

APRIL/MAY 2007



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TOMORROW TODAY

The LPGA Conference & AGM will have a different venue and style this year.

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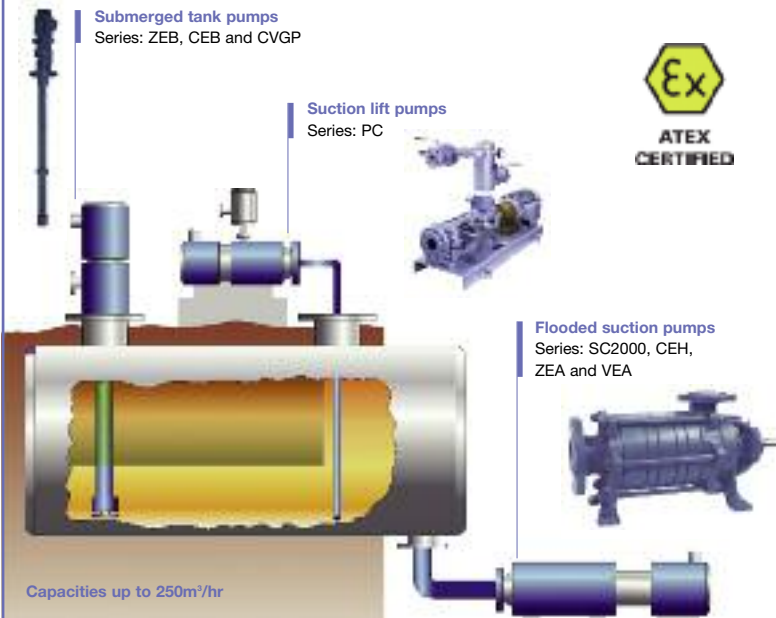
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THE VOICE OF THE INDUSTRY LOOKING TO THE FUTURE



Faye Spiers
Editor

Change has been in the air since the Competition Commission began its inquiry into domestic bulk lpg supply, and the consequences of the investigation have been far reaching. One outcome is the proposed amalgamation of the LPGGA and ALGED. ALGED has already voted in favour, and the LPGGA's members are expected to follow suit at its AGM in May.

The LPGGA's Conference & AGM in Edinburgh will be themed "Tomorrow Today", and the three sessions at the conference will cover lpg in a low carbon future, running a sustainable business and lpg in a competitive world, and include speakers from the Scottish Environmental Protection Agency and the Institute of Customer Service. The industry seems determined to take what it has learnt from the inquiry and look forward to the future.

Rob Shuttleworth, director general of the LPGGA, said: "We all face a challenging future – providing energy in a changing world, ensuring our individual businesses stay on track and that we are ready for future challenges, thinking about our customers and how we present our industry to them and, not least, sustaining ourselves and energy levels for these challenges."

The AEGPL is also looking to the future, and the theme of its annual congress will be "lpg – the clean, efficient energy for today and tomorrow". Topics to be covered include lpg's contribution to the development of renewable energies and developments in the leisure appliance market.

LP Gas is looking to the future too, and in this issue we cover solar power and how it will impact on the lpg heating market. Appliance manufacturers are already accommodating the new technologies that are being used to combat climate change, but installers will have to adapt and train in order to fit into our low carbon future.

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FRONT COVER PICTURE

The LPGGA Conference & AGM will have a different venue and style this year.

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ALGED Votes Yes

The Association of Liquid Gas & Equipment Distributors (ALGED) has conducted a survey amongst its members regarding the proposed amalgamation of the organisation with the LP Gas Association (LPGA), resulting in a vote in favour of proceeding

with the merger.

"After years of negotiation between the two associations, it's gratifying to reach the point where both parties have reached an agreement as to the way forward," said Steve Walmsley, chairman of ALGED. "Having been drawn

together by the influence of the Competition Commission inquiry, this has created harmony that previously hadn't existed."

Members of the LPGA will vote on the matter at the association's annual conference and AGM in May.



The George Hotel, Edinburgh.

BP Teams With Homebase

BP LPG UK Ltd has signed an exclusive four-year deal with Homebase, the home enhancement retailer, to sell its BP Gas Light cylinders at Homebase's mainland UK stores. The range will be in 285 stores from March, with customers

able to take home the cylinders from the stores, or order the gas to have it delivered at home.

Christopher Chick, cook and eat buyer at Homebase, said: "We're really excited about working with BP LPG. The new BP Gas Light

(10kg) is fantastic – and great for customers. It's not just ideal for barbecues – but ideal for caravaners because it's lightweight. We're sure it will be a great success and will help our customers enjoy outdoor living this coming summer."

Cold Burning

A new, more generalised version of IS17–Cold Burns, which supersedes the 2003 version, IS17–Autogas Cold Burns, is now available on the members'

area of the LP Gas Association's website. Cold burns can occur when unprotected skin is exposed to liquid propane that then evaporates, withdrawing

heat from the area and causing tissue damage.

Contact the LP Gas Association on 01425 461612 www.lpga.co.uk

Hearth & Home

The Hearth & Home Exhibition, Europe's largest trade only fires and fireplaces show, will take place at Harrogate International Centre on June 10–12.

Exhibitors confirmed for this year's show include companies that manufacture lpg fires and stoves, such as

Drugasar, Valor, Villager Stoves and Wonderfire.

"Over the three days of the show we are running a comprehensive seminar programme, giving visitors an additional opportunity to meet with some of the leading industry figures and debate some of our sector's

hottest topics," said Erica Royle of event organiser, The Fireplace Marketing Co Ltd. "Visitors can also see up to the minute examples of everything from balanced flue technology to controls, fittings and accessories."

www.hearthandhome.co.uk



The Hearth & Home Exhibition will take place at Harrogate International Centre.

Different Style for Conference

The LP Gas Association Conference & AGM will take place at the George Hotel, Edinburgh on May 16–18.

"This year, the conference will follow a theme of "Tomorrow Today", and we have chosen a different venue and style," said Rob Shuttleworth, director general of the LPGA. "For the first time we have arranged a separate technical forum – a chance to meet the members of the LPGA technical management committee and hear about current issues and key topics – and the Gala Dinner will be held at Our Dynamic Earth, one of Edinburgh's top visitor attractions."

The technical forum will be held on May 16 at the Caledonian Brewery in Edinburgh, followed by the Welcome Dinner in the evening at the George Hotel. The conference will take place on May 17, and will include sessions on lpg in a low carbon future, running a sustainable business, and lpg in a competitive world.

"We all face a challenging future, and we have put together a programme that we hope will inform and stimulate thought – one in which we will hear about, and debate, tomorrow today," said Rob.

Contact the LP Gas Association on 01425 461612 www.lpga.co.uk



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TAPPING INTO THE BENEFITS OF SOLAR POWER

James Hollingsworth, marketing manager for boiler manufacturer, Ferroli Ltd, explores the continuing growth of the UK's solar heating market and its impact on the lpg industry.



James Hollingsworth.

Finding ways to create more energy efficient homes and buildings is vital if we are to counter the effects of global warming. And it's not just about saving the planet – reducing energy usage will also deliver financial savings for businesses and householders alike.

Although burning lpg is less damaging to the environment than some of the other fossil fuels, lpg appliances can be expensive to run. So tapping into renewable energy sources, such as solar power, can bring significant financial benefits for lpg users across the domestic and commercial sectors.

CUTTING CARBON EMISSIONS

Launched in April 2006, the DTI's low carbon buildings programme, which replaces the Clear Skies initiative, provides grants towards the use of renewable technologies for housing and also for commercial and public sector organisations.

Local authorities and housing associations are required under the Home Energy Conservation Act to set a good example in specifying sustainable energy systems.

RENEWABLE TECHNOLOGIES

According to the Energy Savings Trust, solar water heating is currently the most cost-effective and affordable renewable energy solution for housing.

It's suitable for urban and rural environments and, if correctly specified, can provide 50 per cent of a household's hot water needs over a year.

Forecast to grow at an annual rate of 20 per cent, solar water heating systems represent an



Solar training at Ferroli.

exciting opportunity for the heating industry, plus an effective means of reducing our dependence on energy sources that contribute to global warming.

IMPACT ON LPG

So what does the growth of solar heating mean for the lpg market? According to the Heating and Hotwater Industry Council (HHIC), of the 20 million heating systems installed in the UK, approximately three per cent are fired by lpg. UK Building Regulations relating to conservation of fuel and power have been tightened in response to the Kyoto Agreement and EU Directives. Following the introduction of Part L1 relating to domestic properties in 2005, Part L2, which extends the regulations to non-dwellings, was implemented in April 2006. It is therefore a legal requirement to satisfy stringent standards of energy efficiency in all types of buildings, and that inevitably impacts on the choice of heating and hot water system alongside the fuel it runs on.

Like all fossil fuels, lpg does produce CO² when burnt, and therefore contributes to the greenhouse gas effect. However, the HHIC calculates the amount of CO² it emits per kilowatt-hour of energy is 248g which, although higher than

natural gas at 194g, is less than oil (270g), solid fuel (317g) and electricity (511g).

LPG SOLAR SOLUTIONS

Although lpg is considered a niche market, principally because of the supply cost, it does offer advantages over other fuels, such as controllability and availability. Unlike mains gas, lpg is available throughout the UK by means of replaceable cylinders for smaller users, or by bulk delivery to permanent storage tanks for larger premises.

Although lpg only represent a small share of the UK market, Ferroli offers a choice of lpg boilers because we believe it's important to offer solutions that meet the requirements of the whole market. That's why we are continuing to invest in the development of lpg condensing boilers that satisfy today's exacting environmental and efficiency standards and, in fact, we've recently launched our fourth generation of lpg models.

Furthermore, our lpg programme also includes a range of lpg boilers that can be specified as part of a solar water heating system. Indeed, we believe Ferroli is one of the few boiler manufacturers to offer a complete lpg compatible solar-assisted hot water package.

