BMW GROUP AUSTRALIA

RESPONSE TO QUEENSLAND PARLIAMENT IMPACT OF PETROL PRICING SELECT COMMITTEE

Introduction:

The Queensland Parliament's Impact of Petrol Pricing Select Committee has sought the views of BMW Group Australia on four key areas listed below in its inquiry into the impact of petrol pricing in Queensland and a number of related issues. BMW Group Australia understands the Parliament established the committee in response to the substantial and sudden rises in the prices of petroleum fuels during 2005, where Queensland motorists were paying around 50 percent more for unleaded petrol, 30 percent more for diesel and 38 percent more for LPG than they were at the beginning of the year.

Specifically, the Select Committee has sought BMW Group Australia's views on:

1. The efficacy, adequacy and comprehensiveness of the current fuel efficiency-labelling scheme for new motor vehicles. Should this be extended or amended.

2. How carmakers are responding to the possibility of sustained higher oil prices.

3. Initiatives by BMW to reduce the fuel costs of vehicles available in Australia. This includes plans to market vehicles that use alternative fuels and/or that have diesel, hybrid electric/petrol, LPG/petrol, CNG or more efficient petrol engines.

4. BMW's plans to manufacture small cars in Australia.

Overview response to Select Committee's questions:

The focus of the BMW Group on the broad issues of motor vehicle fuel consumption and emissions and its impact on the future of the motor vehicle has been through the BMW EfficientDynamics Project - a scheme aimed at reducing consumption and emissions from vehicles without sacrificing performance and dynamism and to also seek alternative fuel supplies.

The organisation has been pursuing this focus for many decades, while not losing sight of the fact that a few percent less fuel consumption through the entire model range gives the public and society in general more than a significant improvement in fuel economy.

BMW believes its work in these areas will make a substantial impact for the better on the future of the motor industry, the travelling public and the global environment overall. It also believes it will overcome the conflict of interests between 'sporting performance' and superior fuel economy, moving up to a standard of excellence never seen before.

At this stage, BMW Group has no plans to manufacture small cars in Australia. A range of local manufacturers adequately services the market, without the need for another to enter the scene and seek to meet demand for the premier vehicles.

The Federal government's initiative with the Green Vehicle Guide in relation to fuel efficiency-labelling scheme for new motor vehicles is in line with the government's overall direction of reducing greenhouse gas emissions. It is an offence to sell or manufacture a motor vehicle that does not comply with regulations made under the Motor Vehicles Standards Act 1989 and subsequent amendments. BMW Group Australia understands the government hopes that under the standard for fuel efficiency, the motor vehicle industry will be encouraged to develop more fuel-efficient vehicles. This has been the objective of BMW in the motor vehicle industry for many decades. BMW Group Australia believes that any government initiative to promote the saving of energy in motor vehicles is highly commendable and desirable. However, it has not carried out any surveys of BMW owners in Australia to determine the effectiveness or otherwise of the fuel-efficiency labelling scheme in relation to the purchase decision of a vehicle, or in relation to the commitment of other manufacturers to develop more fuel-efficient vehicles. It is, therefore, not in a position to add to the debate as to whether or not the scheme should be 'extended or amended', only to say that in general all major motor vehicle manufacturers are pursuing endeavours to enhance fuel efficiency and reduce consumption.

In relation to BMW itself, the key areas of work undertaken by the company in the area of greater fuel efficiency, lower emissions and alternative fuel supplies are in:

- Innovations in technology for far greater fuel efficiency on all models; and
- Its commitment to hydrogen as the most appropriate source of energy of the future for use in motor vehicles.

Under its Innovative Drive Concepts, the BMW Group has established the BMW EfficientDynamics Project for the further reduction of fuel consumption and emissions. The key technology initiatives developed under the Project are:

- High Precision Injection Technology and Brake Energy Regeneration, which BMW will be introducing within the next few years. These innovations in technology seek a significant improvement of fuel economy on all vehicles. The High Precision Injection Technology is the world's first direct gasoline injection system for large-scale production in the world. It seeks to reduce fuel consumption in a manner not offered by any of the existing solutions in the market on the combustion engine. Of particular importance with the new feature is that BMW's High Precision Injection no longer requires specific flow of fuel and air in the combustion chamber to provide the right mixture. BMW's engineers have been able to prepare the appropriate mixture by means of a stable, conical configuration of the injection jet entering the combustion chamber, the fuel/air mixture then igniting directly in the area of the injection jet. This is why experts refer to this technology as 'jet-guided direct injection' as opposed to air, or wall-guided injection. Under this technology the engine is now able to run on a lean mixture all the way from idle speed to high revs. This gives the motorist significant benefits in terms of fuel economy, making the big difference between BMW's solution and other concepts in the market that allow lean burn operation only within a small 'window'.
  A further feature of this new BMW technology package on all models is Brake Energy Regeneration and Automatic Start/Stop, which substantially improves fuel economy without forfeiting the 'driving pleasure' of BMW vehicles. Under the Brake Energy Regeneration, BMW is able to recover energy previously lost as heat on the

