

“Capacity for Improvement” (Section 3)

Having stated this “big picture” view, NGV Australia, in what follows, addresses issues raised in the Green Paper, particularly those in Section 3, “Capacity for Improvement”.

NGV Australia is encouraged by the introductory remarks, believing that never ending media accounts championing totally unachievable concepts does nothing to keep the focus on the practical medium term alternatives. At the end of the day, that’s what it’s about – alternatives to petrol, diesel and LPG which offer superior fuel efficiencies and lower CO₂ emissions, and most importantly to the consumer, are more cost effective.

The overall thrust of Section 3 is straightforward, logical and sets the stage. To omit discussion on electric and hydrogen powered vehicles in considering short to medium term fleet options is a commonsense approach. The potential for electric vehicles to lower carbon emissions depends on the carbon intensity of the fuels used in its generation (currently of the order of 95% brown and black coal). As stated hydrogen presents “significant technical challenges” in terms of the extremely high pressures or the extremely low temperatures required to provide storage as well as the fundamental hurdle of producing hydrogen by carbon neutral methods.

The Role of Vehicle Technology (3.1)

NGV Australia has little argument with the points made in the paper regarding vehicle technology (Section 3.1). It is important however to understand that, natural gas, as a fuel for an internal combustion engine, and an inherently superior fuel at that (lower C:H ratio, higher octane rating, sulphur free, etc) offers the same potential engine and vehicle efficiency improvements as any other fuel. Indeed, the environmental benefits that natural gas offers have greater potential for carbon reduction in the future than any petroleum based fuel. Natural gas already delivers substantial benefits over petroleum fuels despite the fact that research spending carried out on gas engines globally is miniscule compared with the trillions spent over decades on R&D to improve petrol and diesel engines.

NGV Australia notes that several references to natural gas in the discussion paper appear to come from ill-informed sources or refer to old technologies.

Several overseas studies have concluded that overall, in “cradle to grave” terms, a natural gas fuelled hybrid vehicle is the best current option and is likely to remain so. In response to that research, Toyota, the world’s most successful vehicle manufacturer, has recently announced plans to introduce a CNG hybrid Camry into the North American market. Perhaps Toyota Australia could be encouraged to use the recently announced, highly publicised government grant to develop a CNG Hybrid Camry as well as (or instead of) the planned Petrol Hybrid.

Apropos the comment in relation to hybrids in the quoted King review,

“hybrid technology is not currently a cost effective solution for most drivers, but may become available in cars much more widely in the short term at a cost acceptable to many consumers”

then in view of escalating oil prices and the relatively low price of natural gas in Australia, a gas fuelled hybrid may well shorten the “short term” referred to.

The Role of Fuels (3.2)

This section is of the most interest to NGV Australia and hopefully this response will be of benefit to the discussion.

Indeed, “vehicle emissions, whether related to urban air quality or greenhouse, are clearly a consequence of the interaction between the fuel and the vehicle technology”. Oil companies and vehicle manufacturers and their views very much hold sway, globally, at present as regards the engine-fuel mixes available to users.

In real terms, there have been no alternatives available to bring to bear pressures on this, to date, very effective coalition. NGV Australia believes such an alternative (natural gas) is emerging, and in fact, has emerged in many countries, especially gas rich countries.

The natural gas alternative is real, is completely practical, and is there for the taking;

- the technology is advanced, improving and immediately available.
- unlike many other countries, Australia is served by an already extensive gas transmission and distribution network.
- Australia has indigenous, abundant and expanding reserves of natural gas.
- Businesses and the General public demand and deserve cleaner, less costly alternatives now.

It is a fact that today more than 9 million NGV's are in operation globally, which, although just 1% of the world's vehicles, proves THEY WORK! This number has increased from around 1 Million at the turn of the millennium and has increased at a rate of over 30% per annum for the last five years and appears to be accelerating. It also proves that all the necessary support facilities can be implemented quickly, and successfully and that they also work.

Fuel Quality and Cost Issues (3.2.1)

This section highlights the growing dependency of Australia on petroleum imports. It quite rightly records the positive steps taken to improve petrol and diesel quality, particularly reduced sulphur content. Natural gas is, of course, sulphur free except for a miniscule quantity of mercaptan added to odourise the gas.