SOLAR WATER HEATING

The basic domestic solar hot water system comprises the following key components – solar panels fitted to the roof to collect heat from the sun's radiation, a heat transfer system, which uses the collected heat to heat water, and a cylinder to store the hot water heated during the day for later use. A solar compatible high efficiency boiler provides any necessary 'top up' to meet hot water demand.

Ferroli has two solar solutions to satisfy different requirements. For larger DHW users, Ferroli solar collector panels preheat the water stored in a Ferroli AquaCyl twin-coil cylinder by a primary heating coil – a Ferroli high efficiency boiler then 'tops up' the water temperature via a secondary coil in the cylinder.

For smaller DHW demands, Ferroli's solar collector panels preheat the water in an AquaSol cylinder, which then flows through a Ferroli Optimax combi for thermal 'top up' on demand.

In full summer, water in the AquaSol cylinder may be hot enough to supply the DHW demand without the need to be topped up by the lpg boiler. And even on cold, grey winter days, solar energy can reduce gas demand by 20 per cent (and increase the DHW flow rate from the boiler).

At Ferroli, we believe lpg users and suppliers in both the domestic and commercial sectors should see this trend as a major opportunity to reduce fuel costs and to combat the potentially disastrous impact of climate change.

Contact Ferroli Ltd on
08707 282882
www.ferroli.co.uk

FUTURE-PROOFING WITH SOLAR COMPATIBILITY

Future energy efficiency legislation is moving ever closer to including a code of practice to ensure all new build has a renewable energy source for the building's heating and hot water needs. Nick Stevenson, managing director of Keston Boilers, explains why future-proofing gas boilers with integral solar thermal compatibility is now essential.



Nick Stevenson.

There is no doubt that the solar thermal market is now set to grow – fast. There have been a number of false dawns for this technology, but clear initiatives from the Government regarding renewables, including the Microgeneration Strategy and the Low Carbon Buildings Programme, mean the simplicity and accessibility of solar will make it a prime contender in the future. This is particularly true in the case of the domestic/light commercial heating and hot water market.

RENEWABLE ENERGY

Renewable energy is derived from inexhaustible sources, such as the sun, wind, water and sustainable plant material. The use of these natural resources helps conserve other, non-renewable sources, such as fossil fuels and, more importantly, significantly cuts carbon dioxide emissions, reducing the environmental impact of energy generation.

Of additional interest to the end user is that renewable energy can be virtually 'free', and a typical solar energy system can fulfil 50–60 per cent of domestic hot water demands annually. Solar thermal has the advantage of being one of the oldest of the renewable solutions that has been tried and tested over many years. With a regulatory force behind it and growing awareness of the need for energy efficiency in the home amongst consumers, the demand for solar will rise.

Keston's vision for the near



Keston Qudos solar duet.

future is that the gas boiler will no longer be the only heat source in a property. Instead, the boiler will be supplemented by a renewable heat source.

In readiness for this eventuality, it is essential that products manufactured and installed today are future-proofed to incorporate an integral control system for auxiliary energy. Leading the way in the market, Keston's innovative, SEDBUK A-rated Qudos range of fully modulating gas condenser boilers has been designed with this in mind. Qudos has the ability to use the condensing boiler as the main drive, coordinating itself to operate in conjunction with an additional energy input to the system from a renewable source, such as solar thermal.

SIMPLICITY

The simplicity of solar over all the other renewable technologies makes it the most accessible option. The technology relies on the sun's energy to heat the water inside the solar panels, usually located on the roof, which is then transferred to the hot water tank. The quantity of heat generated is, consequently, dependent on the time of year and number of hours of daylight. However, the panels work as well with diffused solar radiation as they do in direct sunlight and can operate efficiently even on a cloudy day.

A solar powered heating system uses skills and technology derived from a standard system. The main difference is the water cylinder, as a twin coil tank is required – one coil to carry hot water from the condensing boiler as usual, the other to carry hot water from the solar panel. The controls will then monitor the level of hot water received from the solar panel and, if it is insufficient for the building's needs, will instruct the boiler to supplement the supply.

Our solar pack for new installations comprises a solar controller to ensure maximum benefit is extracted, a glycol antifreeze additive, full water controls and high quality Keston selective surface absorber solar panels of the finest grade. With an absorption level of 95 per cent, heat endurance to 232 degrees Celsius and silicon weatherproofing, we guarantee maximum performance and consistent communication with

the solar panel, ensuring energy is used efficiently and intelligently. Connection of a solar pack with a Keston Spa Twin double coil tank and virtually any Keston lpg condensing boiler model, including our new Qudos range, provides the ultimate in renewable and high efficiency heating and hot water.

BESPOKE

Our kits are available for domestic installations, in conjunction with a 200-litre twin coil tank, and commercial applications, connected to a 300-litre unit. Where an existing central heating system is being upgraded to solar, we can provide bespoke kits without the boiler and/or tank, as all our products are compatible with most other manufacturers' equipment.

Whilst solar thermal installations are not complex, they do need to be done correctly. Our prefabricated systems allow for minimum error but, to cover all angles, Keston can provide training and assistance in both specifying and installation techniques.

The ascendance of renewable technology will inevitably demand the installation or enhancement of traditional heating systems with access to an alternative and sustainable energy source. Keston is already one step ahead with our solar packs and Qudos.

**Contact Keston Boilers Ltd
on 0208 462 0262
www.keston.co.uk**

Delivering Full Potential

By Stewart Purchase,
managing director,
Viessmann UK

Solar heating can provide up to 55 per cent of total water requirements, saving energy and helping to reduce CO² emissions. There are, however, some 'buts' to watch out for to ensure that solar heating delivers its fullest potential.

Viessmann has been in the solar water business in the UK for most of the last 15 years, so we have seen plenty of history in the solar market and, sad to say, some false dawns. What then are the points that installers need to watch out for so that they can install a solar system that delivers what the customer pays for and expects?

ORIENTATION, ORIENTATION, ORIENTATION

It sounds an obvious point, but it is one that is easily overlooked. To work effectively, or even at all, tubular solar panels should face within 90° either side of due

south. They don't have to be sloping, they can go on a flat surface and then be braced at the right angle or, if using vacuum tube collectors, the tubes can be pointed at the right angle. But if they are not within this critical 90° slice, they won't work.

HOT STUFF

Not just in sales. The fluid within solar panels gets hot, very hot, and is at much higher pressures than the water in a central heating system. Solar can generate temperatures of 250°C and pressures up to 6 bar. So soft soldered copper fittings or push fit plastic means trouble and could mean danger.

Temperatures this high melt solder. The answer is copper tube with compression type copper fittings. Insulation is just as important and, once again,



Viessmann Vitodens 200.

ordinary pipework insulation is not good enough. Use Armaflex or something similar.

TALK TO THE BOILER

Not you – the solar heating system. As only around half of the water heating can come from solar heating, the rest, especially in winter, has to

come from the lpg boiler (or immersion heater). What can happen is that the boiler has filled the cylinder, which should be twin coil, with hot water so that the solar panels cannot supply hot water when they have solar input.

The answer is a control that monitors heat available from the panels and the heat available in the cylinder, and then lets either the boiler or the panels do the job. This means that, should the sun break through, the boiler is

turned off and the circulation switched over to the panels.

Viessmann's Vitosolic controls and Divicon pump set do exactly this and are configured to talk to the Vitotronic control system on Viessmann boilers, so giving seamless, minute to minute control.

This is another key point. Solar heating systems and their controls, which are not dedicated to each other, can make installation and commissioning a nightmare. For the customer, it can mean having a complicated control system to master rather than one that is set and forget.

And a final point – Viessmann Vitodens 200 and 300 series boilers not only come complete with the controls to suit solar heating connections, they are also lpg ready. Their specification includes a stainless steel heat exchanger that comes with a ten-year warranty.

Contact Viessmann UK on 01952 675000
www.viessmann.co.uk

Lowering Environmental Impact

Rinnai, one of the world's largest suppliers of gas appliances, has extended its range of popular continuous flow gas-fired water heaters with the introduction of the Infinity 16i.

Designed to meet the hot water needs of domestic and light commercial premises, the 16i delivers an endless flow of hot water via temperature controls accurate to 1 degree C. Rinnai water heaters can operate using lpg and are solar compatible.

PERFECT SOLUTION

The Rinnai Infinity 16i has an output of 29kW, giving a hot water delivery capacity of 450 litres per hour raised to 50 degrees C. Weighing just 18kg and measuring less than 680mm high, it provides the perfect solution for many

applications, including residential properties; cafés, pubs and restaurants; offices, shops and hairdressers, and small industrial units. Water temperatures are preset through easy-to-use, built in digital controls, eliminating the risk of scalding and eradicating the need for thermostatic mixing valves.

A maximum flow rate of 1,200 litres per hour at low temperature rises (up to 20 degrees C) makes the new, lpg Infinity 16i a great complement to Rinnai's award winning solar technology. Unlike a traditional two coil solar thermal system, the Rinnai system uses the 16i as



Rinnai Infinity 16i.

a booster heater to 'top up' the preheated water from the solar cylinder. When water flowing from the cylinder is sufficiently hot, it will pass through the dormant Infinity unit.

