

GAIN

Global Autogas
Industry Network

Autogas Updates



WORLD LP GAS ASSOCIATION

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Global statistics show autogas growth

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Worldwide statistics collected by the World LP Gas Association indicate that autogas continues to grow in world markets. Surpassing the 9 million vehicle mark last year, vehicles in operation worldwide during 2002 represent a 7% increase compared to the number of autogas vehicles on the road in 2001 and an 80% increase overall since 1998. The statistics also show that these vehicles were serviced by more than 36,000 refuelling sites worldwide (up by more than 10%) and that the automotive sector consumed 16 million tonnes of LP Gas, or 7.5% of the total LP Gas consumed globally (down slightly from 2001).

Some of the highlights include 37% growth to 89,000 vehicles in U.K.; 30% growth to 111,000 vehicles in China; 29% growth to 900,000 vehicles in Poland; 21% growth to 117,000 vehicles in Hong Kong, and 14% growth to 1.63 million vehicles in South Korea. In Mexico, consumption grew 47% to 1.26 million tonnes, evidenced by a 7.5% growth in autogas vehicles serviced by 1,400 fuelling stations.

In the Asia-Pacific region, markets in Japan and Thailand remained steady, but vehicle use in Australia, Taiwan, and Indonesia have tapered significantly. In the major European markets, the UK, Denmark, Germany, and Italy continue to see growth, but France, the Netherlands and Spain continue to slide. Eastern European autogas activity is led by Lithuania, Hungary, Bulgaria, Romania, and Poland – all of which have experienced a growth in vehicles of 10% or more over the last year.

For more information, the complete **Statistical Review of Global LP Gas 2003** is now available from WLPGA. To request a copy, contact the WLPGA by sending an email to: publications@worldlpgas.com. Members can find details on the members only section of the WLPGA website at www.worldlpgas.com.

What's New

- Next GAIN Council Meeting
23 January 2004
Istanbul, Turkey,
- 17th World LP Gas Forum
29 September-1 October 2004
Berlin, Germany
- Visit our website:
www.globalautogas.org

Autogas tops UK government clean list

In the UK, the Environment Agency published a list of the 20 most environmentally-friendly vehicles in its own fleet as a way to encourage environmentally-conscious companies to use the list for their own fleet vehicle purchase decisions. The Vauxhall Corsa 1.2 Dualfuel was ranked at the top of the Environment Agency's chart, followed by the Suzuki Alto 1.1 petrol and the Vauxhall Astra 1.6 Dualfuel.

The agency attempts to take a "well-to-wheel" view of green vehicles and encourage drivers to choose the greenest, most environmentally-friendly vehicles possible. The agency also offers financial bonuses to its drivers when switching to greener vehicles. The top 20 'green league' is created by a formula which calculates a vehicle's impact on global warming and air quality, using a combination of tailpipe emission and fuel economy figures. For more information: www.fleetnewsnet.co.uk.

Policy

Canadian autogas technology receives USEPA certification

In August, EDPRO Equipment Inc. (EEI), announced that its SEQUIN™ Dual fuel technology has received certification from the United States Environmental Protection Agency (US-EPA) for use on a 2003 Ford 4.6 engine platform. This certification demonstrates compliance with the Federal Interim Non-Tier 2 Bin 7 standard and has been designated a Low Emission Vehicle (LEV) under the Clean Fuel Vehicle (CFV) standard. Vehicle models covered by the certification are the 2003 Ford Crown Victoria Police Interceptor, Crown Victoria, Lincoln Town Car, and Mercury Grand Marquis.

“The fuel and maintenance cost reductions provided by this technology create a significant benefit for fleet operators such as police and law enforcement agencies, commercial fleet operators, governments, taxis, and limousine operators,” says Scott Davis, Vice President, EDPRO, who outlined the significance of these factors. “The lower emissions performance, including a 38% reduction in carbon monoxide, provides a significant opportunity for these fleets to support Canada’s commitment to environmental protection, reduced greenhouse emissions, and compliance with the Kyoto Accord.”

