



AIP

AUSTRALIAN INSTITUTE OF PETROLEUM

Committee Secretary
Senate Economics Committee
Department of the Senate
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Mr Hallahan

AIP QUESTIONS ON NOTICE

Please find attached AIP's responses to the questions we took on notice during our attendance at the Senate Economics Committee hearings on **27 September 2006**.

We would be happy to discuss with you in detail any aspect of our responses, or clarify any issues raised during our appearance. Please do not hesitate to contact me on 6275 1214.

We would like to take this opportunity to thank you for the opportunity to participate in this Inquiry process.

Yours sincerely

Nathan Dickens
General Manager - Policy

3 November 2006

AIP QUESTIONS ON NOTICE

(1) National Fuel Standards Costs and Benefits

The implementation path of cleaner fuels standards in Australia was determined by:

- the community requirements for improved environmental performance (eg aromatics (benzene), olefins, MTBE, sulfur);
- facilitation of new engine technology (eg sulfur, lubricity, octane, cetane); and
- the ability of the Australian refining sector to adjust to the proposed fuel standards.

The cost of producing cleaner fuels varies between refineries because of the different existing equipment and configurations at each refinery. The changes to refineries are interdependent, for example, removing benzene significantly lowers the octane level. The octane requirement of the Australian vehicle fleet will increase over time as the proportion of new vehicles requiring premium unleaded petrol increases. Another major item is the cost, and more importantly the quality premia, applying to different crude oil feedstocks. "Sweet" crude oil with a lower sulfur content attracts a premium in the crude oil market as it requires less processing to achieve the reduced sulfur levels required by the cleaner fuel standards.

For petrol, the costly changes for Australian refineries were lowering benzene (benzene saturation) and lowering sulfur (desulfurisation capacity). These costs were estimated at over \$800 million to produce petrol with reduced sulfur and benzene. Also included in this estimate is the change from 1 January 2008 when Australian refineries will be required to meet Euro 4 standard for sulfur in Premium Unleaded Petrol (PULP). In addition, changes to the vehicle fleet will require higher octane because of greater use of premium unleaded fuels over time.

The major single capital cost item for diesel production was the construction and/or expansion of desulfurisation units to treat the diesel stream which was estimated to cost over \$1.2 billion. The cost estimate also includes the requirement to move to 10ppm sulfur diesel from 1 January 2009.

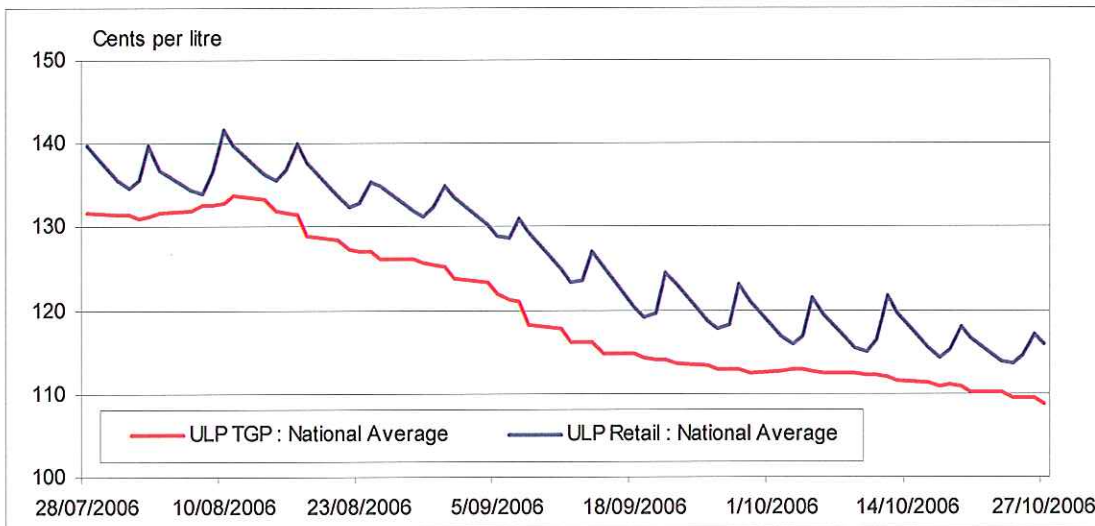
Improved fuel standards do not just require increased capital expenditure, but also increased operating costs (eg. increased hydrogen requirements for desulfurisation and increased energy requirements for reforming).

