Executive Summary

1. The Consumer Council periodically reviews retail prices of petroleum products, based on information obtained from publicly available sources and by direct request to suppliers into the Hong Kong market.

2. While observation scan be made on whether prices are reasonable or unreasonable, or whether they are subject to competitive pressures, the observations are limited. This is due in part to an inability to verify information that is provided by business. In addition, the use of historical prices as a basis for comparison, might not reflect optimal efficient pricing, and therefore may not be adequate for a thorough analysis to begin with.

3. Nevertheless, the Consumer Council is able to provide some analysis on the pricing of unleaded petrol, diesel and liquefied petroleum gas, at various stages in the chain of supply. The Council's analysis of prices observed from the period October 1997 to July 1998 indicates that retail prices for unleaded petroleum and diesel were reduced, roughly in line with a reduction in import prices. However, this is not to say without doubt that the current prices are reasonable, for the reasons indicated above. There is some price competition through the use of fleet discounts, credit sales, and discount coupons. However, not all consumers are able to participate in these schemes and are unable to benefit from this form of competition. There is also a form of competition through product differentiation, such as the use of 'give-aways' associated with retail sales. The Council does not believe this equates to the form of competition that consumers would prefer.

4. The absence of any price reduction for LPG points to a lack of competition in the retail supply and indicates that prices might not be reasonable, given observed reductions in import prices. The oil companies were asked for comments concerning the absence of a reduction in price and provided some mitigating factors. These did not convince the Council that there should be no price change. The Council has previously considered the market for supply of domestic gas in 1995, and its report highlighted structural issues leading to a captive market for LPG customers.

5. The Council's analysis of LPG pricing is that there appears to be some room for retail price reductions, given the reduction in import prices. The Council notes that the power and

gas utilities have an element transparency in their retail pricing through the use of an index, passing on any reductions in costs to consumers. The Council recommends that a similar mechanism could be used for LPG used in the domestic water heating and cooking market.

1. INTRODUCTION

1.1 The Consumer Council periodically reviews retail prices of petroleum products in accordance with its charter of protecting and promoting the interests of consumers of goods and services. Information is usually obtained by reference to publicly available sources and by direct request to suppliers into the Hong Kong market.

1.2 While observations can be made, for example whether prices are reasonable or unreasonable, or whether they are subject to competitive pressures, the Council is disadvantaged to a certain extent in the observations it can make. This is due in part to the inability to verify information that is provided by business and the fact that not all market participants provide information. In addition, the use of historical prices as a basis for comparison, might not reflect optimal efficient pricing and therefore might not be adequate for a thorough analysis to begin with.

1.3 Nevertheless, the Consumer Council is able to provide some analysis on the pricing of petroleum products, based on its limited information sources. The analysis is constructed around information obtained in relation to prices for the three products (unleaded petrol, diesel and liquefied petroleum gas) at various stages in the chain of supply. This chain extends from spot market prices for refined product, import prices into Hong Kong and retail prices; with reference to the price of crude oil. The main bench mark used for comparison analysis is the average import price.