To achieve the US-EPA certification the EEI team invested considerable time and effort, including extensive testing conducted at the Environment Canada test centre in Ottawa. Canadian Standards Association (CSA) certification has also been received. An application was submitted and verification testing was completed by US-EPA at their National Vehicle and Fuel Emissions Laboratory in Ann Arbor Michigan, resulting in certification to operate on either autogas or gasoline. EEI’s goal is to be the alternate fuels technology leader in the areas of regulatory compliance, customer service and low emissions to specifically targeted fleet platforms in Canada, United States, and world markets. For more information contact: Scott Davis: sdavis@edproenergy.com.

All eyes on Australia, Prime Minister Howard

The Australian government’s announcement to remove the excise tax exemption currently available to autogas is creating a negative, rippling effect on the once-growing Australian autogas industry. The final decision is said to rest on Prime Minister Howard’s own desk and the Cabinet has agreed to support whatever he decides. The constituency, industry and alternative fuel motorists, however, appear to be of the strong mind that incentives should be continued. According to a recent survey, 74 percent of voters considered autogas environmentally friendly, and, given that endorsement, 92 percent of those agreed that use of autogas should be encouraged.

More support has come from the Lord Mayor of Sydney, Lucy Turnbull, who wrote to Prime Minister Howard and Health Minister Tony Abbott asking them to block the proposed LP Gas excise, arguing that it would discourage use of an efficient fuel and add to inner-city air pollution caused by petrol emissions. "This is a major public health concern, not only for the people who live in or near the city centre, but also for the hundreds of thousands of people who work in or visit the city centre every day," Mrs Turnbull wrote. In many ways, the decision to tax autogas seems to contradict what governments around the world hope to achieve by expanding the use of environmentally-friendly fuels. In the challenge to find sustainable energy solutions, mitigate climate change and improve urban air quality, now is the time to support – not abandon – autogas.

A lesson from India

A recent policy move by the Indian government in Mumbai highlights the underlying difficulty of implementing environmental policies – and reconciling them with economic realities. Grappling with measures to reduce the stifling air pollution, the High Court will phase out 15-year old heavy commercial vehicles throughout the city, and require that they be converted into autogas or CNG. The bold environmental move is however not without a steep cost to the local economy, according to transport operators concerned about their increasing costs of doing business. It has been estimated that the prices of essential (transported) commodities will rise and the operative cost of the trade will go up considerably. In fact, around 25,000 heavy commercial vehicles will need to stop operating immediately. Nonetheless, the court order stands as the city takes the necessary steps to improve the local air economy.

New Ford autogas in New Zealand

Ford's dedicated autogas engine, first introduced in 1999, has been extremely successful in New Zealand, helping owners save on operating costs and reduce greenhouse gases – and it just got better. Ford's new BA Falcon dedicated LPG engine is more powerful, more refined and more efficient than its predecessor. The new engine, dubbed E-Gas, pumps out 156kW of power at 4750rpm and 372Nm of torque at 3000rpm, while delivering the fuel costs of a small car. The car features a new calibration which delivers more power and torque, a higher compression ratio, hardened valves and seats, new balance hose, air box, refined installation, and new tanks. For more information, visit: www.ford.co.nz/lpg/eGas_home.asp



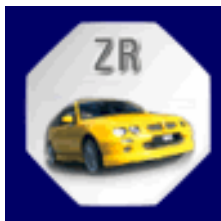
Autogas Outlander available

MITSUBISHI'S new Outlander will go on sale in the UK in January priced from £16,999. The compact sport utility vehicle crossover combines the high driving position of an off-roader with the practicality of an estate car. It uses a 2.4-litre petrol engine developing 158bhp and 158lb-ft of torque and will also offer autogas conversions. The entry-level vehicle includes four airbags, climate control, CD/radio, electric windows, alloy wheels and leather-trimmed steering wheel. Sport models add an electric sunroof, extra audio speakers, front fog lamps and a black wood effect dashboard for £17,999 on-the-road, while the Sport SE model adds leather seats for a price of £18,749 on-the-road.