There has been significant examination of the costs and benefits of cleaner fuels in the United States by the US EPA and in Europe by UN ECE. In an Australian context there was significant research and debate coordinated by the Department of the Environment and Heritage in the lead up setting the national fuel standards. The DEH website contains a range of information on fuel standards which can be accessed at: <http://www.deh.gov.au/atmosphere/fuelquality/publications/index.html>. In particular, a key report is *"The Costs and Benefits of the New Fuel Standards 2000"* see <http://www.deh.gov.au/atmosphere/fuelquality/publications/pubs/summary.pdf>. This report summarises the rationale for the transition pathway which was finally adopted and includes an assessment of the engine and refining technologies. The report contains a detailed examination of the impacts on the Australian refining sector (pp90-108) including a cost estimate of \$1.3 billion to upgrade the refineries. The final cost of the cleaner fuel standards to Australian refineries has now been estimated at over \$2 billion.

(2) Movements in National Average TGP and Retail Prices

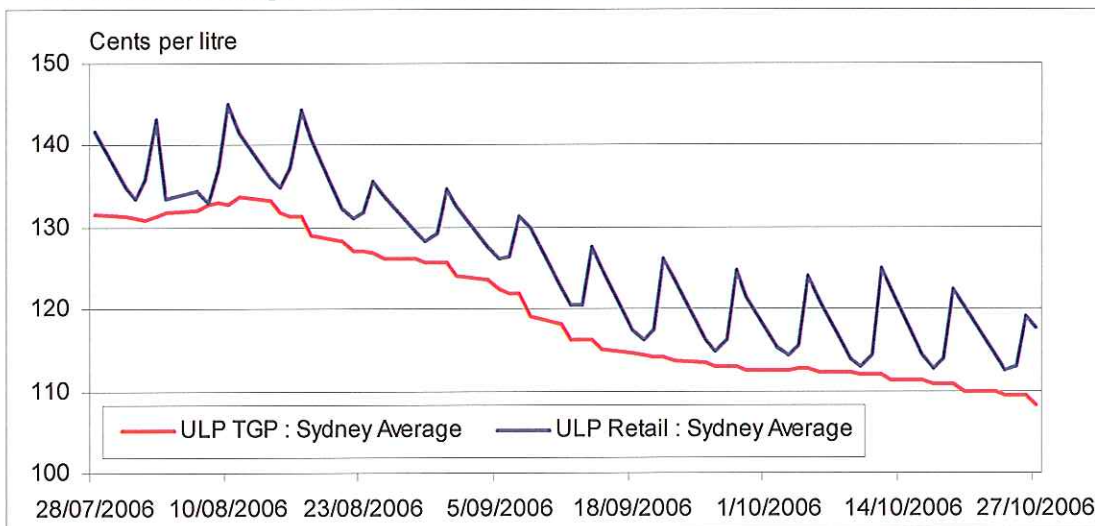
As requested by the Committee, outlined below is a chart showing movements in the National Average TGP for ULP and the National Average Retail Price for ULP over the last 3 months. The last data point is Friday the 27 October 2006. As show in the chart below and as noted by AIP at the Committee hearings, there is no relationship between movements in TGPs (which are based on movements in the components of the TGP algorithm we outlined at the hearings) and movements in retail prices as a result of the weekly retail price cycle.

National Average ULP TGP versus National Average ULP Pump Price



The same can be shown in capital city markets (Sydney in the example below).

SYDNEY Average ULP TGP versus SYDNEY Average ULP Pump Price



(3) International Comparisons of Petrol Prices (Pre & Post Tax)

The data underlying **Figure 17** in the AIP Submission (August) is provided below.

- The information contained in the OECD prices and taxes comparison table (Table 8A) below published in the Australian Petroleum Statistics, is obtained from the International Energy Agency's Quarterly publication "*Energy Prices & Taxes*".

On the request of AIP, the Department of Industry, Tourism & Resources (DITR) approached the IEA for an explanation of the different octane ratings in table 8A.

- The IEA advised DITR that *"Most of the quarterly information is submitted to us (IEA) by national administrations such as statistical offices, ministries, governmental agencies etc. Our quarterly questionnaire collects data on several gasoline type, as Premium Unleaded 95 RON, Premium Unleaded 98 RON and Regular Unleaded. Although we ask for these gasolines, we understand that in several countries different grades may be available for sale. The contacts are reporting the closest octane grade gasolines that is sold in their countries and noting the actual octane grade in the country notes."*

We consider that this advice suggests that although the octane ratings vary from country to country, the estimates in the table generally represent the prices for the most common grade of unleaded fuel in each country.