2. TIME FRAME FOR ANALYSIS

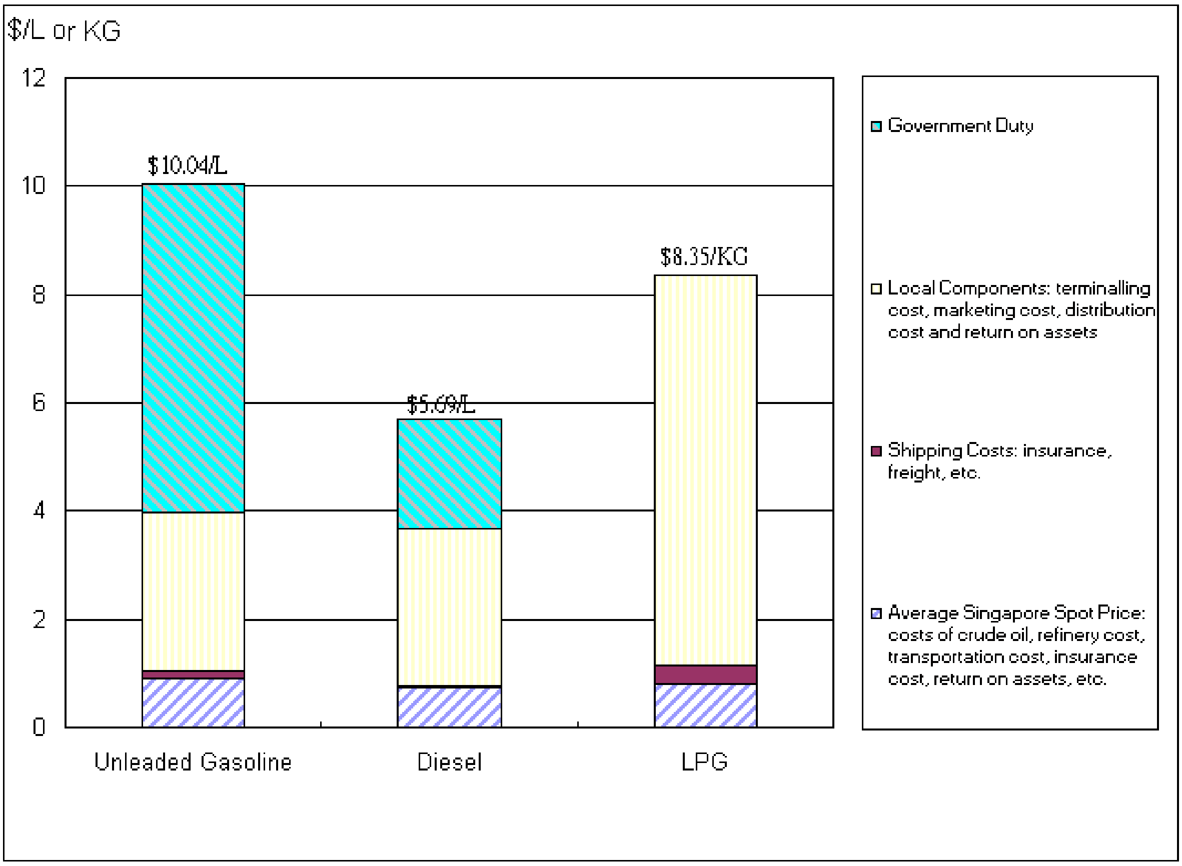
2.1 The Council recently studied the movement of prices for the three petroleum products from the period between October 1997 to July 1998 This period was used because of an observed reduction in crude oil and import prices which took place starting from October 1997.

3. EXAMINATION OF COSTS

3.1 The following section examines the main indicators of cost, before product is retailed to consumers. Those indicators are crude oil prices, Singapore spot market prices, import prices, government duty, and operating costs.

3.2 The diagram below is an estimation by the Council of the structural components of costs and prices of unleaded petrol, diesel and LPG. It indicates the extent of the information variables that could be taken into account in analysing prices on a 'cost plus' basis.

Chart 1



Note: Figures in the diagram are of July 1998

3.3 Before examining input costs, it is useful to indicate in the first instance the observed retail prices for unleaded petrol, diesel and LPG. The Council's method of assessment takes a 'top down' approach to analysis, starting with current and past observed retail prices, and then working through various input costs.

Table 1 Retail Prices from October 1997 to July 1998

(Figures include government duty)

	October 1997	July 1998	Dollar Change	Percentage Change
Unleaded Petrol	HK$10.24/L	HK$10.04/L	HK$-0.20/L	-1.95%
Diesel	HK$6.91/L	HK$5.69/L	HK$-1.22/L	-17.66%
LPG	HK$8.35/KG	HK$8.35/KG	HK$0/KG	0%

CRUDE OIL PRICES

3.4 From a consumer's point of view it is understandable that there would be a perception that a downward movement in crude oil prices would be reflected in a similar downwards movement in petroleum product import and retail prices. The Council requested information from the oil companies to explain a disparity between price reductions in crude oil and those for import prices. In particular, the companies were asked to provide information that would explain the reason why:

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- percentage decreases in import prices for unleaded petrol and diesel were less than that for percentage decreases in crude; and
- a percentage decrease in import prices for LPG was greater than that for crude.