During times when solar gain is very low, or when, occasionally, the hot water usage is

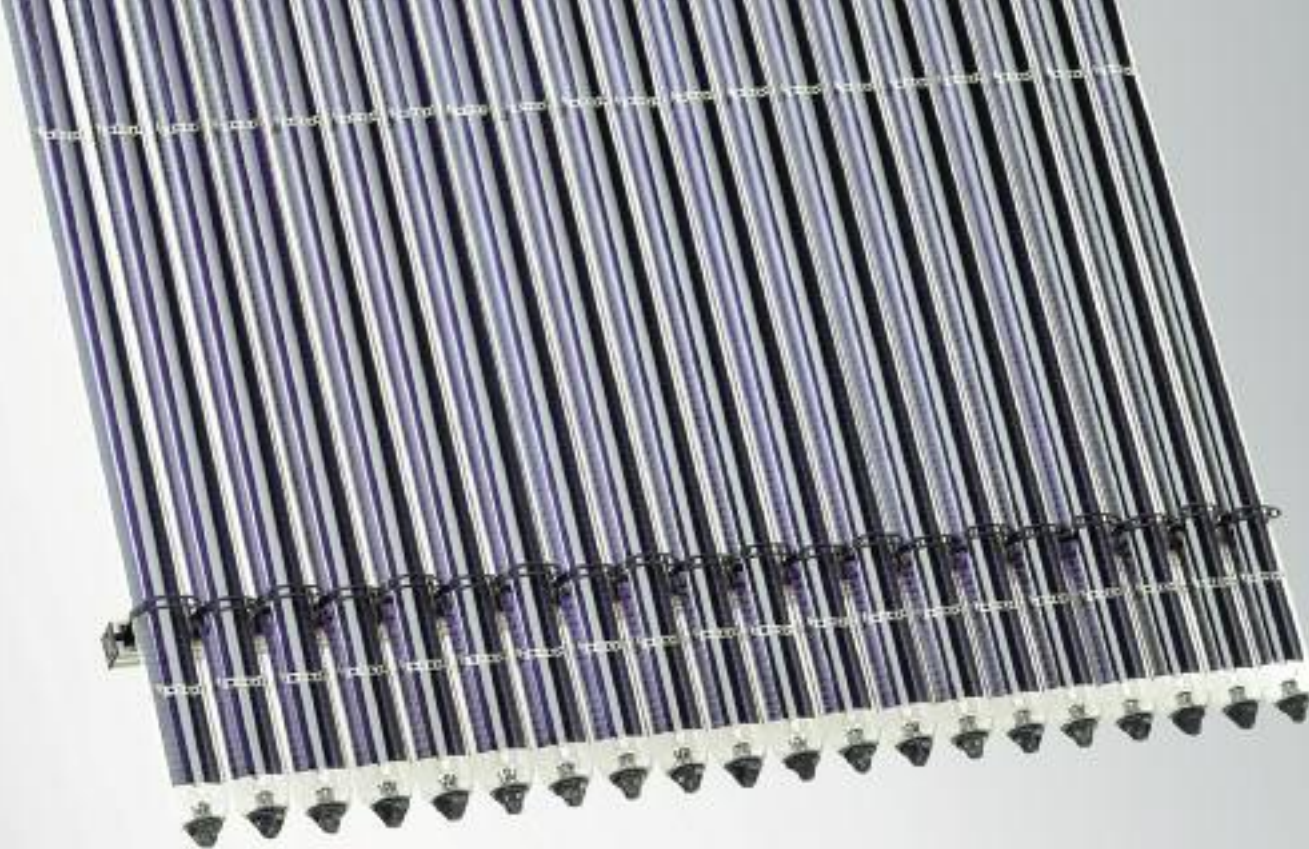
exceptionally high, the Infinity will become active in order to heat the water up to the set point. This gives the cylinder maximum time to absorb the solar energy, ensuring that gas energy is not consumed until hot water is required at the tap. As no gas energy is used to heat the cylinder, any standing losses that do occur have no environmental impact.

The water heating system is configured to supply the entire load for the building, as if there were no solar preheat, to ensure occupant comfort year round. This technology cuts greenhouse gas emissions while still providing a reliable source of hot water. It is adaptable to all sizes of domestic and light commercial premises and is very easy to install using Rinnai's solar kit and manual.

FLEXIBILITY

Rinnai has also designed the Infinity 16i to allow maximum flexibility when choosing an installation site, as it does not need to be mounted on an external wall. Optional slimline flue kits include a choice of vertical and horizontal terminals and extensions, allowing fitment up to six metres from an outside wall.

Contact Rinnai UK Ltd on 01928 531870
www.rinnaiuk.com



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INSTALLERS URGED TO PLUG SKILLS GAP

By Mark Wilkins, brand manager, Vaillant Ltd

Local and national government departments are producing reams of regulation to support the renewable energy market, but do we have the skills to deliver? As far as the Government is concerned, it is all systems go for renewable energy and sustainable buildings. We are drowning in research, White Papers, consultations, codes and Acts of Parliament – but how rooted in reality is all of this?

Communities and Local Government Minister, Angela Smith, has just launched two new Parliamentary reports updating the Sustainable and Secure Buildings Act 2004 and the Climate Change and Sustainable Energy Act 2006.

“Tougher standards, such as Part L of the Building Regulations, are a start, but we must do more,” she says. “The Code for Sustainable Homes is set to help us achieve zero carbon new homes by 2016. The challenge for government and industry is now to work together to push even harder to extend improvements to all other types of buildings too.”

ZERO CARBON

Her department (DCLG) is talking about accelerating the timetable to make all new homes “zero carbon” within a decade, and to apply this to other sectors, such as new public buildings and existing homes. And in 2009, it is expected that the European Performance of Buildings Directive (EPBD) will be extended to cover smaller buildings outside the public sector.

There is also a planned Review of Existing Buildings to come, a draft Planning Policy Statement on Climate Change, and a study of water efficiency standards, not to mention the existing Part L of the Building Regulations, supposedly driving

up domestic energy efficiency by 40 per cent.

This is all marvellous, of course, but is it realistic? Can our industry cope with the burden? Do we have the skills to deliver the designs that meet these standards?

Not according to the sector skills council, SummitSkills. It says that our installation industry is losing out to overseas competitors because we don't have enough of the required skills to implement many of the new renewable designs and technologies.

This has to change. The UK must develop its own skills base for this rapidly growing market, and the mainstream heating industry cannot afford to miss out on the business opportunities.

Vaillant's total system approach means that a solar installation will work well in tandem with an existing lpg or natural gas fired boiler. In fact, the ideal energy efficient solution would be to twin solar water heating with high efficiency condensing boiler technology. The ability to work with lpg means a wide range of householders can now have access to this environmentally sound solution delivered by local heating companies.

These companies have the ideal core skills, but that is only the start. All installers must still



Vaillant's total system approach means that a solar installation will work in tandem with an existing lpg boiler.

undergo specific solar training to ensure they are working to best practice standards and are able to deliver a reliable finished installation. Vaillant has invested considerable time and money to become the only conventional heating manufacturer accredited by BPEC to carry out solar training because we recognised that providing specific skills would be critical in developing the solar market.

WORKING KNOWLEDGE

So what skills must they acquire?

The installer must gain a useful working knowledge of the different types of systems available, how they should be used and which is most appropriate for the particular project in hand. There are two main types of solar domestic hot water system – flat plate collectors and evacuated tubes.

Flat plate collectors have a specialist coating to absorb as much solar energy as possible. The solar radiation is transferred through the glazing and the insulation behind the panel helps to minimise energy losses. The heat energy is then transferred via pipework containing a mixture of water and glycol to a heat exchanger in the hot water cylinder.

It is well documented that evacuated tube collectors are more efficient than their flat plate cousins for two main reasons.

Firstly, because of the efficiencies of transferring solar radiation through a vacuum and, secondly, because they have the ability to capture energy when the sun is at a lower angle during autumn and winter.

The installer must learn how to size the system to ensure the householder gets best value for money. A typical domestic installation in the UK has a gross collector area of 3–4m² and the solar storage cylinder is normally twice the size of the calculated hot water requirement (therefore normally 200–300 litres).

However, both of these figures are averages, and the heating engineer should gather as much information as possible about the customer's hot water needs so that they can accurately size the capacity of the system. In fact, research carried out in Germany has shown that installers often overestimate the amount of hot water required by the building occupants, which can lead to incorrectly sized solar panels.

Installers do have the skills to exploit this market and to make a very profitable business from it, but they must respond to the challenge by investing in appropriate training. Otherwise they will see the opportunities slipping away.

**Contact Vaillant Ltd on
01634 292300
www.vaillant.co.uk**

Andrews Offers Complete Commercial Package



Andrews Water Heaters has recently launched an indirect solar hot water heating solution for commercial applications as a complete, ready-to-install package.

SOLARflo comprises glazed flat plate solar collectors, roof mountings, a duplex stainless steel hot water cylinder, control unit, pump station, expansion vessels and first fill of water/glycol solar heat transfer fluid.

The SOLARflo package can be installed with an lpg condensing storage water heater, an lpg continuous direct-fired condensing water heater, or a commercial lpg condensing boiler. The primary heating appliance can also be supplied

as part of the package for new-build and refurbishment projects.

The glazed flat plate aluminium tray solar collectors have a 4mm thick durable clear solar glass transparent cover, with a gross collector area of 2.55m². This results in a transmission efficiency of approximately 91%, an absorption efficiency of around 95%, and an emission loss of 5%. The SOLARflo solar collectors will carry a 10-year guarantee for factory faults.

THE LONGER LIFE

The SOLARflo cylinder, supplied by sister company, Heatrae Industrial, has a non-corrosive duplex stainless steel water chamber for longer life and, between this and the Plastisol outer skin, is CFC/HCFC-free foam insulation. Within the tank, both the indirect solar heating coil and the primary heating coil are made of stainless steel.

Single solar coil cylinders are offered for use with lpg direct-fired water heaters where the stored solar energy is used to preheat the cold water inlet into the heater. Twin-coil cylinders are also available where the

lower coil is heated by the solar collector array and the top-coil by a commercial lpg boiler.

The ratio of cylinder capacity in litres to the number of solar collectors is 450:4, 550:5, 700:6 and 900:7, giving a gross solar collector array of 10.2m², 12.8m², 15.3m² and 17.9m² respectively.

The controls for the SOLARflo system are designed so that the coil for the solar heat transfer fluid and that for the primary heat source operate in harmony to optimise the use of the solar energy. The control unit will prevent the primary heat source from firing up too quickly and thereby preserve the energy saving benefit of the solar heated water.

The controls responsible for the interface between the primary lpg heating appliance and the solar hot water cylinder will also ensure that the risk of legionella bacteria development is prevented by pasteurising the hot water before it reaches the outlets.