Fast facts: new MG is a gas

The new MG Rover ZR+ LPG is priced at £13,445. It features a 117bhp, 1,796cc 4 cylinder petrol/autogas engine. The maximum speed is rated at 119mph, and 0-60mph in 8.6 secs. The vehicle gets 38.9 miles per gallon and comes with a 3yrs/ 60,000miles warranty. More information: www.mg-rover.com/



Proton Jumbuck



Proton has confirmed that its Jumbuck car-derived pickup truck is now available with an autogas option throughout the model range. For more information, visit www.proton.co.uk

Vietnam to introduce autogas motorbikes



As part of the plan to vehicle emissions in Vietnam, the government recently authorised the production of autogas motorbikes, designed by the Centre for Environmental Protection Studies at Da Nang University. In Vietnam, the vehicle population has been increasing rapidly, especially motorbikes which currently total over 10 million nationwide. Vietnam is also grappling with vehicle standards which are not strict enough to control vehicles. The newly authorised autogas motorbikes are hoped to address both problems, and are estimated to save 20% on the cost of fuel and reduce emissions by 75%. With a conversion kit, the motorcycle can run either on autogas or petrol. The Centre was working with PetroVietnam, who will be the main provider of autogas in Vietnam.

Europe

IMPCO partner BRC converts Italian government vehicles to autogas

President Giovanni Quaglia of Cuneo Province formally placed orders for the government's new vehicles to be converted to autogas by BRC SRL, a partner of IMPCO Technologies which commands a 25% market share in the alternative fuels conversion industry in Italy. The first 21 vehicles, mainly Fiat and Lancia, have already been delivered to the government as a first step by the Province in support of new environmental policies. Officials have expressed satisfaction with both vehicle performance and the fuel cost savings being achieved. It is anticipated that the entire Fleet will be converted, along with President Quaglia's own vehicle.



Effective May 8, 2003, IMPCO Technologies purchased 50% of BRC SRL, bringing together two leaders in the alternative fuels industry. Combining the resources of these two businesses is expected to improve respective manufacturing, technical and sales capabilities. BRC, located in Cheraso, Italy, has annual sales approaching US\$40 million and is a major global supplier of alternative gaseous fuel products and systems used in automobiles.

Vauxhall sells 3,000 autogas vehicles in UK this year

Vauxhall Motors recently demonstrated its firm leadership in autogas sales with the delivery of its 3,000th dualfuel vehicle this year. This is the first time the 3,000 figure has been reached. The initial target was 3,100, but although the market has flattened due to the ongoing consultation period over road fuel gases, Vauxhall expects the figure to be nudging 4,000 by the end of 2003. Sales in 2002 were 2,390. The Vauxhall Astra leads the sales table with 987 registrations. New Vectra Dualfuel registrations are 557. In the important van market the award-winning Combo has seen 830 registrations and the Astravan 319. "We are encouraged by the big rise in sales," said Ian Blinder, manager, special vehicles. "It confirms that our faith in the dualfuel concept was well placed. We were first in the marketplace and we intend to remain at the top of the sales table."

Vauxhall has the widest range of dualfuel models, taking in Corsa, Astra, Astra Coupe, and Zafira cars and Combo and Astravans. Vauxhall cars and vans use 1.2 litre, 1.6 8v, 1.6 16v and 1.8 litre engines.

Paris contemplates Congestion Charge

London's congestion charge, highly regarded for decreasing city traffic by 16 percent and spurring a transition to clean autogas is now being considered in Paris. The French Ecology Minister, Roselyne Bachelot has suggested that the imposition of a congestion charge would be one way of combating Paris's high pollution levels. France is already bracing for a 2.5% per litre diesel price rise next year which has been presented as an environmental tax. Meanwhile in Paris the pollution levels are so high that speed restrictions were imposed on several days in September. In 1997, to combat pollution the authorities allowed vehicles to enter Paris on alternate days depending on odd or an even number license plates. The congestion charge is considered a balanced policy measure which can contribute to a city's well-being, both in terms of mobility and the environment.