3.6 In answer to the Council's queries, the companies gave a general response that the relationship of crude oil prices and petroleum product prices is complex and is not of a simple ratio or percentage type. A number of reasons were given, for example operational difficulties at refineries affecting supply, and seasonal factors affecting demand. While these reasons may have had some impact for the period under examination, they are not easily verifiable.

SPOT MARKET PRICES

3.7 Imports of the three products are sourced from a variety of locations, depending on the product. For example, unleaded petrol is sourced solely from Singapore, whilst LPG is sourced from a number locations, with Singapore accounting for only a small percentage. The different locations are noted in the following table.

Table 2 Imports of Petroleum Products in August

	Singapore	Taiwan	Korea	Japan	Philippines	China	Malaysia
Unleaded Petrol	100%	-	-	-	-	-	-
Diesel	62.8%	6%	16.9%	14.3%	-	-	-
LPG	15.3%	-	5.7%	-	16.4%	38.4%	24.2%

3.8 Notwithstanding the varied sources of supply, information on prices supplied from the oil companies is limited to that relating Singapore. For the period under study, the spot market prices for that location were as follows:

Table 3 Average Singapore Spot Market Prices

	October 1997	July 1998	% Change
Unleaded Petrol	HK$1.26/L	HK$0.91/L	-27.78%
Diesel	HK$1.17/L	HK$0.73/L	-37.61%
LPG	HK$1.60/KG	HK$0.82/KG	-48.75%

IMPORT PRICES

3.9 In order to study the actual cost of import, the Council relies on import data supplied by the Census and Statistics Department (CSD). As the CSD has subscribed to the Special Data Dissemination Standard, it has to observe the practice regarding access by the public to data. At present, the time lag for their release of trade statistics is about 2 months. Because this study was undertaken around September 1998, the figures used are only up to July 1998. Import prices are taken to include cargo, insurance and freight (referred to as CIF).

Table 4 CIF Import Prices

	October 1997	July 1998	% Change
Unleaded Petrol	HK$1.3/L	HK$1.06/L	-18.46%
Diesel	HK$1.19/L	HK$0.79/L	-33.61%
LPG	HK$2.03/KG	HK$1.14/KG	-43.84%

GOVERNMENT DUTY

3.10 Government duty is only imposed on gasoline and diesel and is an absolute value. During the period of the study the Government both increased and decreased the duty applicable to the products. The following graph indicates the amounts that were applied for unleaded petrol and diesel during the period.

Table 5 Government Duty Applied from October 1997 to July 1998

	Oct 1997	18 Feb 1998	3 Apr 1998	23 Jun 1998	July 1998
Unleaded Petrol	HK$6.06/L	HK$6.42/L	HK$6.06/L	HK$6.06/L	HK$6.06/L
Diesel	HK$2.89/L	HK$3.06/L	HK$2.89/L	HK$2.00/L	HK$2.00/L

OPERATING OVERHEADS AND PROFIT MARGIN

3.11 In view of the lack of detailed information available on these costs, and the need to average them for the purposes of a study such as this, the Council uses, as an estimate of operating overheads and profit, the difference between retail prices and average import costs.

Table 6 Difference between retail prices and import prices as at July 1998
(Less government duty)

	Retail Prices	Import Prices	Difference	% of retail price
Unleaded Petrol	HK$3.98/L	HK$1.06/L	HK$2.92/L	73.4%
Diesel	HK$3.69/L	HK$0.79/L	HK$2.90/L	78.6%
LPG	HK$8.35/KG	HK$1.14/KG	HK$7.21/KG	86.3%

3.12 Some account is taken of the rate of inflation to adjust the above estimate of overheads and profit. However, it should be noted that not all the factors taken into account for gauging the rate of inflation might be relevant for the petroleum industry.

3.13 The composite consumer price indexes (CPI) for October 1997 and July 1998 were 116.8 and 119 respectively. Therefore, the rate of inflation during the period under study can be ascertained at approximately 2%. Adjusting the above estimates of operating costs and profit in line with the rate of inflation, leads to a possibility that the above costs could be correspondingly increased by 2 per cent.