Other equipment forming part of the SOLARflo package includes the solar pump station, complete with temperature gauges, pressure gauge, flushing and filling device and deaerator, cold water expansion kit and a

solar heat transfer expansion vessel with a membrane temperature rating of 100°C.

OPTIONAL PACKAGE

Solar collector mounting accessories for both pitched and flat roofs will also be available. An optional SOLARflo package incorporating evacuated tube solar collectors is also being developed.

"Due to the way the Building Regulations are being structured, Andrews believes it is essential to provide a selection of energy efficient products and solutions that meet these requirements and those of our customers and end users," said Yan Evans, technical director for Baxi Commercial Heating. "This is especially important for organisations that must adhere to government guidelines before they become law, and for developers in overcoming planning restrictions where a given percentage of carbon reduction or energy derived from renewable sources must be adhered to."

Contact Andrews Water Heaters on 0121 506 7400
www.andrewswaterheaters.co.uk

Embracing New Skills

A study by the Energy Saving Trust suggests that, by 2050, micro-generation could provide 30–40 per cent of the UK's electricity needs – reducing household carbon emissions by 15 per cent per annum.

NEW SKILLS

Solar Thermal Domestic Water Heating (STDWH) is currently the lead micro-generation technology. In order to take advantage of this burgeoning trend, lpg gas installers should consider embracing new skills to ensure a place in the renewables market.

Logic Certification's STDWH course for installers has been created to give heating and plumbing engineers the

necessary skills required to install and commission indirect SDTWH circuits, where these circuits are integrated with domestic heating and hot water systems – whatever the primary fuel source.

While there are many solar courses available, Logic Certification's course has received special recognition by the Low Carbon Building Programme. This Government scheme gives funding to micro-generation projects for both domestic and commercial applications.

Installers involved in these projects must be accredited in order for money to be released. Logic Certification's STDWH course is one of only two in the country that affords installers this

compulsory accreditation.

Available at locations all over the UK, the course involves practical, hands on experience, backed up by theory sessions covering topics, such as the management of Legionella, controlling stagnation and the importance of internal and external site surveys. The course is designed to complement the Energy Efficiency for Domestic Heating Certificate and Building Regulation Notification Scheme, highlighting the synergy between energy efficiency and renewable energy.

Training takes place over two to three days, costing around £500 and covering the following areas:

- Regulations and standards
- Collector types
- Solar heated storage types
- Solar primary system types
- Basic system design and integration
- Installation methods and materials
- Filling and commissioning
- Servicing and faultfinding.

For installers in the east of England wishing to take part in the course at Gas Logic centres in Northolt and Basildon, there is a potential 70 per cent discount available. This grant comes from the European Social Fund and is available until the end of June, or when funds run out. To find out if you are eligible, visit www.gaslogic.com for more information.

Contact Logic Certification on 0208 845 7222
www.logiccertification.com

Exciting Programme Promised at AEGPL 2007

AEGPL 2007 will be held on June 6–8 at the Acropolis Conference Centre in Nice, France. The theme for this major event in the European lpg industry calendar will be “Lpg – the clean, efficient energy for today and tomorrow”.

“An exciting programme has been set up for the conference,” said Patrick Segarra, director general of the AEGPL. “A vast



panorama of activities, experiences and innovations will be presented through its four sessions, with a particular focus on lpg positioning into the European energy context.”

The four sessions at the conference will cover the positioning of lpg in Europe; lpg applications in the transport sector; good practices and the standardisation policy, and innovations and new lpg applications. Delegates will also be offered the option of attending technical workshops for the first time.

Registration at the conference will also offer free access to the exhibition. Approximately 100 international exhibitors will cover



a wide diversity of lpg activities and present a range of equipment and the latest technologies. Over 1,500 visitors are expected at the show.

“The annual AEGPL Congress is a unique opportunity to develop new contacts, find valuable information and exchange experiences in a pleasant atmosphere,” said Patrick. www.aegpl-expo.com

Filling Concepts From Kosan Crisplant

Kosan Crisplant designs, manufactures and installs a comprehensive range of equipment and system solutions for filling, maintenance, checking and distribution of all types of lpg gas cylinders. Its service concept ranges from facility management of customer plants and the maintenance and technical service of equipment and systems to

the supply of parts, machinery and tailored system solutions. Its revamping concept covers any system by any supplier in the world.

Kosan Crisplant's universal controller connects filling equipment to a specially designed data system that gives customers a full overview of their operation and access to any data

retrieved from the processes. Its financial package offers advantageous terms and minimum borrowing costs in collaboration with internationally recognised lenders.

Visit Kosan Crisplant on Stand A17 at AEGPL 2007.

Contact Kosan Crisplant on +45 87 403000 www.kosancrisplant.com

Demonstrating Simplicity

TouchStar Technologies Ltd, a leader in in-cab mobile computing, will be demonstrating its latest offerings at AEGPL 2007, including its new ATEX standard (approved for use in an explosive environment) TouchPC Raven.

There will be numerous demonstrations running on the stand throughout the day, including that for a fuel delivery unit. It includes a fuel delivery



TouchStar gas delivery rig.

meter and blaster printer, as would be found in the cab of a fuel delivery truck.

“The aim of the demonstration is to show how simple the TouchPC is to use and how it

eliminates any human error, with the bonus of no paper,” said Chris Edwards, marketing coordinator at TouchStar Technologies. “We will also be showing video footage through out the day. Visitors should pop by the stand for a chat.”

TouchStar Technologies will be on stand G14 at AEGPL 2007. **Contact TouchStar Technologies Ltd on 0161 874 5050 www.touchstar.co.uk**



Satellite Monitoring

Andronics' UtilityEye lpg tank monitoring system allows remote monitoring of lpg levels in storage tanks. The system has been designed to routinely monitor bulk commercial and domestic lpg tanks at intervals specified by the customer.

The level, which is taken by an Andronics sonic sensor or an existing Rochester gauge, can be transmitted either by satellite communication or by radio. The product is a standalone unit capable of being installed anywhere without the need to intrude on the customer's premises to connect to a telephone network, or worry about wireless communications coverage.

UtilityEye has been certified for hazardous areas with an EX rating of EEx d [ia] ia IIB T4, tamb – 34∞C to 80°C. The enclosure is flameproof and can be easily mounted and secured to the tank.

Tank level information is presented on a password protected website for secure viewing. Alternatively, information can be routed to the customer's existing scheduling software, providing a fully integrated management system.

This award winning system uses LEO satellites to collect, collate and manage level and temperature information for display on a secure, dedicated website or transmission to existing management systems.

Contact Andronics Ltd on 02871 273100 www.andronics.co.uk

See us on Stand G14 at AEGPL 2007

STREAMLINE YOUR FUEL DELIVERY PROCESS WITH A TOUCHPC™



In our thirsty world, the logistics of getting liquid and bulk to point of sale or industrial depot is a frantic yet mission-critical operation.

TouchStar Technologies offer mobile computing systems that streamline the capture and transmission of key data associated with this process. Tanker drivers are able to economically and efficiently deliver the thousands of litres in their trailers, via a robust and user-friendly delivery management system that is used by many of the World's leading fuel operators.



Key System Benefits

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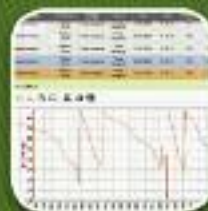


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Andronics

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- Complete solution



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Tel: +44 (0) 28 7127 3100 Fax: +44 (0) 28 7127 3101 Email: lpg@utilityeye.com Web: www.andronics.co.uk

FLEXIBILITY FOR POPULAR CHOICE

by Mark Sullivan, product and service support manager,
Linde Material Handling (UK) Ltd

With global energy demands expected to increase by 60 per cent over the next 25 years, the search for alternative fuels defined as green energy carriers, and the more efficient and environmentally friendly utilisation of the finite supply of existing fossil energy carriers, has become a major priority for everyone.



Linde 39X.

A wide variety of research projects are underway around the world investigating alternative energy sources.

A major research avenue is the development of fuel cells utilising the electricity generated from renewable sources to manufacture hydrogen fuel for the cells.

Hydrogen could well become the mainstream fuel option for mobile handling equipment within the next 10 to 15 years.

Technology is being developed on two fronts to power both electric and engine powered equipment, with operational prototypes already developed by manufacturers, such as Linde.

ENGINE POWER

In parallel, the efficiency of internal combustion engines has been greatly enhanced, driven mainly by design and technology advances in the automotive industry, where environmental legislation covered by EU directives has been most stringent in recent years. This has resulted in drastic improvements in cleaner, quieter and more fuel-efficient engines, from which industrial engine truck design has also benefited.

These technological improvements have increased the versatility of engine powered forklifts because, provided they are fitted with catalytic converters and particulate filters or catalysts, depending on whether diesel or lpg is involved, the trucks can be used in applications involving both internal and external operations as long as they

comply with national, European and local health and safety requirements. Reduced fuel consumption reduces the main greenhouse gas, CO₂.

BATTERY ELECTRICS

Electric powered materials handling equipment also plays a key role in modern supply chains, particularly in narrow aisle high lift storage and retrieval, internal transfers and order picking tasks.

Considerable technological advances have also taken place in the design of electric motors and electronic control systems, as well as charger design for electric powered handling equipment. This has resulted in battery electric handling equipment able to work continuously throughout a shift in intensive applications and deliver high productivity and excellent fuel efficiency ratios.

Naturally, the operational and environmental requirements of individual applications will determine the best type of equipment for any particular task from which there is a wide selection to choose, both battery electric and engine powered.

CNG

As with other gases, to make it practical for use in mobile equipment, such as forklift trucks, the technical challenge is to be able to store a sufficient amount of energy per unit volume to complete a full working shift. This is done by compressing the natural gas to

around 200 bar.

Materials handling sites using cng each require a special purpose built filling station on site to store the fuel. The installation costs involved mean that, to be an economically viable alternative to lpg, the user probably needs to have a fleet in excess of eight forklift trucks.

