

# LPG AUTOGAS BLUEPRINT

**A low carbon alternative fuel for today**

A consultative policy Blueprint

January 2015



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# Executive summary

We have an air pollution crisis.

The issue of air quality has risen up the agenda following the increase in air pollution, particularly as it has become the focus of media and political attention over the course of 2014.

Amongst policy makers, air quality has often been neglected when giving consideration to road fuels policy. This is changing, mostly as a consequence of the European Commission's legal proceedings against the UK Government over its alleged failure to tackle air pollution as well as through the investigation of the Environmental Audit Select Committee.

As we look to meet the twin challenges of financial and environmental affordability, it is essential that the Government takes an integrated approach to road fuels policy, to avoid the perception that the Government favours one fuel over another, or that there is one solution to a multi-faceted challenge.



# Executive summary

In December 2013, the Chancellor of the Exchequer Rt Hon George Osborne MP set out a ten year duty trajectory for gaseous road fuels, a trajectory that will ensure that Liquefied Petroleum Gas (LPG autogas) will remain significantly cheaper than petrol and diesel.

This announcement was a welcome signal of support for the future of LPG autogas in the UK and is a strong base from which to build a long term strategy for the future of LPG autogas. In this document, we set out what we, as an industry, believe should form the basis of a Blueprint for the future.

The cost of motoring is a pressing issue for many. The announcement of a freeze in fuel duty until the end of this Parliament, alongside the ten year trajectory and duty differential for gaseous road fuels, highlights the pressing political challenge of tackling fuel bills and the Government's awareness that the cost of road fuel is important to the general public.



# Executive summary

## **To meet the challenges that we face, we believe that the Government should:**

- Consider all gaseous fuels as a level playing field by reducing the 1p annual duty differential reduction for LPG autogas.
- Replace individual fuel strategies with an integrated road fuels strategy that sets out a framework for all fuels and supports fuels such as LPG autogas that offer consumer choice and options to suit individual needs.
- Introduce as a part of an integrated fuels strategy, limited incentive schemes to remove the most polluting cars from the road, potentially through converting these cars to LPG autogas.
- Provide wider support for local authorities to convert their fleets to less polluting forms of fuel.
- Review wider incentives for road fuels, working with local authorities and the Mayor of London to ensure that support is given to all fuels that can reduce all forms of pollution.
- Ensure that there is greater consultation with key departments such as the Department for Health (DoH), the Department for Environment, Food and Rural Affairs (DEFRA), Department for Transport (DfT), the Department of Energy and Climate Change (DECC) and HM Treasury (HMT) when determining road fuels policy.
- Give air pollution the same level of priority as tackling climate change and reducing carbon emissions when formulating transport policy.



# Executive summary

**There are a number of direct key benefits of LPG autogas. It is cost effective, available now and cleaner. Specifically:**

- LPG autogas vehicles are eligible for a reduction in Vehicle Excise Duty.
- At present, householders and small business can save up to 40% on their fuel bills through switching to LPG autogas, with LPG autogas 69.4p per litre, compared to £1.29 per litre for petrol and £1.34 per litre for diesel (September 2014).
- Depending on the type of car and mileage, on average the cost of converting a car to LPG autogas can be recouped through lower bills within a year.
- LPG autogas is the only gaseous motor fuel available from a nationwide network of 1,400 refuelling sites, with Shell joined by companies such as Sainsbury's, Morrisons and BP in providing refuelling facilities.
- An LPG autogas motorist covering 12,000 miles per year will save over 1.5 tonnes of CO<sub>2</sub> in two years.
- Compared to LPG autogas, NOx emissions which have serious health implications, are significantly higher in petrol and diesel. LPG autogas produces fewer harmful emissions that impact on local air quality.
- Importantly, it is available now, and is able to meet the Euro emissions standards required to reach the Government's own targets on air quality.
- LPG autogas has a significant role to play as one of a basket of fuels available to drivers. To make this a reality, we need to see a genuine partnership between the industry and the Government.

# Introduction

LPG autogas has been widely available for use in vehicles in the UK since 2000 and in that time hundreds of thousands of motorists - individuals, families and businesses - have benefited from the financial and environmental savings that the fuel provides.

Yet despite these savings over the past few years, whilst other European and international nations have seen the use of LPG autogas continue to grow significantly, the UK has declined, with now only around 150,000 drivers benefitting from the use of the fuel.

Answering why the UK has not matched our international counterparts is not a straight forward question with a simple solution. It would, for example, be easy to suggest that the UK

Government's support for electric vehicles (EVs) indicates a preference for electric over other non-traditional fuels, or the lack of LPG autogas-ready vehicles supplied by vehicle manufacturers in the UK, or a lack of consumer awareness are, in isolation, the reasons for falling behind our European and international neighbours.

Upon closer examination however, it can be seen that a combination of all of these factors is to blame and that only a partnership between the Government, the LPG autogas industry and vehicle manufacturers will allow the UK market to grow, thrive and to play its much needed role in meeting the challenges of poor air quality and meeting emission targets, as well helping to reduce fuel costs.