4. ASSESSMENT OF RETAIL PRICES

4.1 In light of the above costing and price information, a rough estimation can be made of the level at which retail prices might be observed, if the reductions in input costs were taken into account, for unleaded petrol, diesel and LPG. It is useful at this point to refer to the range of information variables indicated in Section 3 of this paper, which can be taken into account in constructing what may be referred to as a 'reasonable price', and the difficulties in obtaining and verifying that information.

4.2 The assessment is achieved by deducting the decrease in average import prices as at July 1998 with an upward adjustment for inflation, from the retail prices observed in October 1997. Based on this modelling, the Council has constructed an estimated price reduction/increase of the 3 petroleum products. This is illustrated in the table below which compares average spot market and import price reductions against the estimated and actual retail price reductions from October 1997 to July 1998, for the three petroleum prices under study.

Table 7 Price Changes (Oct 1997 – July 1998)

	Crude Oil Price reduction	Average Spot Price reduction	Average Import Price reduction	Estimated Retail Price reduction	Actual Retail Price reduction
Unleaded Petrol	US$7.35/Barrel (HK$0.39/L)	HK$0.35/L	HK$0.24/L	HK$0.18/L	HK$0.20/L
Diesel	US$7.35/Barrel (HK$0.397/L)	HK$0.44/L	HK$0.40/L	HK$0.34/L	HK$0.33/L
LPG	US$7.35/Barrel (HK$0.39/L)	HK$0.78/KG	HK$0.89/KG	HK$0.77/KG	HK$0/KG

4.3 As can be seen from the above, the Council's estimate of possible price reductions differs from those which actually took place in the market to varying degrees, suggesting that the reduction in unleaded petrol and diesel retail prices, for example, might be reasonable. However, while there were reductions in the price of unleaded petrol and diesel roughly in line with the Council's estimation, there was no observed reduction in the price of LPG.

5. OIL COMPANIES RESPONSE TO QUERIESFROM THE COUNCIL ON LPG

5.1 As stated earlier, the Council had observed a decrease in crude oil and import prices and undertook a preliminary analysis, along the lines outlined above. During the study, it was apparent at an early stage that some reduction in the price of LPG might have been possible. Accordingly, the oil companies were asked in May this year to give reasons for the unchanged retail price of LPG. In their written response, the following explanations were given:

Marginal Differential Between Retail Price and Import Price

5.2 It was claimed that the marginal differential between the retail price and the import price was negative from end of 1996 to April 1997 when import prices surged to a historical high level. The marginal differential had been slowly recovered from negative to positive beginning in April 1997. A chart was provided by one company to illustrate the point; attached as Annex II. The company stated that the overall marginal differential had been maintained at a similar level before the price adjustment in November 1996.

Cost of Inflation

5.3 It was also claimed that ever since the last price revision in November 1996, inflation rates in Hong Kong for 1997 and 1998 (projected) were 5.8% and 5% respectively, equating to a cumulative rate of 11%. The oil companies therefore claimed the inflation factor had outweighed the reduction in import cost.

Decrease in Sales Volume

5.4 It was stated that demand in the LPG market in Hong Kong had been dropping at a considerable rate and there was a drastic volume decrease recorded between 1995 and 1997. This had been recorded as a drop of 9% in the overall LPG market. It was claimed therefore that the drop in sales volume was putting tremendous pressure on unit operating cost.

Other Cost Implications

5.5 The oil companies stated that there was a significant increase in both capital and operational spending to comply with the enactment of new regulatory requirements (e.g.

dedicated cylinder wagon parking sites, guidelines on LPG cylinder low pressure regulators, codes of practice on LPG installations, etc.)

6. COUNCIL COMMENT ON OIL COMPANIESRESPONSE TO LPG PRICING

Marginal Differential between retail price and import price

6.1 The chart produced by one oil company (at Annex II) indicates that the retail price/import cost margin had reached its highest recovery level in July 1997 and reached the retail price/import cost reference point of October 1996 in January 1998.