Natural gas reduces emissions significantly, except CO₂, which is still present. It is also an extremely efficient fuel in internal combustion engines.

For various structural, fiscal and supply reasons, natural gas as a fuel for mobile handling equipment is more popular in some countries than others, but there is no doubt it has an important part to play in the overall strategy of utilising alternative energy carriers.

LPG

Lpg powered forklifts have enjoyed a steady increase in popularity, offering as they do some unique features and flexibility for particular handling tasks.

Let us look first at the lpg fuel itself. Liquefied petroleum gas is a mixture of propane and butane and is a by-product of both the extraction and refining processes of oil production.

Propane and butane become liquid when compressed at atmospheric temperature and revert to gases again when pressure is reduced. In liquid form, they are 250 times denser, and this property makes them ideal to transport and store.

It is easier to achieve the correct fuel-air mix in a

combustion engine using lpg, allowing the complete combustion of the fuel, resulting in cleaner exhaust emissions and quieter running engines.

For example, lpg is lead free and soot free. Particulate emissions are 98 per cent less than for a typical diesel engine, and hydrocarbons are some 70 per cent less.

When a three-way catalyst is fitted, carbon monoxide emissions are virtually zero and fuel consumption is also reduced, making this a relatively environmentally friendly fossil fuel.

With these characteristics, the lpg powered forklift forms an important segment in the materials handling market, with some 40 per cent of engine powered forklifts using lpg as a fuel, making it a popular choice in the handling industry.

For applications where the fork truck has to work both inside and outside, or tasks involving night time work in close proximity to residential areas, the enhanced environmental aspects of lpg powered counterbalance trucks makes them a popular and versatile choice in the handling industry.

We can expect some exciting developments over the next few years as the various avenues of research come to fruition to provide an ever cleaner global environment.

**Contact Linde Material Handling (UK) Ltd on 01256 342000
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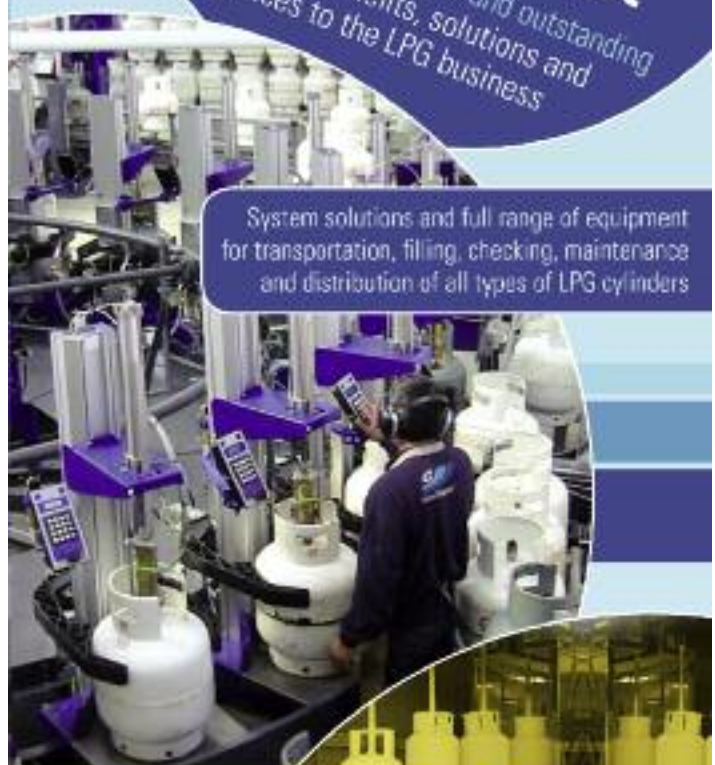
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See us on
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INCREASING STORAGE, REDUCING COSTS

The Aisle-Master articulated forklift truck, the result of extensive research and prototype testing, was launched onto the UK market in 2000. Aisle-Master Ltd is based in Co Monaghan in Ireland, and the developer of the forklift has over 50 years' collective experience in the materials handling sector.



Aisle-Master CFTL

Aisle-Master is considered to be the pioneer of lpg technology in the articulated forklift sector it says, introducing electric power to its range later, in 2005. Its lpg truck will fit reduced warehouse aisle widths, and do the work of an indoor electric reach truck, while also operating outdoors as a conventional engine-powered counterbalance forklift truck.

The result is a versatile forklift that can increase storage space in some situations by over 50 per cent, lowering storage costs and reducing the number of lift trucks required. This makes financial sense in times of escalating costs for warehousing premises.

Aisle-Master has a dedicated in-house R&D team that does all its prototype building and testing and puts new trucks through a detailed test programme before leaving the factory. Aisle-Master trucks are sold throughout the EU and in English-speaking countries elsewhere – the US, Mexico and Canada, South Africa, Australia and New Zealand, as well as to some customers in the Middle East.

Because some of these countries do not recognize the ISO standards, Aisle-Master has tailored and developed its own standards as a company. Products for the EU meet EN1726 and products for the US meet the ANSI B56.1 standard. Trucks sold in Europe are also 'CE' marked.

The original Aisle-Master model was an articulated IC truck running on lpg. To equip it for use indoors, it has a three-way catalytic converter as a standard fitting and a Commander kit that regulates fuel consumption, and hence improves its exhaust emissions.

ADVANTAGES

The three-way catalytic converter eliminates 98 per cent of all exhaust particulate. The advantages of lpg power over battery electric models for customers include the possibility of round the clock operation, with no down-time due to battery charging.

The recommended service intervals for the lpg version are 250 hours, and 500 hours for the electric model. The gas truck has hydraulic oil filters that need changing at intervals.

The Aisle-Master is primarily aimed at warehousing and logistics operations and third party logistics companies, but the company also supplies trucks to customers with very diverse applications, such as manufacturers, retailers, tile companies, food manufacturers, builders' merchants and DIY stores.

If customers want to gain maximum benefit from the Aisle-Master system, it's advisable to rearrange the warehouse appropriately, says the company. This may involve

moving racking and narrowing aisles, although racking heights can remain the same.

Aisle-Master has its own dedicated warehouse planning team, which provides a free service to customers. The team will measure the warehouse as required and give three or four layout proposals, backed up by drawings and layouts.

Truckman Ltd, a major UK manufacturer of hardtops for pickup trucks, uses an lpg powered Aisle-Master articulated forklift truck for handling its growing range of products at its expanded premises. Following the conversion of what was previously a satellite warehouse into both storage and manufacturing facilities, the company was faced with a variety of challenges – to cut aisle widths between racking to increase storage capacity; to ensure that bulky loads could still be easily manoeuvred within the reduced footprint, and to find a multi-tasking forklift capable of offloading the varying dimensions and weights of incoming deliveries.

FLEXIBILITY

The limitations of the previously used counterbalance forklift resulted in operational aisle-widths of at least 4.5 metres. The Aisle-Master's inside and outside operation, its manoeuvrability to access tight

areas and its overall flexibility of use has proved to be the answer to all of Truckman's requirements.

Leading Scania dealer for Dublin and the northeast of Ireland, McElvaney Motors, has an lpg Aisle-Master articulated forklift to enable the growth of its sister operation, Truck Dismantlers Ireland. The flexible capabilities of the Aisle-Master have enabled the company to vastly improve procedures for the handling and storage of spare parts, ranging from engines, gearboxes and axles to smaller items, such as switches and cab components.

"Due to rapid expansion, we needed to adopt a much more rationalised approach to the storage and handling of the large volume and varying sizes of components we deal with," said managing director, Adrian McElvaney. "An all-round forklift that would work indoors and out was also vital."

Operation in narrow aisles has enabled McElvaney Motors maximum use of its warehouse space to accommodate individual components, such as the one tonne engines and pallets of smaller items, together with providing a more streamlined process for locating stored parts.

Contact Aisle-Master
+353 47 80400
www.aisle-master.com

TRI-CAT REDUCING EXHAUST EMISSIONS

Nissan's latest DX Series ultra low emission gas truck features the company's patented Tri-Cat system fitted as standard, which reduces harmful exhaust emissions by up to 98 per cent and guarantees maximum fuel economy.



Nissan DX Series.

The system – a unique combination of three-way catalytic converter and computerised engine management technology – will be introduced across the complete range of Nissan lp gas trucks in 2007 in an enhanced Tri-Cat Ultra version.

Soot-free exhaust has made lp gas an increasingly popular choice in recent years for operations involving inside working near to personnel, or where loads, such as paper or textiles, can be easily marked. But, as Nissan points out, unless properly controlled, the emissions from a gas-powered engine can be just as unpleasant – and harmful – as those from unclean diesel.

TOXINS REDUCED

The Nissan Tri-Cat System is believed to be the only lift truck installation of its type with a catalyst that addresses all three of the toxic substances produced when lp gas is burnt. It reduces carbon monoxide by 91 per cent, hydrocarbons by 96 per cent and

oxides of nitrogen by 98 per cent.

A further feature of Tri-Cat is to provide optimum fuel economy through constant engine management. Electronic sensors continually monitor engine output, controlling and supplying just the right air-to-fuel ratio for the truck's operational requirements.

Regardless of the composition of the lpg fuel, environmental conditions and the condition of the engine, says Nissan, the Tri-Cat system always provides optimal combustion.

As well as ensuring minimum gas pollution and maximum fuel economy, the "closed loop" air fuel ratio control helps to minimise maintenance.

"Most manufacturers do not fit a catalytic converter at all as standard to their gas-powered trucks," said Nissan's national technical manager, Doug Wyatt. "When some do, it is typically a low-cost two-way system. Most often this fails to address oxides of nitrogen (NOx), and is generally not as efficient as the

Nissan system in removing hydrocarbons (HC) and carbon monoxide (CO)."

SAVINGS

In addition to extremely low levels of toxic emissions, tests in a standard work cycle have shown that the Tri-Cat system can typically save 5,000 litres of lpg over a five year period. This is due to the air-fuel ratio being calculated 1,000 times per second by an electronic controller receiving signals from engine management sensors within the truck.

