GAS ENERGY AUSTRALIA SUBMISSION

AUSTRALIAN GOVERNMENT

DEPARTMENT OF THE ENVIRONMENT AND ENERGY

Better fuels cleaner air – Discussion Paper

December 2016

Gas Energy Australia

Gas Energy Australia Submission to

The Department of the Environment and Energy

Better fuels cleaner air – discussion paper

10 March 2017

The Director
Fuel Quality Standards Section
Environment Standards Division
Department of the Environment and Energy
GPO Box 787
Canberra ACT 2601 Email: fuel.policy@environment.gov.au

Dear Sir

Gas Energy Australia is pleased to make a submission responding to the Department of the Environment and Energy Better fuels cleaner air Discussion Paper (Discussion Paper) December 2016.

Gas Energy Australia supports the direction of the work done by the Department of the Environment and Energy, noting the desired outcomes in the Discussion Paper that better quality fuel leads to reduced noxious emissions which then leads to better air quality and health, with clean air resulting in less exposure to harmful pollutants, reduced deaths, illness and hospital admissions and ultimately lower health costs.

The Discussion Paper links better quality fuel as a pre-cursor to accessing better vehicle technology and better vehicle technology means vehicles fitted with better emissions control systems and more fuel efficient engines. Gas Energy Australia contends that fuel switching can also play a vital role in improving air quality, reducing greenhouse gas emissions from vehicles, and helping to meet Australia's 2030 greenhouse gas emissions reduction targets

In relation to the Discussion Paper, Gas Energy Australia supports the recommendations for no change to the Autogas fuel quality standard, and stands ready to work with the Department of the Environment and Energy on CNG and LNG standards should they be required. Gas Energy Australia suggests that fuel switching be considered as a viable consideration to improving air quality and reducing greenhouse gas emissions

Gas Energy Australia welcomes the opportunity to further discuss this submission in relation to gaseous fuels and looks forward to working with the Department of the Environment and Energy to realise the many environmental and health benefits that would flow from greater use of gaseous fuels.

For your consideration.

Yours sincerely

John Griffiths
Chief Executive Officer

1. Gas Energy Australia – who we are?

Gas Energy Australia is the national peak body which represents the bulk of the downstream gaseous fuels industry which covers Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG) and Compressed Natural Gas (CNG). The industry comprises major companies and small to medium businesses in the gaseous fuels supply chain; refiners, fuel marketers, equipment manufacturers, LPG vehicle converters, consultants and other providers of services to the industry.

GEA applauds the Government's actions in taking a whole-of-government approach to vehicle emissions. It is through looking at all three aspects of vehicle emissions – CO2, noxious emissions and fuel quality that the best outcome will be achieved for both consumers and the environment. Particularly as focusing on one aspect of emissions may change consumer behavior to such an extent that other undesirable results occur.

For example, if the Government were to examine CO2 emissions in isolation it may result in an increase in the dieselisation of the fleet, such as occurred in Europe. Whereas, looking at vehicle emissions in their entirety will ensure that noxious emissions of oxides of nitrogen and sulfur (NOx and SOx), particulate matter (PM), hydrocarbons and carbon monoxide (CO), which are all harmful to humans, are also included in the discussion.

With transport accounting for around 17 per cent of total emissions in Australia, there is significant scope for this sector to contribute to the Government's environmental objectives. In particular, GEA supports the Government's commitment to maintaining a technology neutral approach to assessing the implementation costs, environmental benefits and other impacts of different policy options to ensure that the most efficient and cost effective option is pursued rather than the most popular.

Australia has vast supplies of affordable LPG and natural gas which both have a low carbon and noxious chemical content. Hence, the gaseous fuels industry is confident that it can assist the transport sector to achieve improved emission and environmental outcomes with the aid of supportive government policy settings. For example:

- Gas fueled vehicles emit less CO2 than their petrol equivalents.
- Gas fueled vehicles have negligible levels of noxious emissions such as particulates, SOx, NOX particularly when compared to diesel vehicles.

Additionally, gaseous fuels are indigenous fuels, which increases Australia's energy security as we are not reliant on imported fuels. Gaseous fuels are also locally produced and distributed, generating jobs and economic benefits for Australia.

Greater use of gaseous fuels would improve air quality in Australia

2. Gas use in transport

Gaseous fuels are a significant source of energy in Australia, providing energy for homes and businesses and the fuel to power vehicles. The LPG sector alone in 2015 had domestic production totaling over 1.8 million tonnes of product. Of this, 610 kilo tonnes was delivered to consumers in accordance with the *Fuel Quality Standards Act 2000 (Act)*, Fuel Quality Standards Regulations 2001, the Fuel Standard (Autogas) Determination 2003 and the Fuel Standard (Autogas) Amendment Determination 2013 and used as Autogas.

The Energy in Australia 2014 publication by the Bureau of Resources and Energy Economics (BREE) estimates that 3 per cent of energy consumption in the transport sector is Autogas (LPG) and that natural gas (LNG and CNG) account for approximately 2 per cent of transport energy consumption.[1] Gas Energy Australia members and the community have a significant interest in the operation of the Act, especially since 5 per cent of the energy consumed by the Australian road transport sector each day is sourced from gaseous fuels.

