



HOLDEN

GM Holden Ltd
Trading as Holden
191 Salmon Street Port Melbourne
Victoria 3207 Australia
ABN 84 006 893 232
All correspondence to:
GPO Box 1714 Melbourne
Victoria 3001 Australia
Telephone (03) 9647 1111
Facsimile (03) 9647 2550
www.holden.com.au

28 July 2009

Ms Naomi Blesser
The Secretary
Select Committee on Fuel and Energy
PO Box 6100
Parliament House
CANBERRA ACT 2600

By email: fueleenergy.sen@aph.gov.au

Dear Ms Blesser

Inquiry into Fuel and Energy

GM Holden welcomes the opportunity to provide a submission on the Committee's expanded terms of reference. Our submission focuses on what we consider central to the development of appropriate policies for Australia's energy future: the crucial role for alternative transport fuels and technologies in securing Australia's energy security and reducing the transport sector's environmental footprint.

Within the appropriate policy framework, alternative fuels and technologies such as ethanol, LPG and electric-powered vehicles will help address the policy challenge the Committee has identified of "ensuring secure, reliable and affordable fuel and energy supplies in an environmentally sustainable way".

Equal treatment of alternative fuels and technologies will provide a fairer and more competitive landscape for developers to explore and innovate. It will provide consumers with greater choice of more environmentally sustainable vehicles which also meet their individual, family and/or business requirements.

Fuel diversification is key

Fuel diversification is key to achieving higher levels of transport fuel security and reducing CO₂ emissions from the transport sector. Greater emphasis should be placed on the importance of establishing and supporting multiple ways of displacing the use of petroleum in vehicles.

Importantly this strategy takes full account of Australia's natural and renewable resources as well as its capabilities and customer requirements. Several fuel alternatives bring

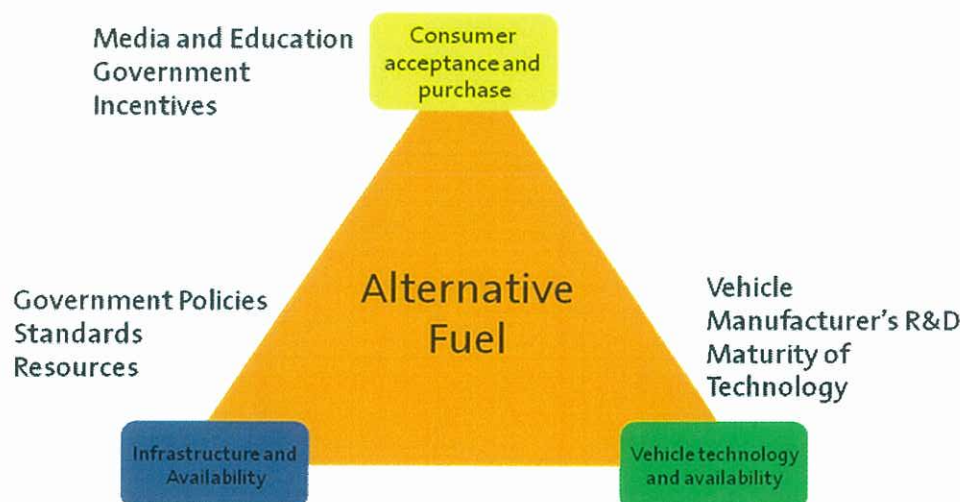
significant reductions in CO₂ emissions as well as addressing other societal concerns, potentially including waste disposal in the case of ethanol.

However, this requires recognition of the role which governments play in encouraging any challenge to a decades-old energy status quo. While industries can attempt to lead consumers down new paths, there is strong anecdotal evidence that consumer requirements that products be price-competitive are far more entrenched than concerns about national security and environmental sustainability might suggest.

Bringing new fuels to market

The following diagrams provide a useful illustration of what is required to bring a new fuel such as ethanol to market.

Figure 1: The Alternative Fuel Triangle



This "Alternative Fuel Triangle" illustrates the three points at which alternative fuels and technologies need traction to enable them to compete with the established sources of petrol and diesel: Technology Availability, Infrastructure Availability and Consumer Acceptance and Purchase.

Without a level playing field, it is inevitable that Australia's transport needs will continue to remain overly reliant on petroleum based products.

For example, a study by Sandia National Laboratories in the United States into the evolution of a complete biofuels supply chain found that ethanol could displace up to 30% of petrol required by the US transport sector by 2030 provided that there was government commitment to the production and distribution process and to technological progress. While the study (known as the "90-Billion Gallon Biofuel Deployment Study") is based on United States experience, GM Holden considers that its focus on biofuel deployment makes a number of its findings relevant world-wide.

In Australia, GM Holden is facilitating important discussions with the aim of establishing local 'second generation' cellulosic ethanol plants. While there is significant interest from the local business community, the high costs involved in establishing such a plant can provide a disincentive for investors particularly given:

- The uncertain investment climate created by the price volatility of petroleum-based fuels and the global financial crisis.
- The strong market and price advantage held by petrol and diesel in Australia.