A lambda sensor that detects if the combustion is optimum measures the quality of oxygen in the exhaust. Engine revolutions and water temperature are also monitored, with a vacuum switch cutting in to provide more fuel when greater power is required, and a throttle switch to reduce flow when the engine is idling.

The Nissan "closed loop" system for air-fuel control is believed to be the most

advanced to be used in lift truck technology. With no need for adjustment, a controller calculates precisely the fuel quantity required.

In contrast, conventional lpg control systems typically rely on the volume and vacuum of the air sucked in by the engine to decide the fuel quantity. The air-fuel ratio is set by mechanical adjustments during maintenance, with no provision for automatic correction due to component wear, less than ideal flow characteristics or sudden changes in load demands.

With such systems, tuning deteriorates little by little, resulting in growing fuel consumption and increasing exhaust emissions until the truck is next serviced.

"Conversely, constant monitoring by the closed loop in Nissan's Tri-Cat system results in optimal combustion all of the time," said Doug.

**Contact Nissan Forklift on
0800 919968
www.nissanforklift.co.uk**

Making a Clean Fuel Even Cleaner

Envirosafe Ltd is a leading supplier of systems for the control of exhaust emissions for both lpg and diesel applications. The company supplies three-way catalytic converters and closed loop air/fuel ratio controllers for retrofit to a wide range of forklift truck applications.

"Lpg is a well established fuel source for forklift truck applications, with all major truck manufacturers offering the fuel in their product ranges," said Jim Maloney, general manager at Envirosafe. "I believe that lpg offers practical advantages over electric powered trucks and has an advantage over diesel in that it does not produce particulates

that require the use of an exhaust filter. The fuel is clean burning and can be used in many areas without any issue. However, there are cases where additional caution must be used."

He continued: "The problem is always down to ventilation. Even lpg will produce toxic gases, carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (Nox) being the main concerns. Where ventilation in a building is poor or the number of trucks used indoors is large, this can lead to a background build up of the toxins within the warehouse.

"We have seen an increase in these cases over the last few

years with the introduction of rapid close doors being fitted to older buildings to combat heat loss, or cold air loss in cool room stores," he said. "The natural ventilation that the old open doors or curtains allowed suddenly disappears and a new problem of gas emissions is created."

Envirosafe's solution to this problem is to offer a three-way catalyst combined with, where the forklift's fuel system will allow it, a closed loop system. An lpg truck fitted with a three-way catalytic converter and closed loop engine control system monitors and adjusts its fuel to air mixture 1,000 times per

minute to give an optimum burn, reducing tailpipe emissions of CO, HC and NOx by up to 95 per cent.

A closed loop system generally consists of a replacement silencer with a three-way catalytic converter built in, an oxygen sensor, an electronic control unit (ECU) and a control valve fitted to the fuel converter. The ECU receives the feedback signal from the oxygen sensor and alters the air/fuel ratio accordingly, holding it at the best balance point for optimal catalyst performance.

Contact Envirosafe Ltd on 01543 570048
www.pyroban.com/envirosafe

Saving Through Reliable Measuring

ViaSonic's Sonatic® Kits measure the content of lpg cylinders on forklift trucks, allowing the driver to plan for cylinder changes accurately, since the remaining amount of fuel in the forklift is always known. The kits can be fitted to new forklifts or retrofitted to existing ones.

Despite liquid movement and temperature influence, the Sonatic® FLT system measures the liquid content of the gas cylinder using ultrasonic sensors, and provides an accurate content signal that is indicated on the fuel gauge in the driver's field of view. When the pointer is

at zero and the reserve indicator that is integrated in the gauge illuminates, enough operating time remains for the driver to finish the operating process and drive to the cylinder storage location to change cylinders.

This helps to avoid downtimes, drivers having to carry heavy cylinders, blocked aisles and other potential hazards, and the replacement of gas cylinders that are only partially emptied, therefore reducing costs. Forklifts are always available and operating safety is increased.

Sonatic® Kits S and ST are suitable for almost any forklift. Sonatic® Kit ST is supplied with an additional base plate that allows the gas cylinder to be tilted away from the forklift for maintenance work, for example. The Sonatic® Kit B is intended for preinstalled tilting gas cylinder brackets.

All Sonatic® Kits are complete installation sets, including a Sonatic® FLT sensor, gas cylinder bracket, gauge, wiring and documentation. The equipment is quick and easy to fit, and can be added during regular vehicle

maintenance. viaSonic has tasked Belgium-based TVH-Group Thermote & Vanhalst to launch the kit in more than 160 countries.

"The close collaboration with TVH will allow us to cover the global market quickly and efficiently," said Thomas Volkwein, director of viaSonic.

The TVH Parts Division will deal with all product service aspects and customer enquiries.

Contact TVH UK Ltd on 02476 585000
www.tvh-uk.co.uk

Counterbalancing Stability

The new DFG/TFG 316-320 with lpg option from Jungheinrich is small, strong and the most stable counterbalance lift truck with lpg in its class, says the company. With lift capacities from 1,600-2,000kg, the DFG/TFG 316-320 has the option of lpg power with hydrodynamic drive for high efficiency, giving good productivity to VDI 2198.

The powerful 2.1 l LPG with

29kW option is designed with high torque at low rpm. This ensures low fuel consumption and reduced noise levels.

The low centre of gravity and truck stability, achieved without extra electronic control, encourages drivers to use the full performance of the truck in safe operating conditions.

Contact Jungheinrich on 0800 357457
www.jungheinrich.co.uk



New TFG 316 from Jungheinrich with lpg option.

TRACKING THE TRENDS

by Richard Plowman, secretary,
Leisure & Outdoor Furniture Association

The Leisure and Outdoor Furniture Association (LOFA) was established in 1967 and now represents over 80 per cent of the manufacturers and suppliers of garden furniture and barbecues in the UK. Over the last few years, it has become the main source of market research on the barbecue market, worth £160m at retail level in 2006, and has been tracking trends with consumers since 1988.



The overall market saw a rapid rise in barbecues between 2001 and 2004, with double-digit annual growth as the gas barbecue market grew. Since 2004, the market in value terms has been relatively flat due to price competition. Market statistics on the barbecue market are gathered annually from LOFA members and consumer trends every two years.

INTERESTING FINDINGS

The last consumer survey was held in November 2006 and has produced some interesting findings based on 600 detailed interviews – 49 per cent of the interviewees owned a barbecue, 51 per cent did not.

This was a similar level of ownership compared to 2004. In 1988, the level of ownership was only 27 per cent.

The most popular type of barbecue was open charcoal, owned by 41 per cent of interviewees with a barbecue, with gas second at 36 per cent. In terms of the value of the market, gas barbecue sales account for 57 per cent of the total value of the market.

Relative to the situation in 2004, there have been no significant changes in the popularity of the various types of barbecues.

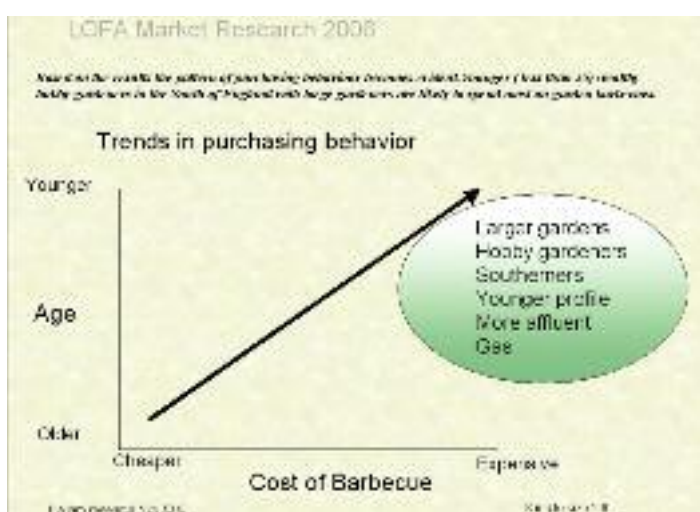
A comparison with the figures from 2004 shows that the average age of the barbecues owned has fallen from 2.6 years to 2.0, which means people are upgrading their barbecues more often than in the past.

The most popular place to buy barbecues is B&Q, used by 40 per cent of the interviewees, and some way behind in second place was Homebase on 10 per cent.

NOTICEABLE TREND

Relative to the 2004 survey, the most noticeable trend was the loss of sales by garden centres, which have gone to non-traditional retailer types, such as mail order, supermarkets and chain stores.

Fourteen per cent of the interviewees said that their frequency of barbecuing had increased a lot, and 19 per cent that it had increased a little. Fifty four per cent had not changed, while eight per cent had decreased a little and three per



cent had decreased a lot.

The most common two reasons for not having a barbecue were a dislike of food that has been barbecued at 35 per cent, and a dislike of barbecuing or eating outside at 30 per cent. Overall levels of satisfaction with barbecues were high, with 68 per cent being very satisfied overall and 27 per cent fairly satisfied. As in 2004, gas barbecues gained a higher level of satisfaction than did either open charcoal or kettle.

Nine per cent of the interviewees were very likely to buy a barbecue within the next three years, nine per cent were fairly likely, 15 per cent were neither likely nor unlikely, 12 per cent were not very likely, and 47 per cent were not at all likely. These were similar to the results in the 2004 survey.