# Introduction

The emergence and support for the electric vehicles market illustrates that there is a particular political appetite for breaking the duopoly of the two traditional road fuels and the Government seems to have concluded that EVs are the preferred route to deliver a cleaner, greener and cheaper form of transport. We believe this is an oversight and whilst it would be wholly misleading to dismiss the potential of EVs, there remains a considerable amount of work to be done to make electric vehicles mainstream and to provide the nationwide infrastructure to break the duopoly.

If we are serious about reducing the impact that vehicular emissions and fuel costs have on our environment and, crucially, stretched household budgets throughout the UK, it is essential that the industry and government at all levels

work together to produce a long term road fuels strategy that provides consumers with a range of options, which allow the UK to meet its environmental obligations, many of which loom ominously on the horizon.

An integrated road fuels strategy that incorporates traditional, non-traditional alternative fuels and future fuels must include a clear role for LPG autogas, **with a strategy and roadmap agreed in partnership between the Government, the LPG autogas industry and vehicle manufacturers.** The current silo approach, of “putting all eggs in one basket”, has left the UK behind the rest of the world. This has damaged confidence in the industry, reduced transport’s ability to play its role in emissions reductions and cut off options for UK consumers that would significantly save money on their fuel bills. **The strategy must identify the use of the right fuel for the right circumstances.**



# Why LPG autogas?

## The environmental case for LPG autogas

LPG autogas is well placed to deliver significant environmental benefits now through reduced exhaust emissions.

- The UK has an air pollution crisis. According to the House of Commons Environmental Audit Select Committee UK Government plans will not meet nitrogen dioxide limits until after 2030 - 20 years after the original deadline. The report referenced the role of LPG autogas in reducing emissions.
- Diesel fumes are the main source of nitrogen dioxide ( $\text{NO}_2$ ) - a harmful gas linked with heart attacks and asthma. Indeed, the Sunday Times (30 November 2014) reported on data from King's College research which found that 'dirty diesel' road traffic may be to blame for up to 60,000 early deaths each year – a tenth for Britain's annual toll.
- Whilst incentives pushed up the use of 'cleaner' and quieter diesel vehicles, diesels produce several times more  $\text{NO}_2$  than petrol cars.

LPG autogas delivers several times less  $\text{NO}_2$  than even petrol, 80% less  $\text{NO}_x$  than diesel

- Well to wheel, LPG autogas delivers a 15% saving compared to other fuels.

# Why LPG autogas?

## The environmental case for LPG autogas

In Autumn 2014, the House of Commons Environmental Audit Select Committee published a report into air quality.

The Committee acknowledged there were limitations to the reliance on future electric vehicles and that “the Government should consider the scope for financial incentives for a range of alternatively fuelled cars, including gas-fuelled cars.”

The Transport Select Committee is also due to publish a report on Motoring for the Future. In her evidence session, the Minister confirmed the Government was “technology neutral” in its regard of low carbon technologies, arguing that the Government “was not trying to pick winners.”





# Case study:

## **Helping to make Birmingham City Council's LPG taxi project a success**

Birmingham City Council has carried out a pathfinding project to enable the conversion of some 80 black cabs from diesel to LPG autogas.

The Council has benefited from a £500,000 grant through the Clean Vehicle Technology Fund for its 'Birmingham NOx reduction Champions' project to reduce nitrogen dioxide emissions and particulate matter emissions in the highest areas of pollution.

Autogas Ltd is working alongside the Council to implement the taxi conversion by March 2015. With a cost of around £6,000 per conversion, diesel Hackney Carriage taxi drivers will be able to redeem vouchers from approved LPG retrofitters who will be paid by the Council upon completion of their work.

The performance of the installed LPG autogas systems will be maintained through compulsory checks and tested for emissions during day-to-day taxi operation.

It is hoped that other Councils will view with interest the success of the scheme.





# Why LPG autogas?

## The environmental case for LPG autogas

A recent study offers an up to date, robust and comprehensive environmental impact assessment of the four road fuels than the data previously available, because:

- In 2014, the Chancellor introduced a 10-year duty trajectory for gaseous road fuels. Whilst freezing the differential for CNG and LPG, a 1p duty differential reduction for the period from 2015 -2020 was introduced for LPG autogas. According to HM Treasury this was because LPG autogas is not as environmentally beneficial as natural gas. We believe this to be derived from outdated data from a report by Tickford of tests carried out in 2006, using Euro 3 technology and a small sample of 9 vehicles.
- However, a recent, independent comparison undertaken by Dr Eric Johnson of Atlantic Consulting of the six regulated pollutants of primary road fuels, including CO<sub>2</sub>, methane and NO<sub>x</sub>, used across nearly 9,000 cars and vans, mainly captured between 2011-13 showed that LPG autogas offered significantly greater environmental benefits than the other fuels under consideration.
- Rather than merely considering road fuels' benefit with regard to a single pollutant, it considers their full environmental and health impact. In addition to covering all six regulated pollutants, the study applied seven different environmental impact assessments, including smog, toxicity and climate change when developing its Ecoimpact rankings;
- Instead of limiting the number and size of vehicles tested, the study used data from the German Federal Motor Transport Authority's database to analyse almost 9,000 vehicles, comprising seven different car brands.

