.

Would you ever use petrol again? It wouldn't be my first choice. I'm looking for another car to change to later in the year, so it's always a consideration as to whether it can be converted. I'm not going to buy a car I can't convert. Are you aware of the environmental benefits?

Obviously I've got cost benefits, but it's nice to know that I'm not creating as much pollution. I'm a high mileage driver in a big car that would be top end of the carbon scale on petrol, so I'm helping the environment in that way.

One sentence to sell LPG? To give it serious consideration because it's not as difficult or complicated to convert as you might think, and once you've converted you'll never look back.

Mercedes S500

Name Brian Marlow Age 64 Profession Company Chairman Main use of car Personal use Miles per year 8,000–10,000 Favourite car Ferrari or Mercedes How long have you been using LPG? Four to five years.



Did you get a grant? No, I didn't apply. **How long to recoup the cost of conversion?** Three years to pay the conversion cost by saving on the price of petrol.

How did you find an authorised converter? I got the name from my local dealer, and we were very impressed with his kit.

How easy is it to use? Initially there were a few teething problems with the valve on the thermostat, but I wasn't charged for the repair, and there hasn't been a problem since.

What are the advantages? It's half the price. I'm very cautious about the amount of money I spend, and because it's half the price, I'm able to use my car a lot more.

Had you any concerns? Initially, safety. Why didn't that stop you converting? Because after talking to people about it, I realised it was perfectly safe. Is it easy finding a place to refuel? Yes, and there are quite a few around me.

The cheapest you've paid? 33.9p per litre. What have you saved? Around £700 per year. Are you aware of the environmental benefits? Yes. One sentence to sell LPG? Turn your car into a great car that's also cheap to run.

Renault Scenic 1.6, and Daihatsu Hijet van

Name Steven Woodcock Age 51 Profession Carpet Upholstery Cleaner Main use of car The van is for my business and the car for personal use. Miles per year With the

van about 20,000 miles.



Favourite car The one I have at the moment, the Renault Scenic.



Range Rover

Name Tony Slade Age 62 Profession Solicitor Main use of car Work and pleasure Miles per year 20,000 Favourite car Range Rover How long have you been using

LPG? One year.

Did you get a grant? No, the car was too old. How long to recoup the cost of conversion? About nine months.

How did you find an authorised converter? I got a list from the Internet and went round all of them, until I found one I wanted to use.

How easy is it to use? It's been very simple, and I've never had any problems.

What are the advantages? The price, it's so cheap. Had you any concerns? Yes, I'd rung Land Rover, and asked whether they could recommend a system but they wouldn't recommend or fit one.

Why didn't that stop you converting? Because I'd read about it, and after talking to professionals it's clearly a good fuel to use.

Is it easy finding a place to refuel? Yes, I pass at least one every day.

The cheapest you've paid? 37p, but I've seen it for 32p, although at the time I had a full tank.

Are you aware of the environmental benefits? Yes, it's good to know that you can help the environment as well.

Would you ever use petrol again? No.

One sentence to sell LPG? Half price motoring.

Quentin Willson says...

"LPG is fantastic. When I leave home, I can choose between a Merc E 55, Lexus LS400 or gas-powered Jeep. And I nearly always take the Jeep, because I know the run to London is going to cost me only seven quid... this is a no brainer people"

Taken from Quentin's column quoted at www.mirror.co.uk.

How long have you been using autogas? The van for two and a half years and the car for three months. Did you get a grant? No, my vehicles don't qualify. How long to recoup the cost of conversion? Two years How easy is it to use? I had one or two teething problems with the van which were easily fixed by changing the feedback system. The Renault is a Romano sequential system and I haven't had any troubles with it. What are the advantages? The money saving aspect. It means more profit for the business.

Had you any concerns? I had heard that it can cause valve wear on the top of the cylinder, but my converter made adjustments so that it couldn't occur. Any difference in performance? None at all.

Is it easy finding a place to refuel? Very easy. **How often do you refuel?** With the van every 200 miles, and the car every 250 miles.