Thirty nine per cent of the anticipated purchases will be of gas barbecues. Of the interviewees, 27 per cent anticipated buying a barbecue

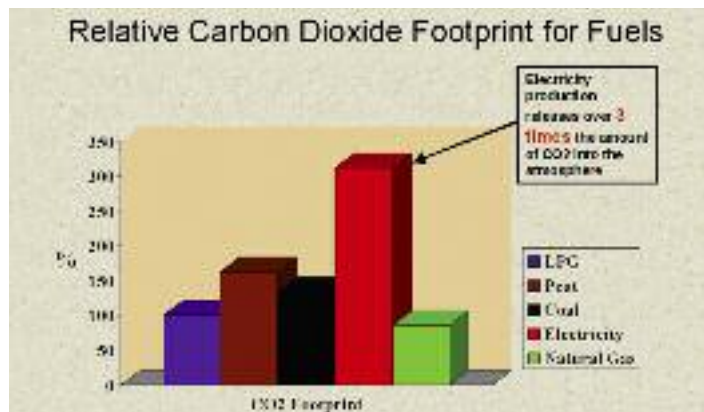
that was a lot better than their present one, 22 per cent one that was a little better, 18 per cent about the same, while none thought they would buy one that was more economical. Trends in the marketplace show younger people, more affluent, living in the south with larger gardens will be buying more gas barbecues in the future.

CARBON FOOTPRINT

Environmental concerns were expressed about barbecuing and its effect on global warming, but recent data from Ireland shows that cooking with lpg has a much smaller carbon footprint by a factor of three compared to electricity.

So the future for barbecuing and gas barbecues looks promising, although the weather and economy will be key factors for growth in this sector.

Contact the Leisure & Outdoor Furniture Association on 01243 839593 www.lofa.com



Alfresco Cooking All Year Round

Last summer was fantastic barbecue weather and the long range forecast is that this year will be even better. However, any season is suitable for a barbecue.

"Whereas most people confine themselves to grilling a few steaks, burgers and chicken wings in the summer, with our barbecues you have an outdoor grill, oven and even hob that cooks great food all year round," said Chris Hartwig, sales manager at Bravo Appliance Co Ltd, the UK distributor for Napoleon barbecues. "Why not make full use of the investment with roast leg of lamb, baked bread and pizza, sautéed mushrooms or grilled shrimp kebabs? With our range of Napoleon gas cookers and Dancook stainless steel charcoal barbecues, we can show you how. Indeed both companies can even provide custom outdoor kitchens."

The range of cooking options available include:

- Direct cooking – this is the most common method of cooking and involves grilling meats and vegetables directly over the flame. By placing a lid over the barbecue and regulating the air flow, flaring does not take place and the food is thus not charred on the outside and raw on the inside.
- Indirect cooking – this is a



Napoleon Gemini.

great way to roast meat or vegetables and bake bread, pizza and buns. The food is not placed directly above the heat source, instead the heat is directed around the food and there is little need to turn the food. The food is cooked through completely and meat is smoked on the outside and wonderfully moist throughout.

- Rotisserie cooking – this is an option for gas barbecues with a rear infrared rotisserie burner. The infrared heat quickly seals and locks in the meat's juices and the meat then becomes self basting.
- Smoking – wet wood chips can be added to our gas and charcoal grills and the food can be left to cook for several hours.
- Frying, steaming and boiling – with the aid of an accessory, it

is possible to sauté vegetables, such as onions and mushrooms, or stir fry vegetables on both our gas and charcoal grills. A gas grill with a side burner also affords other cooking options.

"We have selected our new range of barbecues because we think they are the best in the world," said Chris. "They are guaranteed not to rust for at least 15 years and so can be left outside for use all year round. The Napoleon gas grills are built in incorporating infrared burners and the ability to cook charcoal too. Some even come with storage drawers and halogen lights for evening entertaining."

Contact Bravo Appliance Co Ltd on 01730 263903 www.napoleongrills.com

Improving for Profit

Improving an outdoor area can bring more opportunities for profit for pubs and restaurants, says Cinders Barbecues.

"By adding an alfresco menu and holding outdoor events, profits can be increased significantly," said Brenda Lavelle, marketing manager at Cinders. "Barbecues and hog roasts are always popular and often chosen for special occasions, but with improved outdoor facilities they can be offered on a regular basis."

Cinders Barbecues' Caterer slim fold barbecue needs no assembly, heats up in five minutes and can comfortably cater for a party of 60 people. The company also provides accessories to give versatility to the cooking operation – and the Caterer's pan support takes two full size gastronorm holding pans, and the new cast iron frying pans provide an alternative cooking option.

An aluminium griddle can turn half the Caterer into a flat cooking surface and can also be used to reflect the heat into the internals to clean the barbecue during and after cooking.

Cinders' Hog roast is pure cooking theatre, with the rotissing meat cooking succulently in full view of customers through the glass panels on both sides. It can also be moved easily to any location on its wheeled base.

Its three infrared gas burners have separate controls for even cooking, and a water trough virtually eliminates hot grease haze by instantly cooling any meat juices that fall below. As well as cooking pigs up to 50kg, three extra spits are provided to facilitate cooking smaller joints of meat or up to 18 chickens.

"The extra outlay for improving outdoor facilities can be paid back much more quickly when events take place out there," said Brenda. Contact Cinders Barbecues Ltd on 01524 262900 www.cindersbarbecues.co.uk

BeefEater Hailed as "World's Finest"

Being in a photo finish with a Maserati is an accomplishment most car manufacturers merely dream of, let alone a barbecue company. So how did BeefEater Barbecues do it?

BeefEater, one of Australia's leading barbecue manufacturers, stands alongside De Beers diamonds, Tiffany Jewellery and Rolex watches in 'The World's Finest' – Michael Caldwell's hardback book featuring companies offering "unparalleled quality, synonymous with a life of luxury".

With recognition in such prestigious company, it seems that anyone who's



anyone is clinking their Cristal filled Lalique glasses around a BeefEater Barbecue, taking care not to get ketchup on their Versace.

BeefEater is home to the 'World's Most Expensive' barbecue at a mere £20,000. With greater demand than ever for this high spec barbecue range, BeefEater is

not only becoming more generally available, it's even challenging market leaders on price, it says.

BeefEater has taken its years of experience and trademark technical know-how and applied it to both the Signature stainless steel and Discovery ranges of domestic barbecues.

All BeefEater barbecues include Rust Free Technology™ cooking plates, Titanium Quartz Start Technology™ ignition and Stainless Steel Vaporizers as standard.

For more information call the Regent Garden Collection on 01420 478888 or visit www.rgc.co.uk.

Entertaining with Luxury



SS Outdoor Kitchen.

Created by award winning designers, Grilltech is a range of luxury outdoor cooking and entertainment equipment, offering portable outdoor kitchens, gas barbecues and outdoor heaters.

The SS Outdoor Kitchen

comes with five traditional burners, an infrared rotisserie with cover, and a smoker chip drawer. Granite side shelves provide a work surface and there are storage drawers and cupboards for china, glassware, cutlery, food and condiments.

Constructed from stainless steel, lockable castors make it easy to move.

Other gas-fuelled barbecues include the stainless steel Range Grill and the Chef's Grill. The Savanna five and three burners also offer easy cooking for the no-nonsense cook and incorporate two/four main burners with a separate side burner, come supplied with a stainless steel cover and have the option of a rotisserie.

**Contact Direct Designs on 01460 432300
www.directdesignsltd.com**

Outback Reviving Modern Classic

Outback UK says it has listened to both consumers and retailers and brought back its most popular range ever. Its Australian style Modern Classic range includes the Hunter and Trooper models. These barbecues have many features, including:

- Cast iron burners
- Cast iron grills with porcelain coating – rustproof, with better heat distribution than chrome
- Porcelain coated one-piece hood – weatherproof with no joins for heat to escape
- Heat gauge – for more cooking control
- Easy ignition on each burner
- Heavy duty wheels – for ease of movement.



Outback Trooper.

Outback are pleased to announce that all the Modern Classic range will now feature Forest Stewardship Council approved wood, as will any other Outback barbecues with wood features, so everyone can now enjoy their garden and do so with a clear conscience," said Julie Channer, managing director at Outback.

"In these days of right and proper concern regarding the welfare of our planet,

Contact Outback UK on 01622 671771
www.outbackuk.com



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Lpg Mirroring Range



Andrews MAXXflo range.

Bulk users of lpg are able to enjoy energy savings benefits by using the water heating technology available to them through Andrews Water Heaters. Capital outlay on new units can also be minimised because all Andrews' high efficiency condensing water heaters qualify for the Enhanced Capital Allowance scheme and are on the Energy Technology List.

Andrews has exactly mirrored its entire product range in lpg. Andrews' Standard and Hi-Flo storage water heaters comprise an insulated storage tank, burner/s and controls within a self-contained package. They can be installed at the point of use, singly or in multiples, to provide centralised hot water services. However, their greatest energy saving potential is realised when installed at the point of use as part of a decentralised system where the boiler is used for space heating only.

Andrews' FASTTflo series compact wall mounted fanned balanced flue units are for internal or external installation providing a constant flow of hot water via a small number of outlets.

For larger volumes of hot water, the Supa-Flo high output rapid response units have a low water content and a copper or stainless steel finned tube heat exchanger with stainless steel headers and manifold. These units can respond instantaneously, providing hot water on demand or with a storage buffer vessel.

ECOflo is a condensing, glass-lined, ultra high thermal efficiency storage water heater, featuring a low NOx premix power burner that is quiet in operation. ECOflo has up to 109 per cent net efficiency that keeps running costs to a minimum.

The new MAXXflo range of stainless steel, high efficiency condensing storage water heaters offers tank options of 100 litres capacity, with an output of 30kW, 200 and 300 litres capacity each, with four output sizes from 30-120 kW. The high efficiency stainless steel heat exchangers, premix modulating gas burners and stainless steel tank design allow the heater to generate hot water in the condensing mode up to 80 per cent of the tank volume, producing a net efficiency of 109 per cent.

Contact Andrews Water Heaters
0121 506 7400
www.andrewswaterheaters.co.uk

Heating Variety

Purpose built outdoor sanctuaries for smokers are literally 'popping up' around pubs, clubs and restaurants as they strive to cater for their smoking and non-smoking customers alike. National Blinds' continental styled shelters are canvas awning based and lend themselves to a variety of heating opportunities.