Investment continues in Russian LP Gas stations



Royal Dutch/Shell plans to build three autogas stations in Moscow, after winning a tender for land plots in the city. The move is part of Moscow's push for switching more vehicles to autogas, which local officials claim pollute less than petrol. The program will start with municipal buses. Each autogas filling station will cost between \$300,000 and \$1.5 million to build. There are currently 22 autogas stations and about 700 gasoline stations in Moscow. Shell currently has six gasoline stations in Russia, all in St. Petersburg.

In the September 15 issue of Autogas Updates, we reported that Gazprom affiliate company Sibur plans to expand its network of autogas stations because it expects demand to surge fivefold to reach 1.5 million tons per year by 2010, up from 300,000 tons per year this year.

Autogas taxis are part of Hong Kong air quality solution

Joggers and other fitness enthusiasts were warned to stay off the streets of Hong Kong recently as thick smog coming from southern China blanketed the city. The pollution is believed to come from vehicle exhausts, factories and power plants in the heavily industrial southern region of China bordering Hong Kong. The government is trying to work out the "regional pollution problem" and is implementing clean air measures of its own. One successful step has been to replace 18,000 diesel taxis with autogas; and it is encouraging the replacement of the existing diesel light buses with ones that are run on autogas. According to the Environment Ministry, Hong Kong expects to see continuous improvement in roadside air quality in the coming years as these measures are increased.



Autogas awareness drive in India

Pune, India. In a bid to increase awareness about the major advantages of the use of autogas, a wide range of cars (including new models such as Ford Ikon, Baleno, Lancer) and autorickshaws fitted with autogas kits were on display at one of the retrofitting centres in the city. In India, autogas is considered environmentally superior to petrol and diesel – and it delivers a fuel cost saving of roughly 50 percent. A wide range of automobiles, including those with Multi-Point Fuel Injection (MPFI) engines, can now be retrofitted with autogas at over 30 conversion centres throughout the city. For MPFI engines, the cost of the conversion kit is around Rs 28,000. For autorickshaws, the kit costs around Rs 16,500. The city now has three autogas dispensing centres where it is available at Rs 17.85 per litre. Dealers admit that the comparatively higher cost of the kits has been hindering vehicle owners from using autogas. Since the kits are of foreign make, the cost is high, and has limited conversions to about 275 vehicles in the past year. In comparison, unauthorised conversion kits (which are still available) cost only Rs 12,000. However they are unsafe, illegal and can lead to penal action against the vehicle owners using domestic LP Gas cylinders. The police have been undertaking drives against such illegal practices.

Tianjin, China to investment in autogas stations

Tianjin will invest 105 million yuan (12.6 million US dollars) until 2007 in building 25 natural gas and liquefied petroleum gas (LPG) filling stations for vehicles, according to the local infrastructure development plan. About 75 million yuan (9 million dollars) will be spent on 15 natural gas stations, and 30 million yuan (3.6 million dollars) on 10 autogas stations.

Melville, Australia believes in autogas

The City of Melville has recently purchased three new Mitsubishi Magnas for the city patrol fleet, each of which run on dedicated autogas. The new vehicles add to the city's existing fleet which already features 38 dedicated autogas Falcons and four dual use vehicles.

The City of Melville states that it has been able to reduce its carbon dioxide emissions by 11% as result of changing petrol vehicles to autogas, and that there are many benefits to moving to a type of fuel that is more sustainable and environmentally friendly. The autogas option on the vehicle costs \$867 and savings in fuel cost can recoup this amount in 23,000 kms at today's prices, according to data collected from the city. After the option cost is paid for, the city saves 3.8 cents per kilometre, which equates to approximately \$3,000 per vehicle per year. Over the year, a cost saving of \$15,000 for the whole security fleet can be obtained. The conversion of the fleet meets a number of the city's strategic objectives, including cost savings, reducing greenhouse emissions, assisting progress in the Cities for Climate Protection Programme, and enabling the city's business units to be more competitive.