Brand	Fuel version (of the brand)				
	Petrol	Diesel	LPG lpg	CNG cng	CNG mono
Caddy	2	1	4	NA	3
C-Max	3	2	1	NA	NA
Focus	4	2	1	3	NA
Golf	3	2	4	1	NA
Panda	3	4	1	2	NA
Porter	4	2	1	3	NA



# Why LPG autogas?

## The environmental case for LPG autogas

With LPG autogas being ranked number 1 four times across the seven brands – double the number of CNG – we believe that this offers credible evidence that the validity of the rationale underpinning the Treasury's road fuels differentiation should, at the very least, be questioned. The study also calls into question previous decisions taken by Transport for London to remove the 100 per cent discount for LPG autogas vehicles from congestion charging.

With an increasing number of experts viewing LPG autogas as “national natural resources that provides significant opportunities to augment the wider low carbon transport picture” (Celine Cluzel, Principal Consultant, Element Energy), research into the environmental and climate change benefits of LPG autogas continues to evolve as industry and policy-makers seek to embrace divergent technologies, fuels and powertrains available to map out a complete journey towards decarbonisation.

# Why LPG autogas?

## The environmental case for LPG autogas

A recent study on LPG system comparison, undertaken by the VKA Aachen in Germany, commissioned by the German Forschungsvereinigung Verbrennungskraftmaschinen e.V., moreover, found that emission levels of three different LPG systems was significantly lower when compared to conventional gasoline operations, particularly as no considerable soot emissions could be detected.

Research by Element Energy in the UK, commissioned by UKLPG, concluded that a conversion of UK company vehicles to LPG autogas could contribute to an overall reduction in fleet emissions. Based on accepted tank-to-wheel (TTW) savings of approximately 11%, Element Energy found that converting 10% of medium to large spark ignition internal combustion engine cars and vans to dual-fuel LPG would bring savings of 100 kt CO<sub>2</sub>.





# Why LPG autogas?

## The environmental case for LPG autogas

A continuing commitment to R&D: LPG/diesel blend.

As an industry, we are continuing to research and develop, and are on the verge of a breakthrough of putting to market an LPG/diesel blend. This is pioneering dual fuel technology which automatically adjusts the blend of LPG and diesel used according to the vehicle's load and road topography with the aim of delivering optimum fuel efficiency. This can offer a significant NOx saving today for large fleet operators, improving air quality and providing significant operational savings for hauliers.

As an industry, we are continuing to research and develop, and have recently secured a market-ready 'bio-LPG' fuel for the UK. Bio-LPG is not currently sold in the UK but is developed from waste products and is able to be 'dropped-in' to existing infrastructure. In so doing, the industry has beaten the Government's targets which were for such a fuel to be available by 2020. Biopropane will be available in the UK market by 2016.



# Why LPG autogas?

## The environmental case for LPG autogas

In 2014, the European Commission formally adopted the Fuel Quality Directive.

The Directive requires a mandatory 6% greenhouse gas reduction by 2020 on suppliers of fuel (including petrol, diesel and gaseous fuels). LPG autogas has been attributed a much lower GHG intensity than the baseline required level in the Directive. We therefore consider that this piece of legislation is evidently placing LPG as part of the solution to decarbonising the transport sector in Europe.

The GHG intensity of LPG was measured by an independent organisation, the EU Joint Research Centre. They found that LPG autogas contains over 26% less GHG intensity than diesel and petrol.

The figures are as follows:

LPG: 73.1 gCO<sub>2</sub>eq/MJ

Petrol: 93.3 gCO<sub>2</sub>eq/MJ (26.8% higher than LPG)

Diesel: 95.1 gCO<sub>2</sub>eq/MJ (29.2% higher than LPG)

# Why LPG autogas?

## The economic case for LPG autogas

An increase in the use of LPG autogas will deliver benefits for individual citizens and for society as a whole.

Given current cost of living issues in the UK, perhaps the most compelling argument for the fuel is cost. It offers savings now for the UK consumer of around 40% when compared to petrol and diesel. At a time when consumers are being ever pressed financially by rising energy, water and fuel bills, LPG autogas offers the potential for some financial respite for those challenged by the current rise in household bills.

Econometric modelling suggests that establishing a 10% share for LPG autogas in the road transport fuel mix by 2020 will not only deliver cumulative individual savings of £33billion but also achieve social welfare savings of roughly £16billion across the EU, notably through reducing public health impacts through lowering emissions and pollutants, hence cutting the cost of hospital admissions, morbidity and premature deaths.





# Case Study:

## Delivering benefits for consumers

### PE teacher Dave from Hereford.

Dave, aged 24, is a newly qualified PE teacher from Hereford. He plays rugby and cricket all year round. He has owned his second-hand SEAT Ibiza for about six months and bought it after it had been converted to LPG autogas.