brake discs by introducing an intelligent alternator control concept. In simple terms, whenever the driver applies the brakes or just takes his/her foot off the accelerator pedal, the car's kinetic energy is converted by the alternator into electrical energy and fed into the battery. Stored in this way, the energy is now once again available in the on-board network for driving purposes. Ultimately, this means that the alternator and, accordingly, the car's combustion engine are both relieved in part of their workload and the system saves fuel in an intelligent manner. Overall, the 'package' of High Precision Injection and Brake Energy Regeneration, reduces fuel consumption by improving fuel economy by up to 10 per cent in the European test cycle and between 5-15 percent in everyday motoring, depending on the route taken by the driver and his/her style of motoring. This will be over and above BMW's VALVETRONIC engines already renowned for their outstanding efficiency. It should be noted that one of the features of all BMW's improvements is that they will be available on numerous models well before the actual introduction of the self-commitment made by the European Association of Automobile Manufacturers to reduce CO^2 emissions to 140 grams/km by the year 2008. BMW's strategy, therefore, differs significantly from that of other manufacturers.

- The BMW Active Hybrid Drive Concept supplements the conventional vehicle's transmission with an electrical power unit with integrated power electronics and leaves out the conventional converter. Energy is supplied to the power unit by high-performance capacitors, known as Super Caps. The Super Caps can out perform a self-charging battery by a factor of more than 10. This superiority is maintained throughout the usual driving mode, with the Super Cap offering a power density of more than 5KW/kg compared with not even 0.5 kW/kg provided by a conventional lead-acid battery. Hybridisation in this manner improves fuel economy in the standard European driving cycle by up to 20 per cent, while the active transmission enhances both the car's spontaneity and its dynamic performance. BMW has been working on hybrid drive since the early 90s and presented its first concept car with this technology at the 2005 Frankfurt Motor Show.

- The BMW CleanEnergy concept, the hydrogen combustion engine, which is fully suited to both large and small size cars in the BMW model range. The BMW Group has paved the way for hydrogen being the future strategy for mobility, having been researching the area with engines and vehicles since 1978. Hydrogen is acknowledged worldwide as the most appropriate source of energy for the future use in motor vehicles. In pursuing this path, BMW seeks to ensure individual mobility in the long term, while at the same time reducing emissions in general and CO^2 emissions in particular. BMW has been running vehicles with hydrogen fuel for the past five years. In May 2000, BMW became the first car marker in the world to introduce a fleet of demonstration models running on hydrogen – the BMW 750hL. Some of these cars have been brought to Australia and demonstrated to government officials at a federal and state level. BMW also has models offering a combination of both hydrogen and gasoline. By pursuing its hydrogen strategy, the BMW Group is going far beyond the usual activities serving to enhance the efficiency of existing gasoline and diesel engines, as well as the introduction of hybrid technology. BMW is therefore clearly committed to the use of hydrogen in the combustion engine offering the widest range of benefits due to its dual-model operation, its dynamic performance and high degree of all-round maturity. BMW sees the big difference between hydrogen and fossil sources of energy as that of the generation and use of hydrogen being directly embedded in the regenerative cycle of nature; as long as

hydrogen is generated from solar, wind and hydro-energy, as well as biomass, it is available with virtually no limitations and emissions. Over and above all its ecological and economical points is the fact that hydrogen has virtually unlimited supply and availability. Hydrogen is the most common and, at the same time, the lightest element in the universe.

- BMW Group is poised to introduce a 7 Series limousine in Europe shortly that will be fuelled by either petrol or hydrogen. This vehicle is scheduled to enter series production. It will use a conventional V12 internal combustion engine that will run on either fuel, bringing the vision of a hydrogen powered automobile to reality.

- BMW Group Australia has recently announced its intention to add two further diesel powered vehicles to its range in Australia. This will bring to five the number of vehicles offered with high output, low consumption and low emission engines. These vehicles provide substantial savings in terms of fuel use, despite the higher cost per litre of diesel fuel. From June 2006, BMW will sell the 120d priced from $47,800. Fuel consumption is rated at 6.6l/100km on the combined cycle and 5.5l/100km on highway.

The BMW Group Australia welcomes the opportunity to make this submission to the Queensland Parliament Impact of Petrol Pricing Select Committee and is available to provide further information if required.

Contact:
Alexander Corne
BMW Group Australia
783 Springvale Road
MULGRAVE VIC 3170
Tel 03 92644000