Consumer acceptance and purchase of alternative fuels requires such fuels to be price competitive with petroleum based products as market research and experience has overwhelmingly established that consumers will not pay more for 'green' products. The relatively low cost of petrol and diesel in Australia, compared with other developed nations, makes it difficult for alternative fuels to be price competitive in their initial stages. This is more relevant given the significant start-up costs and the phasing-in of net excise taxes on biofuels from July 2011.

Table 1: Effective tax rate on Ethanol

	Effective Tax Rate (c/l)					
	Jul 2010	Jul 2011	Jul 2012	Jul 2013	Jul 2014	Jul 2015
Petrol	38.1	38.1	38.1	38.1	38.1	38.1
Ethanol	0	7.7*	15.3	22.9	30.5	38.1

** excludes impact of CPRS which further reduces ethanol production credit*

- While the use of renewable energy is expected to be mandated in the stationary energy sector through the Mandatory Renewable Energy Target (MRET), no similar target is established for the use of renewable fuel in the transport sector. This ignores the environmental benefits that would flow from the imposition of such target. It may also make it more difficult to establish a viable business case for second generation ethanol production because the costs of such production will rise as the required biomass inputs are diverted to the stationary energy sector to meet the MRET.

These barriers to investment also impact on the willingness of retailers to invest significant capital expenditure in the necessary infrastructure to enable them to provide alternative fuels like ethanol and CNG or charging facilities for electric vehicles.

This is particularly important in the current debate as many non-traditional energy investors have been exploring possibilities to break open the traditionally closed market of wholesale and retail supply. Alternatives inherently undermine traditional strengths of the oil industry.

Need for comprehensive policy framework

In GM Holden's view, Government has an important role in addressing these barriers by establishing a national vision for bio-fuel and other alternative fuel production in Australia over the next decade, and implementing appropriate policies and initiatives to achieve the vision.

Particular initiatives which should be considered as part of this comprehensive policy framework include:

- Assisting in the development of infrastructure to support the wider availability of alternatives fuels through the provision of taxation concessions, grants or incentives to companies involved in the production, distribution and/or retailing of alternative fuels;
- Offering tax concessions or rebates to purchasers of alternative fuel vehicles;
- Adopting a sophisticated approach to the assessment of alternative fuels that prioritises their environmental benefits over their availability to the market and recognises their total "well-to-wheel" CO₂ emissions, not simply tailpipe emissions;
- Structuring the fuel excise regime to enable ethanol to compete with petrol and diesel. GM Holden considers that the tax system can play an important role as part of a multi-decade energy policy that values stable fuel prices that are high enough to enable energy diversity in the light of oil price volatility and periodic economic dislocations.

GM Holden Energy Diversity Strategy

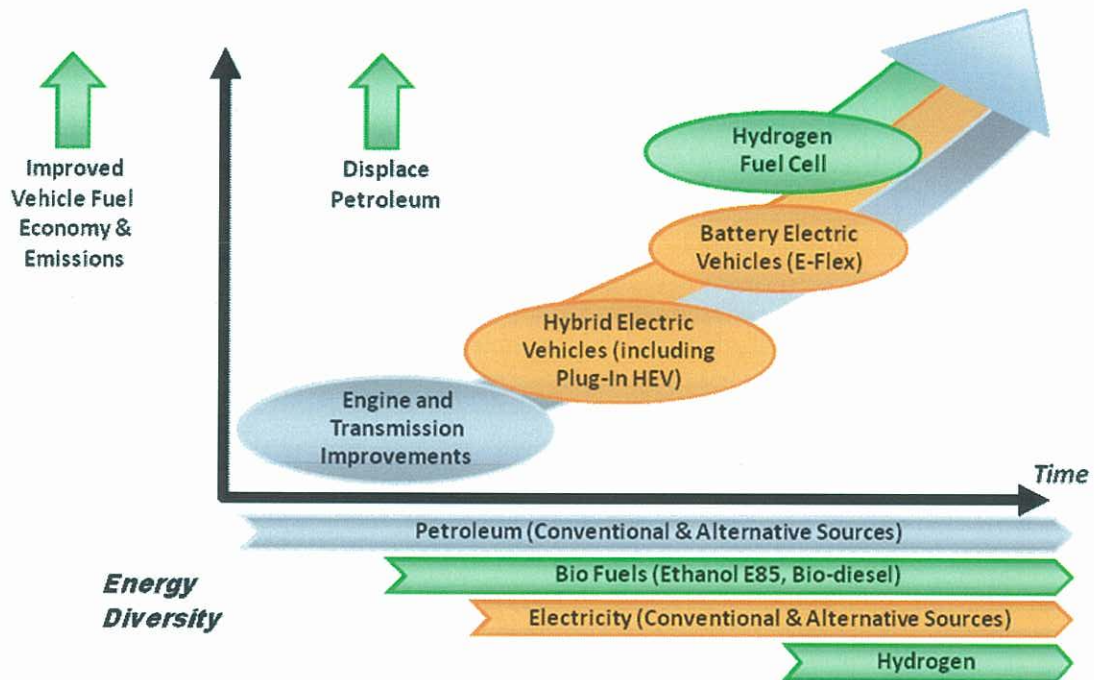
As Australia's oldest and most recognised automotive enterprise, Holden embraces its part in encouraging new ways of approaching this long standing issue. We appreciate our brand gives us responsibilities to explore and encourage alternative fuels, new technology and broader vehicle efficiency. Holden's Energy Diversity strategy has a number of fronts, including:

- The continued improvement of the efficiency of internal combustion engines, both petrol and diesel;
- Intensifying efforts to displace traditional petroleum-based fuels with biofuels such as ethanol and other alternative fuels such as LPG and CNG;
- Associated with this, the development of sustainable production processes, such as cellulosic ethanol production using carbon-based waste as feedstock; and
- The development and retail availability of electrically driven vehicles, such as hybrids, fuel-cells and extended-range electric vehicles.

This broad approach is based on our belief that there are multiple solutions to a future less dependent on petroleum and that given the varied uses for vehicles and driving environments, many technologies may come to co-exist in the marketplace.

Figure 2 below illustrates the multiple pathways and solutions for future vehicles.

Figure 2: Advanced Technology Map



For GM Holden, this is about providing consumers with greater choice of fuel efficient vehicles that are better able meet their individual requirements now and into the future. For example:

- We have recently implemented Active Fuel Management in automatic V8 powered engines across the range of locally built Commodore variants. Active Fuel Management shuts down four cylinders under certain light-load driving situations to increase fuel efficiency.
- We will introduce an E85 capable Flexfuel Commodore in 2010; and
- We have announced plans to launch the Volt extended range electric vehicle in Australia in 2012. The Volt has won widespread acclaim abroad for its ability to travel more than 60 kilometres on electricity before using petrol or producing tailpipe emissions. This vehicle is supported by a range-extending powertrain for longer journeys.

The Potential of Ethanol

Ethanol holds great promise as a mainstream 'greener' alternative to oil-based fuels. Given the relatively small costs involved to modify powertrain technology, ethanol could, with the appropriate infrastructure and support, displace up to 30% of domestic petrol consumption over the next decade. This would diversify Australia's transport fuel supplies and contribute to reducing Australia's greenhouse gas emissions. Moreover, it could create a sustainable local ethanol industry with all its flow-on economic benefits. These benefits could be spread equally across metropolitan, regional and rural areas.

Australia already has a promising bio-fuel industry which includes production of bio-diesel and ethanol and the arguments for ethanol become even more compelling when one considers the potential for it to be produced from biomass rather than food based sources. Whereas today's global ethanol is primarily made from corn and sugar cane, cellulosic ethanol is produced from non-food based biomass sources including:

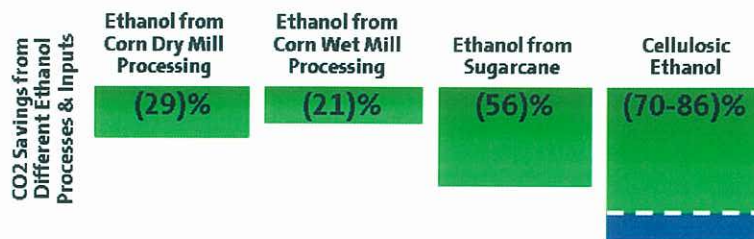
- Agricultural Residues (corn stover, wheat straw)
- Agricultural Wastes (sugar cane bagasse, rice husks, citrus pulp)
- Forestry Wastes and Wood Wastes
- Municipal Solid Wastes (including paper)
- Dedicated Crops (eucalypt, melaleuca)

Contrary to public perception, cellulosic ethanol technology exists now. GM has partnered with two bio-fuel companies, Coskata and Mascoma in North America. Both are about to begin producing cellulosic ethanol and are anticipating producing approximately 200 million litres each annually from 2011. Cellulosic ethanol technology is also ready for local commercialisation, with the potential for an Australian plant to produce up to 200 million litres per year.

Environmental benefits of Ethanol

Ethanol's potential stems from the fact that it is renewable and can be produced in volume from plants grown virtually everywhere in Australia. The single biggest benefit of E85 ethanol is its potential to reduce green house gas emissions. Depending on the source, CO2 emissions can be reduced by up to 86% compared to petrol. This is illustrated in Figure 3 below.

Figure 3: CO₂ Benefits from Different Ethanol Production Processes and Inputs



* Argonne National Labs & UCAR 2006

Summary

GM Holden urges the Government and related political interests to recognise the significant environmental and security benefits provided by alternative fuels and technologies by developing a comprehensive long term policy vision that enables them to compete with petroleum-based products. The policy framework around such vision will be critical in meeting the range of consumer requirements for vehicles which are both economically and environmentally sustainable.

GM Holden thanks the Committee for the opportunity to provide a submission on an issue of such critical significance to Australia and the world.

Yours sincerely



Jason Laird
Executive Director – Corporate Affairs



Richard Marshall
Director of Energy and Environment