*"I came across the car by word of mouth through a family friend who basically knew I was driving a lot of hours at the time to my work, which was 40 minutes away, and they said would I be interested [in buying the car]. I test drove the car, and snapped it up a day later.*

*The benefits of having an LPG autogas car for me was I was initially driving 40 minutes to work which was costing me £60 every two weeks in fuel – when I transferred onto LPG autogas it cost me £30 a month which is a lot cheaper.*

*My friends take the mick a little bit about having a gas car and say you should have a 'proper' car like a petrol or diesel, however when they hear it is only 70p per litre it drives them pretty crazy to be honest!*

*Additional uses to having an LPG autogas car is that I am currently saving up to buy a house, so the money I am saving from driving to work every month goes away, so I am saving more every month. I also have*

*a mate who lives in London, so I've driven there and back twice now and it has cost me £30 so it a lot of saving compared to getting the train which would be £50 ... and more.*

*I recommend having an LPG autogas car to all my family and friends because of the costs and money you save. I would like to have an LPG autogas car in the future as I would never go back to diesel or petrol car because of the money that I save using LPG autogas."*



# Why LPG autogas?

## The economic case for LPG autogas

At present the UK LPG autogas market is one of untapped potential both for individuals and families as well as the private and public sectors. The cost of living has become a central issue for policy makers across the political spectrum, with a major focus on household bills in particular. The impact of campaigning groups such as Fair Fuel UK on Government policy has highlighted the effect that the consumer can have on policy makers as well as the importance for politicians to support practical measures to reduce the financial pressures on their constituents, businesses, particularly SMEs, and on the public sector.



# Why LPG autogas?

## The economic case for LPG autogas

LPG autogas has the potential to provide a solution to some of the financial pressures faced by many throughout the country, and also a unique opportunity to match political rhetoric with action. We, alongside our partners throughout the industry, are prepared to work on a Government – Industry basis to ensure that the financial benefits of the fuel reach consumers.

To date, political and industry focus has been, understandably, on the individual consumer. This misses two demographics that will be crucial to the success of any alternative fuel – businesses and the public sector.

LPG autogas can also play a role in helping ensure that small, medium and large businesses are able to thrive and grow in the current economic circumstances - through significantly reducing their fuel bills - providing greater resource for growth and investment.

As an example, figures released by UK advertising firm Clear Channel in 2008 showed that they were saving £200,000 each year based on fuel savings and wider exemptions (including a 100% exemption from the London congestion charge, a discount that was scrapped by the current Mayor of London Boris Johnson.)

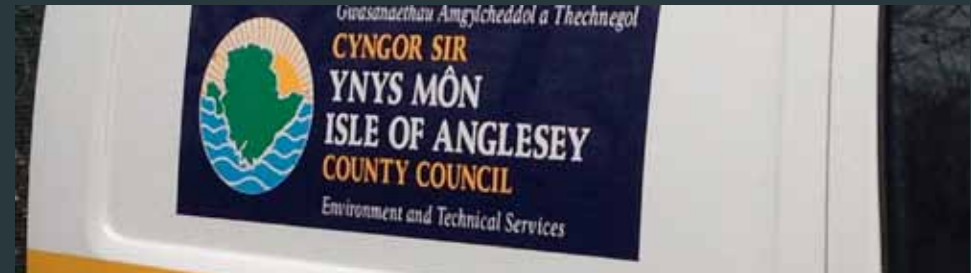


## Case Study: Delivering benefits for the public sector

Isle of Anglesey Council reduces its carbon emissions whilst making 'phenomenal savings'.

Isle of Anglesey County Council has 63 LPG vehicles in their fleet of 172 road vehicles. The majority of these are vans, used by highway inspectors, waste management inspectors, and home carers as well as for general council duties. With another seven vehicles carrying a full warranty to be purchased this year with the conversion done before delivery, the use of LPG is set to rise.

Having used autogas LPG now since 2000 the Fleet and Driver Manager, Noel Roberts, says he has lots of proof to back up the 'phenomenal savings' they have seen from this switch to running diesel vehicles to this dual fuel option. So much so, that it is now policy for Anglesey Council to buy dual fuel vehicles.



Not only are the cost savings high on their average of 12,000-15,000 miles per year on each vehicle, but looking at the complete picture, CO<sub>2</sub> emissions have been reduced. Since the process started, a number of reports and submissions have been produced, proving that these vehicles are really making the promised difference with vehicles tested over 750,000 miles over a one year period, and have proved the test of time of LPG.

Isle of Anglesey County Council now has its own tank on site for refuelling using 107,000 litres last year. On-going servicing and care isn't a problem either, with a reputable garage able to help out with any LPG queries to keep the fleet running at all times.

## Case Study: Humberside Police Force

At a time of spending restraint across the public sector, LPG autogas can provide significant savings now.

A pioneer in this respect, Humberside Police Force began using LPG autogas in 1997. Six years later, with 300 vehicles using it, the Force had achieved annual savings of £200,000 on their road fuel bills, allowing greater resources to be invested into front line policing. The Force's fleet manager's commitment to help the environment and slash costs earned him the 2004 Fleet News Environmental Star Award.