It is important to note that octane rating is only one, albeit important, parameter of unleaded fuel. Other parameters of the fuel define the most appropriate marker price for the fuel. For example, this is why Australian grade unleaded fuel is quoted in terms of MOPS95 (95 Octane unleaded).

5-Oct-06

TABLE 8A

COMPARISON OF AUTOMOTIVE GASOLINE PRICES IN OECD COUNTRIES

Date of Information	Local Currency/Litre		% Tax	Exchange Rate	Australian Cents/Litre		P-T
	Price	Tax			Price=P	Tax=T	
Mexico	6.493	0.9502	14.6	7.84264	82.8	12.1	70.7 unleaded regular, 92
USA	0.622	0.104	16.7	0.73976	84.1	14.1	70.0 unleaded regular, 91
Canada	0.927	0.313	33.8	0.85445	108.5	36.6	71.9 unleaded regular, 92
Australia	1.197	0.490	40.9		119.7	49.0	70.7 unleaded regular, 91
New Zealand	1.464	0.639	43.6	1.11202	131.7	57.5	74.2 unleaded regular, 91-93
Greece	0.92	0.477	51.8	0.61539	149.5	77.5	72.0 unleaded premium, 95
Japan	129.7	60	46.3	86.47477	150.0	69.4	80.6 unleaded regular, 91
Poland	3.724	2.068	55.5	2.35927	157.8	87.7	70.2 unleaded premium, 95
Czech Republic	28.18	16.34	58.0	17.62287	159.9	92.7	67.2 unleaded premium, 95
Spain	0.987	0.532	53.9	0.61539	160.4	86.4	73.9 unleaded premium, 95
Switzerland	1.59	0.847	53.3	0.95942	165.7	88.3	77.4 unleaded premium, 95
Hungary	262.65	150.31	57.2	156.6973	167.6	95.9	71.7 unleaded regular
Austria	1.041	0.599	57.5	0.61539	169.2	97.3	71.8 unleaded regular, 91
Slovak Republic	39.08	21.74	55.6	23.07804	169.3	94.2	75.1 unleaded premium, 96
Luxembourg	1.056	0.58	54.9	0.61539	171.6	94.2	77.3 unleaded premium, 95
Ireland	1.081	0.63	58.3	0.61539	175.7	102.4	73.3 premium unleaded, 95
Sweden	11.186	7.227	64.6	5.75318	194.4	125.6	68.8 premium unleaded, 95
France	1.212	0.788	65.0	0.61539	196.9	128.0	68.9 unleaded premium 92
Finland	1.212	0.788	65.0	0.61539	196.9	128.0	68.9 unleaded regular, 95
Portugal	1.224	0.765	62.5	0.61539	198.9	124.3	74.6 unleaded premium, 95
Denmark	9.169	5.864	64.0	4.59147	199.7	127.7	72.0 unleaded regular, 92
Korea	1470.9	877.37	59.6	734.3393	200.3	119.5	80.8 unleaded premium, 92
Germany	1.242	0.826	66.5	0.61539	201.8	134.2	67.6 unleaded regular, 91
Italy	1.251	0.772	61.7	0.61539	203.3	125.4	77.8 unleaded premium, 95
UK	0.889	0.603	67.8	0.42223	210.5	142.8	67.7 unleaded premium, 95
Belgium	1.321	0.822	62.2	0.61539	214.7	133.6	81.1 premium unleaded, 95
Netherlands	1.385	0.897	64.8	0.61539	225.1	145.8	79.3 unleaded premium, 95
Norway	11.14	7.118	63.9	4.94043	225.5	144.1	81.4 unleaded premium, 95
Turkey	2.603	1.76	67.6	0.98855	263.3	178.0	85.3 unleaded premium, 95
Average			54.7		174.3	100.4	73.9

^ Previous quarter
 * Country now reporting in Euro currency
 Exchange rates: Average of daily interbank rate for quarter, source OANDA currency converter (www.oanda.com)

SOURCE: Australian Petroleum Statistics, Department of Industry, Tourism & Resources (from the International Energy Agency's Quarterly publication "Energy Prices & Taxes").