Americas

US autogas stories...in the news

Knoxville Adds Autogas Hybrid Trolleys to AFV Fleet



The East Tennessee Clean Fuels Coalition recently announced that Knoxville Area Transit (KAT) will soon debut four autogas-hybrid electric trolleys to serve downtown Knoxville as part of KAT's Clean Fuels Program. KAT currently operates five dedicated autogas vans that serve the University of Tennessee, and aims to operate almost completely on alternative fuels within the next five years. The first autogas-hybrid electric trolley is scheduled to begin operating this year.

Propane Industry Survey of National Parks Finds 75 Percent of Respondents Use Propane



National Park Service
U.S. Department of the Interior

A survey of U.S. national parks' fuel usage found that 75 percent of the parks polled use propane for various applications, with less than 20 percent using natural gas. The survey results also indicate that there is potential to expand propane's footprint within the national parks, with respondents noting they were interested in using propane as a motor fuel to run their commercial fleets. In 2002, the propane industry partnered with Ford Motor Company, the National Park Foundation, Glacier National Park and Glacier Park, Inc. to fund and provide technical support for the installation of an autogas fuel station at the Conoco Highlands Resort at the entry to the park in West Glacier, MT. The station serves as the main fuelling station for the 33 refurbished red "jammer" autogas buses that were recommissioned in June 2002.

Sacramento to build 6 new autogas stations



The California Energy Commission and the US Clean Cities program are contributing funds to the construction of new autogas fuelling stations in Sacramento California. Delta Liquid Energy received \$250,000 to build the stations. "California leads the nation when it comes to alternative fuels," Energy Commissioner James Boyd said in a press release. "The Commission's latest Integrated Energy Policy Report calls for alternative fuels to replace 20 percent of the state's on-road fuel consumption by the year 2020. By encouraging cleaner, alternative fueled vehicles, this policy helps to protect the air quality of our cities. Diversifying our transportation fuel supply also helps to cut the growing demand for petroleum in California, protecting consumers from price spikes and gasoline shortages."

EPA tightens vehicle conversion standards

Recent moves by the EPA have tightened the certification standards for vehicle conversions, which may have serious implications for the 250,000 propane vehicles in the United States -- most of which are conversions. The new standards are estimated to severely limit the availability of conversion kits in the short term. However, new autogas vehicles from Ford may help meet vehicle demand. Other companies have changed their business strategies in order to comply with the EPA guidelines by slimming down the number of vehicle applications for which they offer kits and selling only the more popular conversion kits. Industry experts have forecasted that smaller companies will join together to merge capital and human resources.

Fleet managers are encouraged to get vendor proof that conversion kits are EPA certified. Non-certified vehicles will not count toward EPACT compliance, and operators could be subject to stiff penalties. For questions about conversions, call the National Alternative Fuels Hotline at 800-423-1DOE, or browse the Alternative Fuels Data Center web site at: www.afdc.doe.gov.



Repsol to increase Bolivian LP Gas production 50%

Spanish oil company Repsol YPF aims to increase its LP Gas production in Bolivia by 50 percent, to about 450,000 tons a year (t/y), primarily to be sold as fuel for vehicles. LP Gas use for vehicles is currently prohibited, but the government is under pressure to change the law as people already use it. According to Repsol, LP Gas use in vehicles could be an important source of gas domestic demand in the near future, and would require limited investment to upgrade existing production capacity.



Did you know ?



If all of London's taxi cabs were converted to Autogas, 3,000 tonnes less soot would be produced per year from vehicle emissions. In Japan, 90 per cent of all taxis are Autogas powered and manufacturers such as Nissan and Toyota all produce factory made mono fuel Autogas taxis.

Autogas vehicles can significantly reduce the output of key target pollutants - nitrogen oxide (Nox) and particulates as well as contributing to reductions in carbon dioxide emissions which lead to global warming.