In light of the of the Government's 10 year duty commitment, we will be working to promote its benefitts to a range of public sector bodies, who have either previously benefited, or could now benefit, from switching.



# Why LPG autogas?

## The economic case for LPG autogas

Further to the individual and societal benefits LPG autogas can deliver financially and economically, the LPG autogas industry also has the potential of making a unique contribution to the UK's global competitiveness. Comprising a dynamic SME sector and employing a large number of highly skilled engineers and mechanics, the domestic industry's technological leadership offers global export opportunities, delivering for UK plc. In the UK autogas industry there are 900 employees, with an annual turnover of £150m; the LPG industry itself provides 10,000 jobs and is worth £750m to the UK economy.

Indeed, as an industry, we have to date invested £50 million ensuring that LPG autogas has the infrastructure to meet current and future demand. As we will set out, it is essential that our investment and the potential it offers are met with the right commitments from the Government.

The UK is a net exporter of LPG. LPG is a by-product too of shale gas extraction. With the expanding development of shale gas, in particular from the US, and the associated increase in LPG as a direct result of this process, we expect a significant increase in LPG availability worldwide in the coming years. The US is projected to bring on line additional LPG export facilities by the end of 2015 and this will result in more seaborne LPG having to find a home.

This in turn should place significant downward pressure on LPG prices in the longer term.

This is particularly important when considering security of fuel supply issues and concerns over increasing dependency on oil and gas imports.



# LPG autogas and air quality

## - a practical and affordable solution

As has been previously noted, throughout the first few months of 2014, the issue of air quality has been front and centre in political and media debates throughout the country.

This came on the back of the EC proceedings against the UK Government as a result of the high levels of pollution in the UK, most notably NO<sub>x</sub> and particulates (PM10s and PM2.5s). As a result, the Government is considering how to combat the rising levels of pollution and the impact that this has on public health and quality of life. Consequently, politicians are beginning to switch direction away from diesel, much lauded since 2000 when for the first time cars emitting lower levels of CO<sub>2</sub> attracted less tax than those with higher emissions, threatening diesel motorists with a wave of additional charges and taxes.

Whilst not the whole solution, the Government should as a matter of urgency consider reviewing how it can help consumers switch to vehicles that emit less harmful pollutants and making air quality a key consideration in transport policy, alongside and equal to greenhouse gas reductions.

Our capital city London is amongst the most congested cities in Europe and an uptake of LPG autogas, by switching from petrol and diesel, would have an immediate impact; improving air quality and, therefore, public health. Polling conducted recently by independent polling consultancy ComRes highlighted that LPG autogas is an attractive option for those in congested cities, in light of the environmental benefits, with **46% of Londoners willing to consider switching to LPG autogas.**

# What is holding back LPG autogas in the UK and is there consumer demand?

As an industry, we have invested significant financial resources in ensuring that the market can grow, by ensuring that consumers are, on average, no more than 5 miles from a refuelling site. However, we have not necessarily matched this with a consumer campaign to educate the public about the benefits of LPG autogas and crucially have not done enough to market it to consumers.

We are committed to ensuring that we play our role in raising awareness amongst the public, the business community and the public sector, of LPG autogas. Alongside the need to improve consumer and corporate knowledge of LPG autogas, there is a need to tackle myths and misconceptions about the industry, understandable given the knowledge gap surrounding the fuel.



# What is holding back LPG autogas in the UK and is there consumer demand?

Perhaps the clearest indication of this is the view that converting your vehicle to LPG autogas is expensive; the cost of converting a 4-cylinder vehicle to run on the fuel is on average around £1,500 for a quality conversion. A motorist who averages 16,000 miles per annum should be able to recover this initial investment within a year or earlier, depending on the fuel consumption of the vehicle, as well as making significant fuel savings year on year.

Throughout the world, governments are thinking imaginatively about incentives and schemes to encourage and support the manufacture of LPG autogas-ready vehicles, consumer take up of LPG autogas and encouragement to convert to LPG autogas. This type of approach is absent in the UK. We have a history of introducing and then removing grants, which destabilises nascent markets.

One clear distinction that separates us from our European neighbours is the role of the motor companies themselves, as there are currently no vehicle manufacturers producing LPG autogas-ready vehicles for sale in the UK, unlike in other European countries, making conversion the main option in the UK. Indeed, Vauxhall manufactures LPG autogas-ready vehicles in the UK, but for export only. So how could it be different and what lessons are there to learn?





# What is holding back LPG autogas in the UK?

## London air pollution initiatives

The Mayor of London, Boris Johnson, has set out a roadmap for compliance by London with European air quality standards, the centre piece of which is a proposed ULEZ – ultra low emission zone – mirroring, geographically, the current congestion charging zone in central London.

Under the scheme all vehicles driving in central London will be required to meet tough emissions standards, or risk steep daily charges.

HGVs, commercial or personal vehicles running on LPG autogas to Euro 5 standards will fall within the scheme that comes into place in 2020 – a demonstration that vehicles running on LPG autogas are already as environmentally friendly as TfL will be demanding in fifteen years' time.