The discussion paper states that “Japan, China and India are now also phasing in petrol and diesel to support Euro 4 compliant vehicles”. A point of interest is that those three countries are also strongly

the Government's plans to introduce a Carbon Trading Scheme, the introduction of fuel excise on lower emitting fuels would seem to be counter-productive.

Given the current costs of production and delivery of natural gas, and assuming a will on the part of governments to bring meaningful change, then if, as seems likely, crude oil prices will again approach \$US120 per barrel and an exchange rate of around US70c per AUD prevails, the differential is likely to be of the order of \$1.00+ per litre, or \$2,500+ p.a. for an average vehicle travelling around 20,000 km. This or a greater price differential, NGV Australia believes, would bring about the desired result.

NGV Australia strongly supports agreements with Australian car manufacturers (in preference to importers) because it is held that the Australian car manufacturing industry is of prime importance to Australian manufacturing in general, and because the development of a world class NGV manufacturing industry could lead to a significant export market as natural gas takes hold as the third option in other parts of the world, particularly Asia.

Potential Impacts (3.3.3)

A point to be made under this heading is that, in relation to those groups most severely affected by high fuel prices, escalating fuel prices (say 100% over the past few years) completely negates the cost savings available via increased vehicle efficiency, even in the long term.

NGV's offer long term price relief to "people living in socially disadvantaged outer suburban areas, the fringes of urban areas or in rural and remote areas".

Natural gas is available widely in Australia, but it should be borne in mind that a major move towards natural gas as a vehicular fuel would improve the economics of extending gas infrastructure to many areas currently not served – a wonderful opportunity to stimulate economic growth and facilitate environmental cleanup by industry and households as well as transport.

Principles for Design and Implementation (3.3.4)

NGV Australia agrees in principle that measures should not be "technology prescriptive" in terms of fuels or vehicle technologies, i.e. measure should be outcome based. However, this should not be interpreted too narrowly, or there will be no material move towards fuels other than petrol and diesel.

What is needed is certainty and if natural gas is to provide the way forward (and NGV Australia believes this is inevitable), governments need to offer leadership, starting with a strong statement that, given Australia's enormous gas reserves, dwindling oil reserves and the environmental benefits offered by the use of natural gas as a transport fuel, government is planning to implement a number of policies to ensure natural gas supplies X% of transport fuel by the year Y; e.g. 30% by 2020.

Unless such a guarantee is provided, industry cannot be expected to make the sorts of investments required.

Rationale for Complementary Measures (3.3.5)

NGV Australia is of the view that provided the measures presented in the Green Paper are put in place, together with:

- provision of funding for R&D to Australian engine and vehicle manufacturers to develop a world class NGV manufacturing industry
- provision of subsidies to offset the costs of CNG / LNG vehicle conversions, OEM production and public, depot and home refueling facilities.
- and small scale refuelers
- abandonment of the proposal to impose excise on natural gas as a vehicular fuel
- strong government endorsement of the value of, and intention to support the introduction of NGV's

then there would be little need for further measures.

In Australia natural gas is abundant, widely available, likely to remain cost competitive with petrol, diesel, LPG and all other alternatives on the horizon, and offers real benefits in terms of greenhouse gas emission reduction and urban air quality improvement generally.

There are over 9 million vehicles already using the proven NGV technology worldwide. The number is growing at over 30% per annum and accelerating making the natural gas vehicle market the fastest growing niche or sector, with enormous potential for rejuvenation for Australia's automotive manufacturing and parts industries for local and export sales.

It would offer some sort of return to the Australian companies already pioneering advances in NGV engine development and refuelling products and infrastructure for both CNG and LNG.

The balance of payments bonanza available by reducing petroleum imports would pay for extensive refuelling infrastructure in a short space of time.

We urge the review team to put aside the misconceptions and misinformation trotted out over the past decade and look beyond the traditional fuels. It is imperative that this working group reassesses the current state of play in developments and advances in NGV's and natural gas technology worldwide in order to fully understand the potential for natural gas in Australia.

To conclude, NGV Australia would urge the nation to put negative views of natural gas as a vehicle fuel behind it, and get on with a program to use its enormous reserves of a superior fuel to:

- speed up environment protection through improved emissions and a reduced carbon footprint;
- reduce transport costs;
- provide future energy security.

It is NGV Australia's view that Natural gas must and will become a significant mainstream fuel in this country, and it is only a matter of time and government commitment as to when that will be.