Contact National Blinds on 01323 734721
www.national-blinds.eu

Lighting the Way

Verine Lifestyle's new outdoor lanterns use an lpg bottle discretely fitted into the base section, making the unit stable and able to be positioned almost anywhere. For use in the home, garden or patio, the lanterns can also be used commercially to transform outdoor areas into cosy and welcoming spaces at pubs, bars and restaurants, says the company.



Verine's new outdoor lantern.

The lanterns produce a real flame from a push button start and create ambience as well a lighting.

Verine Lifestyle has evolved from the original Verine company, which has manufactured gas fires for over 40 years, and has expanded its product portfolio into outdoor gas lanterns and domestic and office air conditioning.

Contact Verine Ltd on 01787 472551
www.verine-lifestyle.co.uk

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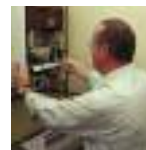
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BARBECUES



ELECTROLUX APPOINTS RECTELLA TO DISTRIBUTE POWERHOUSE BBQ GRILL

Electrolux has developed a premium range of outdoor cooking systems to appeal to the luxury barbecue market.

The company has appointed outdoor living expert, Rectella Bar-Be-Quick, to distribute the range of three gas-powered cooking systems to the UK.

Exclusively available from Rectella.

Tel: 01282 478200
www.barbequick.com

FIRES



MAGIGLO AFFINITY

For those homes without a flue, the Magiglo Affinity is now available as a power-flued model, the Affinity Power. The Affinity Power offers a choice of fascia finishes and either coal or pebble fuel-beds, plus numerous flue configurations to assist with placement of the fire.

Tel: 0800 731 0696
www.magiglo.co.uk/lpg

CLS Cleaning Up in London

CLS Dual Fuel Ltd and BRC have focused on the demand for congestion charge exempt vehicles for London and, after research and development, have put the Citroen Berlingo, Peugeot Partner, Smart Car, Citroen C1, Toyota AYGO, Peugeot 107 and Ford Transit onto the PowerShift register.

Established in 2000, CLS Dual Fuel Ltd swiftly became one of the country's leading specialist lpg conversion companies based in northeast England. Providing a tailored solution in alternative fuelled vehicles and covering both the public and private sector markets, the company succeeded in its aim to offer a convenient service designed to reduce both the running costs of petrol powered vehicles and their emissions.

Nearly seven years on and over one thousand vehicle conversions later, CLS is currently installing around two

hundred vehicles a year and prides itself on offering an unrivalled service to its customers, says Gary Bowden, managing director of CLS.

The opportunity to diversify the business came in 2005, when the company became an importer and distributor of the BRC lpg system.

"Prior to becoming an official importer of BRC lpg equipment, we had been converting for over five years at a consistent rate of four to five vehicles per week," said Gary. "During that time, we were trained on fitting a number of systems, which are still available today, until approximately two years ago when we installed our first BRC Sequent system.

"We were so impressed with the quality of the components and its operational abilities that we took it on board. Gradually becoming increasingly confident with the equipment, we were

CLS has put the Citroen Berlingo on the PowerShift register.



encouraged by frequent BRC software improvements and reliability, so when, in May 2005, we were given the opportunity to become importers of BRC, we jumped at the chance," he said.

BRC is one of the largest manufacturers of lpg/cng equipment in the world. Established in 1977 and with over seven hundred employees, it supplies over sixty countries worldwide, and is branded to PSA Group, Ford, Chrysler, VAG, Fiat, Mitsubishi, Subaru, Chevrolet, Suzuki, Hyundai, etc. BRC is not dependent on

outside production of its injectors or software updates, as in-house design and manufacturing make communication and development very simple, says Gary.

In addition to its system distribution, CLS also offers a national network of BRC installers, hand picked from over 200 Approved Installers for their knowledge and working standards, and dedication to customer service, he added. **Contact CLS Dual Fuel Ltd on 08000 612277 www.clsdualfuel.co.uk**

Heralding a Rebirth



Tony Braddon.

four other directors from the Milton Keynes management team. Tony Braddon was general manager of Prodrive Test Technology, which purchased Tickford in 2001.

"This is a very positive outcome for the business, our clients and our staff, almost all of whom were here when this was Tickford in 2001," said Tony. "The automotive engineering sector in Europe has experienced a number of difficult years and the business at Milton Keynes has weathered these times. With a forecast upturn in the market for flexible and responsive services, our business will build on its strong powertrain testing roots to consolidate a long term future with investment in both facilities and people."

Tony Braddon has been appointed managing director of Tickford Powertrain Test Ltd, which has been formed in a management buyout of Prodrive Test Technology (Europe) Ltd, the Milton Keynes based engine and vehicle test specialist, heralding the rebirth of the Tickford brand.

The buyout was led by Tony Braddon and backed by

Contact Tickford Powertrain Test Ltd on 01908 513049 www.tickford.eu

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AT URN

Government Responds to Petition

The Government has responded to an e-petition on Downing Street's website calling for the reduction or abolishment of road tax on lpg and electric powered vehicles. The petition, created by David Webber, collected 1,924 signatures.

"Since 2001, Vehicle Excise Duty has, in respect of cars, been graduated by CO² emissions," said the Government's statement. "This provides a signal to motorists of the environmental impacts of their potential choice.

"Electrically propelled vehicles (where this is the sole means of power) are already exempt from Vehicle Excise Duty.

"Lpg powered cars, including post manufacture conversions, are already eligible for the reduced Alternative Fuel Car rates within CO² emissions graduated Vehicle Excise Duty – applying to cars registered March 2001 onwards. Cars built or registered on, or before, January 1973 already receive an exemption from Vehicle Excise Duty. Cars registered between those dates continue to pay Vehicle Excise Duty under the Private/Light Goods Vehicles (PLG) class, which is structured according to engine capacity.

"This engine capacity

structure acts as a proxy for CO² emissions in light of the fact that CO² emissions data is not available for all cars registered before March 2001 – although CO² data is available for some of these cars, the Government has struck a balance that is as fair as possible to all given that many people own older cars for which CO² data isn't available.

"The Government has no plans to offer an incentive to people to convert older cars to run on lpg. The Government already supports take-up of liquefied petroleum gas through a Fuel Duty incentive (a lower rate of taxation on this fuel). This is currently guaranteed until 2008–09.

"The Government believes that it has got the balance correct in the current Vehicle Excise Duty exemptions it offers. In considering the case for further exemptions and reliefs, the Government has to consider the stability of its tax measures, the consistency of its environmental signal, and the costs of delivery – these would include initial implementation costs and ongoing administrative costs. Generally these factors tend to weigh against the case for further exemptions and reliefs, although all proposals are carefully considered on their merits," it said.

www.number10.gov.uk

Raising Awareness



Arun Autogas' Lpg Awareness Day.

Arun Autogas held its first Lpg Awareness Day at Northbrook College automotive workshops at Shoreham Airport in March.

There were a variety of lpg cars on display in the workshops and available for test drives, including new Ford Transit vans supplied by SMC Ford in Slough and Dagenham Motors. Snap-On provided gas analysers that were attached to some of the vehicles to demonstrate the lower emissions from lpg, and Carbon Clear demonstrated the ease of offsetting the remaining carbon emissions from the cars.

The event was attended by members of the public, fleet managers from large businesses, and representatives from local

councils and emergency services, there to find out about fuel savings and the availability of lpg, the congestion charge exemption and the environmental benefits of lpg and how it can help to fulfil sustainability policies.

"We would like to thank everyone who attended and helped with the event, especially Adrian Slaughter and his team from Northbrook, who were kind enough to let us use their workshops and classrooms," said James Joyce of Arun Autogas. "We are pleased to be making links with local companies and colleges and are looking forward to training some of their students to be lpg fitters of the future."

Arun Autogas has announced that it will shortly become a carbon neutral company, and will offer this service with every conversion or vehicle sold.

Contact Arun Autogas on 01903 715715
www.arunautogas.co.uk

Continuing Support

In his Budget speech, the chancellor, Gordon Brown, announced a continuation of the existing differential arrangement in the fuel duty between lpg and petrol/diesel through to 2010. Additionally, the Vehicle Excise Duty reduction for lpg cars registered after March 2001 was increased.

Converting a petrol vehicle to lpg reduces its carbon

footprint by 20 per cent.

Mike Chapman, autogas manager, LPGA, said: "This is a clear message of support for lpg for the long term, which gives motorists and fleet managers the confidence to purchase lpg vehicles and contribute to a cleaner motoring environment."

Contact the LP Gas Association on 01425 461612
www.lpga.co.uk

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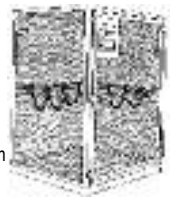
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L-R: John Martin, Logic Certification; Alan Parker, CORGI, and Graham Hawkes, BEGAS.

Logic Certification Retraining Miners

BEGAS Ltd, one of the UK's foremost training companies, has opened a new state-of-the-art gas assessment centre and chosen Logic Certification courses to train ex-miners. It opened its new centre in Barnsley on March 2, offering a range of courses, including lpg.

BEGAS has already trained more than 140 ex-miners, and 98 per cent of those are now working in the gas industry. Ex-Selby Coalfield miner's Steve Robinson and Dave Mirfin embarked on a training programme two years ago, gaining all of the Domestic Gas qualifications plus 16th Edition Electrical. Together they formed ECOGAS, a successful partnership in electric and gas services.

Steve Robinson said: "I met an ex-work colleague and he recommended BEGAS to me. At first the training was difficult, it was totally different to anything I'd done before and a bit hard

having to use my brain. I had been in the mines 20 odd years, but this was a lot better than working down the pits! The job is brilliant, being my own boss, and we have just started taking on extra staff.

"In terms of lpg, we've installed a few systems since starting ECOGAS, it's a popular choice in remote areas, where access to natural gas is limited."

Graham Hawkes of BEGAS, formerly known as Barnsley Industrial Training Centre, said: "We chose Logic Certification because we were convinced we could improve the service to our customers. We have found the assessment process has in fact speeded up considerably since our move. The technical backup has been excellent and the whole certification process has a much more professional approach."

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