However, TfL makes one worrying proposal which is removing the concession for converted taxis. The proposals go further for taxis which, by 2020, will have to be 100% zero-emission

capable. Currently, taxis which have been converted to run on LPG autogas – and therefore have hugely reduced emissions, are allowed to be in service for longer than their ordinary diesel counterparts – on the premise that they pass real-world tests on emissions.

In fact, many older, converted taxis, actually have lower NOx emissions than the newest taxis.

We are concerned too that the proposals will impact on vehicle manufacturers' ability and willingness to invest in technology appropriate for city driving. For example, in November 2014, Nissan shelved plans to launch a new environmentally friendly cab as (given it will not be 100% emission free) its market will be obsolete by 2020.

# Taking cues from worldwide markets

The recent agreement between CEPSA and Opel to promote LPG autogas across Spain is just one example demonstrating how Government support has incentivised industry commitment and initiative.

In June 2014, CEPSA SA, an integrated energy company headquartered in Madrid, signed an agreement with German car manufacturer Opel to promote the use of LPG autogas as an automotive fuel. Opel produces LPG-motored Meriva and Corsa models at its Figueruelas plant in Zaragoza.

Having invested €10million to install pumps for LPG autogas at 100 petrol stations across major Spanish cities (in the UK we have 1,400), the CEPSA-Opel agreement cemented the company's commitment to the establishment of LPG autogas in Spain.

Both CEPSA and Opel are also joining programmes, including PIVE 6, which incentivises the purchase of new vehicles with reduced emissions, which is the case for all autogas models sold in Spain.

CEPSA's Director of Liquefied Gas, Filipe Enriques, explained CEPSA's commitment to autogas by highlighting the fuel's economic and environmental advantages for drivers and customers, stating: "LPG autogas is enjoying great success in numerous European countries, not least because of the great autonomy that LPG-powered vehicles offer."



# Taking cues from worldwide markets

Support for the sector is also being delivered by the Maltese Government, with a grant scheme in place to fund conversions. In Germany the federal Government provides support, largely through fuel tax incentives. The Italian Government and local authorities lend support through a mixture of policies, including favourable fuel taxes, incentives for clean vehicles and traffic regulations. In the US there is an array of fiscal incentives in place, including grants and loans for vehicle conversions and purchases, as well as refuelling infrastructure. There are many other examples from across the world.

Previously vehicle manufacturers have stated a lack of UK Government support for LPG autogas as a reason for their reluctance to invest in the UK market. Following the Chancellor of the Exchequer's introduction of a 10 year duty trajectory, there is now a guarantee that LPG autogas

remains significantly more cost effective to consumers and small businesses when compared to petrol and diesel. This is a clear indication of the support that the Government has offered to this industry, yet this commitment has not yet seen vehicle manufacturers announce plans to produce LPG autogas-ready vehicles in the UK.

The central challenge to the industry as a whole is whether or not there is a consumer demand for LPG autogas.

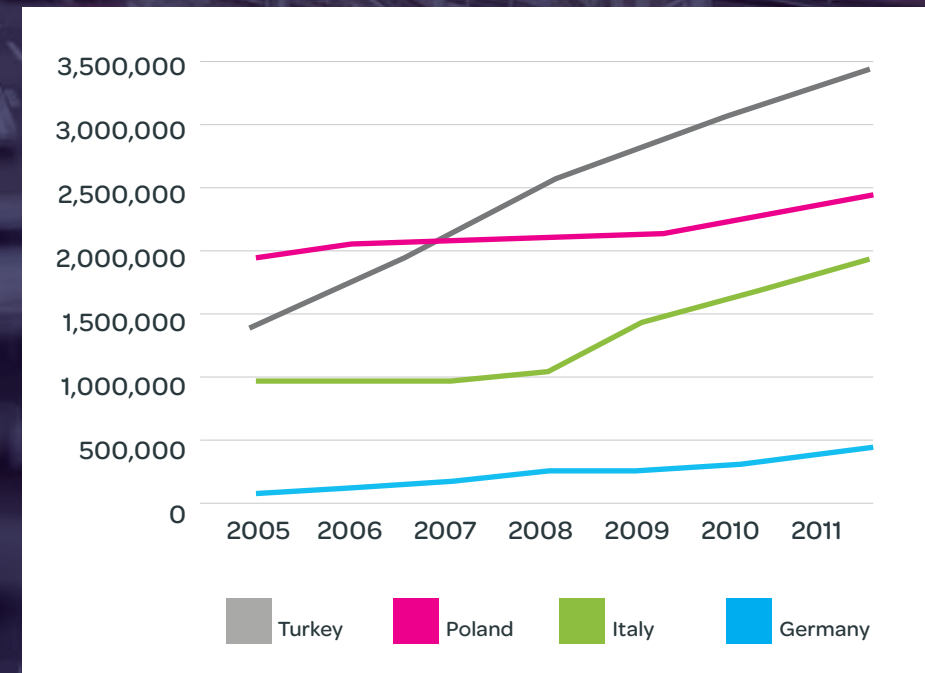
Answering this question is complex and requires an understanding and evaluation of the factors holding the market back in the UK – such as the lack of vehicle manufacturers producing LPG autogas-ready vehicles, the lack of financial assistance for conversion and a perception, that the UK Government favours EVs over other non-traditional road fuels.