For more fast facts, visit: <http://www.greenfuel.org.uk/>



Online Resources

- The California Energy Commission has a webpage devoted to assisting propane/autogas vehicle users, including information on vehicles, conversions, fuels, and a useful map to the thousands of locations (mostly at service stations) that sell autogas. To learn more, visit: <http://www.cleancarmaps.com/home/>
- Thinking of converting to autogas? Greenfuel, a company which aims to make it as easy as possible for you to do so, has just launched a new website to help you work out the practicalities of getting it done on your car. At the heart of the new site is a database covering a staggering 46,000 different vehicles. These are cross-referenced with the appropriate conversion systems, details on cost and fuel savings, grants available and congestion charge exemptions, as well of course as the CO2 savings you'll achieve. For more information, visit: <http://www.greenfuel.org.uk/>
- GAIN. Visit the Global Autogas Network website for information on autogas, vehicle offerings, policy drivers and electronic versions of Autogas Updates. www.worldlpgas.com/gain

Calendar of international events

Programme on Policies for Alternative Energy Driven Vehicles

18 - 21 January 2004, New Delhi, India
www.worldbank.org/wbi/cleanair/caiasia/

Global Alternative Fuels Forum for Automotive and Stationary Applications

2 - 4 March 2004 - Hamburg, Germany
www.theenergyexchange.co.uk/

10th Annual Fuels & Lubes Asia Conference

2 - 5 March 2004 - Shanghai, China
www.flasia.info/events/events_details.htm#10_annual

US/International LPG Seminar

8-11 March 2004 - Houston, TX, USA
www.purvingertz.com

European Fuels Conference

15 - 17 March 2004 - Paris, France
<http://www.wraconferences.com/>

AEGPL Congress 2004

2-4 June 2004 - Barcelona, Spain
<http://www.aegpl.com/htfr/frameset2.htm>

17th World LP Gas Forum

29 September - 1 October 2004 - Berlin, Germany
www.worldlpgas.com/forum

GAIN: Network News

WLPGA review of Autogas Strategy

It's been nearly three years since GAIN was established as a network for the global autogas community to share its collective experience and to develop innovative solutions for new market development. Over this time, many changes have occurred in the area of alternative automotive fuels. Concurrently, technology advances have enabled conventional fuels such as petrol and diesel to improve emissions performance and start competing with autogas as a clean fuel. These changes have occurred during a period characterised by a greater awareness of the fragility of our environment and the negative influence of pollution caused by human activity. Agreements such as the Kyoto Protocol have focussed governments and consumers alike into demanding less polluting forms of transport.

In the light of these changes, the WLPGA undertook an autogas strategy review in October during the World LP Gas Forum in Chile, with the objective of ensuring the WLPGA continues to provide maximum value to its members in the autogas business. To assist in the review, a survey was prepared and distributed to WLPGA members to understand: The key events that have influenced the global autogas business in the last two years; the threats and opportunities for autogas and what specific actions the WLPGA should take to support autogas market development.

Among the key findings from the survey:

- Growing competition from other fuels needs to be addressed, particularly diesel in the passenger car market and CNG in the fleet market. This competition may threaten governmental reviews of tax incentives.
- Environmental pressures, especially in developing countries and/or polluted cities will continue to provide opportunities for autogas fuelled vehicles through governmental support.
- The WLPGA was encouraged to: Increase the outreach to customers and assist in communication efforts towards policy makers, particularly in areas where autogas incentives are under threat. Respondents also suggested working closely with OEM's and support new markets in developing countries.

The full report is available on the WLPGA web site at www.worldlpgas.com in the members only section. Results of the survey will be included in the GAIN action plan for 2004 which will be communicated to you in our next issue of *Autogas Updates*.

I wish you all the best for the festive season.

James Rockall

Director, Market Development

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17th World LP Gas Forum - Berlin, Germany

29 September – 1 October 2004



It's never too early to start planning! The 17th World LP Gas Forum will take place in Berlin, Germany, on 29 September - 1 October 2004, at the InterContinental Hotel. The World LP Gas Forum is the premier global conference & exhibition on LP Gas, attended every year by over 400 top executives of LP Gas companies from all around the world. Visit the WLPGA website at www.worldlpgas.com to learn more about the proceedings from our recent Forum in Santiago, Chile.

For more information on the 17th World LP Gas Forum or to receive future announcements for the conference and exhibition, contact the Forum Organising Secretariat COLLOQUIUM, by phone +33 1 44 64 15 15 or email worldlpgas@colloquium.fr.