The role of gaseous fuels in Australian road transport is illustrated by there being:

- almost 380,000 LPG powered vehicles in Australia;
- in excess of 3,300 dispensers supplying Autogas to Australians every day;
- over 4,000 CNG buses carrying commuters; and
- over 3,700 natural gas powered rigid trucks and non-freight carrying vehicles.

3. Gaseous fuels and air quality

Greater use of gaseous fuels in both transport and stationary energy applications would deliver a cleaner environment, with reduced pollutants and emissions including improved air quality in line with the core objectives of the *Fuel Quality Standards Act 2000.*

LPG powered vehicles emit significantly less pollutants of the sort that cause air pollution than petrol or diesel powered equivalents. The WLPGA Autogas, European Commission life Cycle Assessments found significant reductions in pollutants using Autogas. These are;

- Autogas emits 22 per cent less CO2 than petrol;
- Autogas emits 95 per cent less NOx than diesel;
- Autogas emits 68 per cent less NOx than petrol; and
- Autogas produces 120 times less small particle emissions than diesel vehicles[2] .

[1] Bureau of Resources and Energy Economics - Energy in Australia 2014
2 WLPGA Autogas, European Commission Life Cycle Assessment

Natural gas fuels also offer significant advantages particularly over diesel fuels, with CNG and LNG being cleaner and healthier in the following areas:[3]

- 30 per cent lower CO2;
- 75 per cent lower NOx;
- 90 per cent fewer particulate emissions; and
- 99 per cent lower Sox

While the extent of the superior environmental performance of natural gas powered engines over their diesel equivalents can vary somewhat depending on the composition of the natural gas and the type of engine used, that superiority has been consistently demonstrated in studies conducted in different countries. Further, and as discussed in the Working Towards a National Clean Air Agreement Discussion Paper, in June 2012, the World Health Organization announced there was now sufficient evidence to conclude that diesel engine exhaust does cause cancer in humans[4]. Requirements to fit costly filters do result in the trapping of some of the pollutants associated with diesel exhaust. However, not only are many such filters an unnecessary expense for gas powered engines, but it is the finer particulates associated with diesel exhaust not caught by filters that are most harmful to humans.

In addition, natural gas engines are also noticeably quieter than diesel powered engines. Consequently, greater use of gaseous fuels through fuel switching – converting existing vehicles to run on gas or purchasing new vehicles that run on gas – offers the prospect of reduced noise as well as improved air quality.

There are costs associated with converting existing vehicles to run on gas and gas powered new vehicles often cost more than those powered by the dominant fuel source. But the cost of gaseous fuels is frequently less than that of the dominant fuel, especially in the transport sector, which offsets higher capital costs. As a result, switching to gas powered vehicles can be a very cost effective way to improve air quality.

4. Gas Energy Australia's response to the discussion paper

The better fuels cleaner air Discussion Paper highlights the link between air quality, vehicle emissions and health. It notes that for improved vehicle technology to achieve stricter emission levels, the vehicle technology must include improved fuel quality.

In direct response to the questions posed on page 50 of the Discussion Paper, GEA supports the recommendation that no change in the content of Autogas is required.

The Autogas section also includes questions 46 to 48 and GEA is pleased to offer the following.

46. Should a standard be prescribed for Compressed Natural Gas (CNG)?

The Discussion Paper canvasses engine technology and fuel quality interactions. Given natural gas fuels

[3] www.ferus.com/products-services/products/lng-cng
[4] World Health Organization Press Release 213 dated 12 June 2012.

in the form of LNG or CNG operate in a wide variety of engine fuel delivery system configurations, including dedicated, mono-fuel or monovalent, bi-fuel or bivalent, dual-fuel, or high pressure direct injection (HPDI) engines[5] and the current fuel quality is managed for the majority of gas supplied through private filling stations or a limited number of public facilities, there are a number of scenarios to be canvassed.

Given these different fuel delivery systems and gas supply arrangements, GEA would be willing to work with the Department of Environment and Energy should a decision to prescribe a standard for CNG be made.

47. Should a standard be prescribed for Liquid Natural Gas (LNG)?

See answer to Question 46 above.

48. Are there any other issues regarding emissions or operability?

Gas Energy Australia suggests that in relation to reducing emission, fuel switching to gaseous fuels could deliver reduced greenhouse gas emissions from vehicles, and help to meet Australia's 2030 greenhouse gas emissions reduction targets.

5. Recommendations

In conclusion, Gas Energy Australia:

a. supports the Discussion Paper's recommendation for no change to the Autogas fuel quality standard;

b. offers to work with the Department of the Environment and Energy on CNG and LNG standards should they be required; and

c. recommends that fuel switching be considered as a viable consideration to improving air quality and reducing greenhouse gas emissions

Gas Energy Australia welcomes the opportunity to further discuss this submission in relation to gaseous fuels and looks forward to working with the Department of Environment to realise the many environmental and health benefits that would flow from greater use of gaseous fuels.

[5] http://www.iangv.org/natural-gas-vehicles/engine-types/

Cleaner, Cheaper, Australian Fuels.

http://www.cleanercheaperfuels.com.au/

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Gas Energy Australia is the peak national body for downstream Australian gas