# Consumer demand and ComRes polling

Referring again to the consumer research conducted by ComRes, findings show that when financial and environmental savings are known consumers are more likely to switch to LPG autogas. However at present in the UK, a consumer's active choice to switch to LPG autogas is limited to the conversion market, in the absence of any factory fit models being produced in the UK. Consumer research conducted following the announcement of a ten year trajectory for LPG autogas shows the potential for this in the UK – now more than ever. Having learned from past experience, the industry has made significant technological advances and invested heavily in creating a refuelling infrastructure that now allows consumer appetite for LPG autogas to translate into its increased and sustained uptake. Indeed, the consumer research shows that:

- Around a third of households would consider converting their car to LPG autogas. Insights from behavioural economics, as evidenced most recently in Turkey, where LPG autogas is the 2nd most popular fuel with 40 per cent market share, leads us to believe that this figure

would continue to grow significantly once the first wave of conversions begins. Watching neighbours, friends and colleagues switching to LPG autogas will incentivise consumers to follow suit and thereby establish LPG autogas as a go-to option in the road fuels mix.



Evolution of LPG autogas in four European countries



# Consumer demand and ComRes polling

- Young people are more amenable to the prospect of switching to an LPG car, with more than half (53%) of those aged 18-24 saying that they would consider it.
- 46% of Londoners with cars in their household would consider switching to an LPG autogas-ready car.
- Throughout the UK, 38% of people would consider switching to LPG when they consider changing cars.

We believe that the consumer research highlights that if making an active choice to switch to LPG was as simple as choosing diesel or petrol that the LPG market in the UK could and would grow. **There is a market for LPG autogas in the UK, a market that vehicle manufacturers can and should exploit and we will work alongside partners to make the case for factory fitted cars to be sold in the UK.**

The clearest example of the potential of LPG autogas in the UK is in the public sector, where fleet conversions would significantly reduce both emissions and fuel bills.

# What can drive forward the LPG autogas market in the UK?

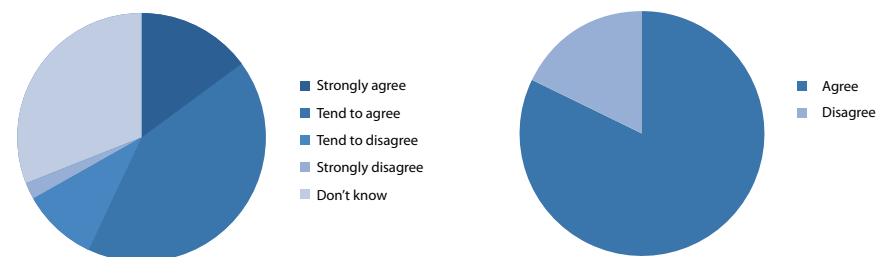
It is essential that, as a matter of urgency, the Government works with the LPG autogas industry and vehicle manufacturers to devise a long term strategy for developing the market; a strategy that builds on the Chancellor's welcome announcement of a ten year trajectory and provides both confidence and a roadmap for the future.

Whilst the Chancellor's announcement was a necessary start, we believe that the Government has an ongoing important role, alongside the industry, to drive LPG autogas forward - a view which is shared by the public, according to research undertaken in 2014 by independent polling consultants ComRes.

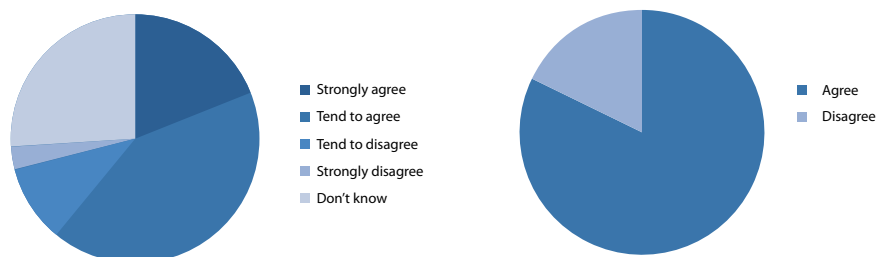
With political will, UK LPG autogas can be a success story. Industry experts argue the removal of the subsidy for conversions in 2005 was carried out too quickly and before the industry was in a position to give financial sustainability to the conversions.

Further, cheap, unapproved 'aftermarket' conversions were carried out by some consumers opting to run their cars on the cheap; this led to the undermining of the reputation of the industry in the short term.