The cheapest you've paid? 34.9p per litre. What have you saved? On the van, £700 per year. Are you aware of the environmental benefits? It's an added bonus to know you're not choking everyone behind you to death. As for the business it looks good to say you're clean and green.

Would you ever use petrol again? Not if I could avoid it. One sentence to sell LPG? With current technology, save money without losing performance.

What does it feel like to drive a gas-powered car?

Natalia Michault, 29, had never driven an LPG car before – which of course made her the perfect road tester for Volvo's flagship bi-fuel V70.



A car that runs on gas... to say I had my doubts was an understatement.

I half expected the grandson of Chitty Chitty Bang Bang to pull up. Yet no. The V70 – though no silver bullet – had graceful and arching modern lines. Indeed the road-test car was loaded with electronic goodies yet the only clue that it was gas powered were six ultra-discreet letters on the rear tailgate – Bi-Fuel.

Still, I had my concerns. What if I pressed the button to switch to LPG at the wrong time, what if I put petrol in the LPG tank, what if I needed a cigarette... what if...?

The man from Volvo said, with Scandinavian simplicity, that there was nothing to it: "Press the petrol button down for a few seconds until the red light starts flashing then let go, and when the red light turns off, you're driving on LPG." That was it, and there I was expecting the space shuttle's handbook.

On my first attempt to switch to gas, I started the car on petrol (you always do this), and while driving I did as I was told and held the button down for a few

VOLVO V70

On-the-road price £24,523 Length/height 4710/1465 mm Engine/capacity 5 cyl/2435 cc Peak power 140/5100 bhp/rpm Peak torque 214/4500 Nm/rpm Transmission 6-spd manual Fuel tank capacity LPG 50/petrol 29 gallons Boot capacity (seats up/folded) 485/745 cu ft Kerbweight/payload 1550/600 kg Turning circle/drag coefficient 11.9 metres/0.03Cd **Insurance group 13** Basic warranty 3 years (60,000 miles) Basic recovery 1 year RAC cover 0-62 mph 11.4 sec Top speed 127 mph Govt urban/extra/combined 17.2/28.8/23.2 mpg

seconds. The little red light flashed for a few seconds, but nothing happened. So I did it again and again and then again, until I finally realised that the car had in fact been changing back and forth without me.

I'm not sure what I was expecting, if not the earth to move, but I hoped to feel some sort of change; something like you would feel while changing gears. When that didn't happen, I realised just how easy the gas malarkey was.

In performance terms I'm sure Jeremy Clarkson would tell me that torque between 1000–2000 rpm was down but I couldn't feel the slightest lag or slowing even when flooring it.

Refuelling the car was equally as simple, just a different hose and a different hole. There was a second or so delay as the gas went in and a satisfying hiss when disconnecting.

But the biggest hiss was audible at the checkout when I paid 37p per litre.



Other new LPG models available include: Daihatsu Hi-Jet 1.3 Ford Transit, Connect LDV Hi-loader, XL van, LWB Tipper Mercedes-Benz Sprinter 214, Sprinter 314, Sprinter 414 MG Rover Full range Mitsubishi Shogun Sport GLS V6 Nissan Almera 1.8, Micra 1.2, Primera 1.8 Proton Impian 1.6, Jumpbuck auxhall Corsa, Astra, Astra Coupé, Vectra, Zafira, Astravan, Combo Volvo 60 series, 70 series, 80 series

Car manufacturers' contact details Daihatsu 0121 522 2000/5000 Ford 08457 111 888 LDV 0121 322 2000 Mercedes-Benz 0800 665 415 MG Rover 01388 774545 Mitsubishi 01285 655 777 Nissan 01923 899 999 Proton 0800 665 415 Vauxhall 01582 721122 Volvo 0800 400 430