The Government should promote the use of LPG in carsmarket in the UK



The Government should provide incentives such as tax breaks to promote the use of LPG in cars





# What can drive forward the LPG autogas market in the UK?

## Infrastructure and supply

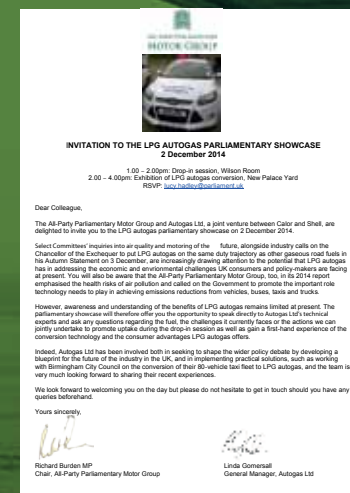
Across the UK, the infrastructure of LPG autogas is already in place, with 1400 refuelling points in the UK. The UK produces a surplus of LPG, exporting some 2 million tonnes of the gas, and production is growing globally, associated with increased natural gas extraction. Each year some 2.5 million tonnes of LPG is delivered to LPG autogas refuelling stations throughout the UK by a robust well established supply chain.

We note that at the Autumn Statement 2014, the Government committed a combined £26 million public spending on charge points for ultra-low emission vehicles, and hydrogen fuelling stations. However, we consider that in this era of austerity and pressure on public budgets, the Government would do well to support smaller scale expenditure on improving the existing infrastructure for LPG.

# What can drive forward the LPG autogas market in the UK?

## A showcase on the Parliamentary Estate

In December we held a Parliamentary Showcase with an LPG autogas vehicle exhibited on the Parliamentary estate. A number of MPs and Department for Transport officials were present to see the converted vehicle in action.





# What can drive forward the LPG autogas market in the UK?

If the Government's commitment is to lead to growth in the industry, it is essential that at a national and local level we see:

- The introduction of a 'Road Fuels strategy' that sets out a clear roadmap for all fuels, dismissing the belief that the Government favours one fuel over the other.
- Greater consideration given to particulates when assessing the full environmental impact of road fuels.
- All gaseous fuels on a level playing field by reducing the 1p duty differential reduction for LPG autogas.
- The introduction of incentives for consumers, businesses and public sector organisations to choose LPG autogas as a cleaner, greener and cheaper road fuel, including:
  - a. The introduction of a limited incentive scheme for LPG autogas conversions to support those wishing to convert but are currently put off by the upfront cost, including for example through VAT exemptions and the provision of interest free loans;
  - b. The reform of the company car tax rate to place all fuels on a level playing field;
  - c. The introduction of a progressive public procurement policy, actively including LPG autogas as a fleet and fuel option for all public sector bodies;
  - d. The exemption of LPG autogas vehicles from toll and congestion charge levies; and
  - e. The introduction of reduced parking rates for greener vehicles, including LPG autogas.

# What can drive forward the LPG autogas market in the UK?

Wider support from the Government would provide a clear indication of the potential for a market in the UK, an indication that must be met with a clear commitment that vehicle manufacturers will make LPG autogas-ready vehicles available in the UK.

The LPG autogas industry recognises its role and responsibility in promoting LPG autogas to develop a viable and sustainable UK market. We are absolutely clear that any Government commitment will be met by supportive and complementary industry initiatives and investment that seek to deliver on the Government's overarching environmental, economic and geographical rebalancing objectives beyond providing further certainty to vehicle manufacturers and consumers. To do so, the LPG autogas industry will:

- Continue to invest in LPG autogas infrastructure, and alongside Government support, focus particularly on promoting a refuelling network in rural communities by identifying and establishing fuel points at non-traditional sites to counter the detrimental impact of a trend of rural petrol stations' closures. This has the potential to offset the increasingly higher fuel costs in rural communities.
- Continue to drive advances and innovation in LPG conversion technology to ensure on-going improvements in emission standards.
- Invest in consumer education and advertising to rebut the myths and misconceptions surrounding LPG autogas.
- Ensure consumer knowledge of refuelling sites is improved, through reviewing and rebranding LPG autogas, bringing clarity to the option.



# What can drive forward the LPG autogas market in the UK?

- Work in partnership with interested vehicle manufacturers to target large public and private sector fleets, including police forces and local authorities to switch to LPG autogas.
- Lobby stakeholders to ensure that the Government adopts a Road Fuels Map that sets out a framework for all fuels and offers consumer choice to suit individual needs.

The most important step to ensure that the LPG autogas market can grow, allowing the UK to reduce our harmful emissions, reduce fuel bills and support alternative fuels is stronger collaboration between the Government and the industry and, as a first step, the Government should convene a summit between government at all levels, the automotive industry and the LPG autogas industry to discuss how the impediments to the growth of the market can be reduced.

## In summary

LPG autogas is not the only option or solution to breaking the duopoly of petrol and diesel, or the only solution to reducing our emissions, but is part of a wider mix of fuels that can achieve this, a part that is available now and can deliver on environmental benefits and financial savings now.

The previous approach of working in silos has left the UK dramatically behind the rest of Europe and has failed to spread the benefits of LPG autogas throughout the UK. With the combination of continued investment from the LPG autogas industry, support from the Government and from vehicle manufacturers we can bridge the gap with Europe – and work to reduce fuel bills and our emissions today, as part of a longer term strategy to provide consumers with a range of cleaner, greener and cheaper road fuels.





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Stakeholders representing the LPG autogas industry  
and members of UKLPG

**uklpg**