Take your pick of new LPG cars

VOLVO S80

On-the-road price £23,368 Engine/capacity 5 cyl in line/2435 cc Peak power 140/5800 bhp/rpm Peak torque 214/4500 Nm/rpm Transmission 5-spd manual/fwd Fuel tank capacity 50 litres Basic warranty 3 years (60,000 miles) Basic recovery 1 year RAC cover Top speed 127 mph Govt urban/extra/combined 22.1/39.8/30.7 mpg CO₂ emissions 220 g/km



VAUXHALL CORSA

On-the-road price £9,070 + £1,950 for LPG conversion Engine/capacity 4 cyl in line/1199 cc Peak power 50.8/5300 bhp/rpm Peak torque 104/4000 Nm/rpm Transmission 5-spd manual/fwd Fuel tank capacity 37.6 litres Basic warranty 3 years (60,000 miles) Basic recovery 1 year Top speed 106 mph Govt urban/extra/combined 24.4/41.5/32.8 mpg CO₂ emissions 138.3 g/km

FORD TRANSIT

On-the-road price £18,365 + £2,100 for LPG conversion +VAT Engine/capacity 4 cyl in line/2295 cc Peak power 141/5300 bhp/rpm Peak torque 185/2500 Nm/rpm Transmission 5-spd manual/fwd Fuel tank capacity 80 litres Basic warranty 3 years (60,000 miles) Basic recovery 1 year Top speed 90 mph Govt urban/extra/combined 14.3/22.5/18.6 mpg CO₂ emissions 202g/km "A sublime ride an<mark>d</mark> comfortable long d<mark>istance</mark> car" *Top Gear*



"Useful load carrier with plenty of grunt" *carsurvey.org*



Any Questions?

Boost LPG gives you the answers to your questions about converting or running your vehicle on LPG



1. Why should I convert?

Not only is LPG an environmentally friendly fuel as it produces fewer harmful pollutants and less noise, but on average it's half the price of regular unleaded petrol. With other possible benefits such as lower road tax, 100% discount of the London congestion charge and reduced engine wear, overall running costs for LPG vehicles are up to 40% less.

2. Where can I get my car converted?

It's strongly advised that you use an LPGA approved installer so that the job is properly handled. As in any technical procedure, you should always use an expert.

3. Can all vehicles be converted to run on LPG?

Most engines can be converted to bi-fuel, but if you have any doubts it is best to talk to an approved installer (see 2 above).

4. Can diesel engines be converted?

Yes, but it's a much more complicated process and we do not recommend it at the moment.

5. How much does the conversion cost?

Depending on the size of the vehicle and the type of system, conversion to LPG costs from around £1,600. Any LPGA approved installer will be happy to provide you with a no obligation quotation.

6. Can I get a government grant?

Grants available to vehicles on the Powershift register ceased on 31/3/2005.

There is a flat grant of \pounds 700 per car and \pounds 800 per van. In Scotland the autogas+ initiative offers a grant towards the cost of converting any petrol-engined vehicle up to five years old with specified equipment. For more information call the autogas+ hotline on 0870 240 6296 or go to www.autogasplus.co.uk.

7. How long does the conversion process take? About three working days.

8. Can I buy a car already converted to LPG?

Yes. If not second-hand, many major manufacturers offer bi-fuel models, such as Ford, Rover, Volvo and Vauxhall. Again, there are grants to contribute towards the higher cost; check answer 6 above.

9. Will it cost a lot more if it's already been converted?

Depending on the manufacturer, the additional price is close to that of a conversion.

10. What happens in the process of conversion?

A second independent fuel system with its own tank is added to the car, often in place of the spare wheel or underneath the vehicle.

11. Will I lose boot space?
Gas tanks are available in a range of different sizes, and loss of space can be kept to a minimum by installing a doughnut-shaped tank into the spare wheel well.
12. Does that mean I can't

carry a spare tyre?

Depending on the size of your car, it is possible to have the system installed underneath the car. If not, you can keep a can of tyre foam so you can reflate and seal the puncture until it can be repaired. **13. What are the different**

systems that are available?

A Venturi single point system, and a multipoint sequential injection system.

14. Does it matter which system I have installed in my car?

Yes, it's crucial to have the right system installed. All conversions are dependent upon the age and type of vehicle you have: an older carburettor vehicle will have a different system to a modern fuel-injected one. Again, it's vital that this is done by an approved installer.

15. Does the equipment come with a warranty?

New cars already converted will already carry a warranty. However, as part of conversion, some companies will include a warranty as part of the service. If not you can buy it for 270-290 per year.

16. Can the system be transferred to another car?

Possibly, but because the new vehicle needs an LPG Conversion Certificate, the procedure must be carried out by an approved installer. **17. Will my car's performance be affected?**

There is a negligible loss of power. The only thing you will notice, when compared with diesel, is a smoother, quieter ride.

18. What happens if I run out of LPG autogas while I am driving?

You will be able to flick back to petrol by a button or switch until you reach an LPG autogas refuelling station.

19. What type of mpg can I expect from a tank of LPG?

A litre of LPG will take you around 80% of the way that petrol would take you, but it still works out cheaper because LPG averages half the price of petrol.

20. How will I know when to refuel?

Like a regular petrol-powered car, there is a fuel indicator that will indicate how much LPG is in your tank. Just like petrol or diesel, LPG is bought by the litre and pumped into the tank through the filling point and the hose.

21. Where can I fill up with LPG?

There are more than 1,200 refuelling stations in GB. This number is growing daily. A list of stations can be found at www.lpga.co.uk and at www.go-autogas.com. See the map on the centre pages of this magazine.

22. Is it possible to add the wrong fuel to the wrong tank?

This is impossible because each filling point is different to the other, so the LPG filling point only accepts an LPG hose.

23. Can I overfill the tank?

No, because the LPG tank is fitted with an automatic shut-off valve that will prevent overfilling.

24. How safe is LPG in an accident?

Very, much more than petrol or diesel. It's a common misunderstanding that because LPG is a gas, it's highly explosive. However, because of the way it's stored, it can't explode in an accident as it never comes into contact with oxygen, unlike petrol. Furthermore the LPG tank can survive far greater impact than a normal petrol tank and has numerous in-built safety devices.

25. Can LPG damage or affect my engine?

Most engines can be converted without causing any damage as long as your engine is suitable, which the installer should verify. LPG is a cleaner burning fuel and will actually reduce wear and tear.

26. What type of servicing does it require?

You must continue with your routine car servicing, and an approved installer should check your LPG system on a yearly basis.

27. How will converting affect the resale value of my car?

As long as your system has been installed by an approved installer, the resale value will not decrease and may even increase depending on the condition of the rest of your car.

28. Can I still take my car abroad?

Yes, you can, although at the moment LPG cars are not allowed to pass through the

Channel Tunnel (this is under review). 29. Can I buy LPG autogas

abroad?

Autogas is widely available in most European countries. The LPGA website provides links to other websites that include the locations of refuelling sites abroad. Check www.lpga.co.uk.

30. Will I still have to pay the congestion charge?

If your vehicle is included on the Powershift register you won't have to pay the congestion charge.(see pp.10–11).

31. Is there anyone I should

inform about my conversion? Yes, your insurer and the DVLA. Go to www.dvla.gov.uk.

32. How will it affect my insurance?

There should be no problems with your premium, as long as the conversion was carried out by an approved installer.

33. Do lots of people use LPG?

Latest estimates claim that there are 107,000 LPG vehicles in the UK with

Bi-Post System (LPG)



numbers constantly increasing. The Queen, the Prime Minister and the President of the USA all drive LPG cars.

34. What is going to happen to LPG prices?

Because the Government is trying to reduce pollution, and LPG is proven to be more environmentally friendly, LPG will remain, in the near future, much cheaper then petrol or diesel. In the April 2004 Budget the Chancellor announced that the duty on LPG will be raised by only 1p per year for the next three years when compared with sulphur-free petrol and diesel.

Go to www.lpga.co.uk or www.boostlpg.com for further info