6.2 Statistics obtained from the Census and Statistics Department (CSD) figures show that the average import cost for LPG in July 1997 was HK$ 1.82/Kg and that the cost had remained at around that level until January 1998; when the oil companies state that retail price/import cost margin had recovered to the October 1996 reference point. The import cost then reduced progressively from January 1998 until it had dropped to a level of HK$ 1.14/Kg. in July 1998. Retail prices had remained static over that period. See (Annex III). The Council's view is that the figures appear to indicate there would be room for a reduction in retail prices, at least from that date, because the claimed retail price/import cost margin losses had been recovered by January 1998, and there were further reductions in import costs.

6.3 The Council met with one oil company subsequent to the May responses noted in section 5, during which this point, among others was discussed. The response to the Council's observation on the import cost recovery in January 1998 was that the import cost decrease had to be considered in view of the seasonal fluctuations that occur with demand for LPG. Import cost figures subsequent to July 1998 indicated a rise in import costs, which it was claimed, had to be factored into the analysis. Figures were provided that indicated import costs would rise to approximately 2.00/Kg in November 1998. The Council accepts that seasonal fluctuations will have an influence on import costs. However, the CSD figures show that there has been an overall decline, since the beginning of 1997, which has covered the cycle of seasonal influences.

Decrease in sales volume

6.4 Since 1982, the government has encouraged the installation of piped gas supply in new buildings to substitute for bottled LPG in domestic dwellings. The number of households using bottled gas, as compared to Towngas or piped LPG is therefore decreasing. The percentage of domestic dwellings using bottled LPG, as recorded in 1997, fell to less than 29%.

6.5 The Council analysed the sales volume for LPG in years 1996 and 1997, and found the sales volume in tonne had dropped from 160,073 in year 1996 to 145,714 in year 1997. It was true that there was, on average, about 9% drop annually, and the Council acknowledges that this would place pressure on unit operating costs. It can also be noted, however, that in a market of shrinking demand there would be a corresponding reduction of incremental costs. There might also be opportunities to reduce fixed costs.

Increased Operating Costs

6.6 On the additional cost of operation due to compliance with the safety regulations, we note that some of safety regulations was, in fact, imposed in 1990. These costs were reflected in a retail price adjustment in November 1992 when this reason was stated in a press release issued by the companies in relation to a price increase of 25 cents/Kg. During the subsequent discussions with one oil company mentioned above, the Council was informed that not all the compliance measures had as yet been implemented (e.g. dedicated cylinder wagon parking sites). Nevertheless, the oil companies need to provide cost data on this requirement to justify the absence of a reduction in price.

Cost of Inflation

6.7 In contrast to the cumulative inflation figure of 11 - 12% quoted by the oil companies, CSD figures (composite CPIs) indicate this should only be 7.3%. It is noted that the figures given by the oil companies for 1998, were projections.

7. CONCLUSION

7.1 It is generally accepted that the mechanism by which prices in a market are set at optimum efficiency levels is through vigorous competition by suppliers to well informed consumers.

7.2 An analysis of pricing which attempts to use a cost/plus model as a basis, will give only part of the picture if:

- not all information is verifiable:
- historical costs are used as a base; and
- there are limited variables taken into consideration.

7.3 With these limitations in mind, the Council can provide the following analysis to assist the Legislative Council Panel on Economic Services in its deliberations.

Unleaded Petrol and Diesel

7.4 Based on the Council's information model of retail price analysis, it would appear that there were price adjustments for gasoline and diesel, generally in line with a reduction in average import costs. Nevertheless, we cannot conclusively state that the price reductions were either reasonable (for the reasons stated above) or that they were set at a competitive level.

7.5 There is some price competition through the use of fleet discounts, credit sales, and discount coupons. However, the price reductions obtained by these methods are selective and leave out those consumers who cannot participate in the schemes. There is also some competition in these markets through product differentiation, by claiming higher performance characteristics in 'unique' formulas used in producing the fuel. There is also another form of product differentiation through the use of 'give-aways' associated with retail sales. However, the Council does not believe this equates to the form of competition that consumers would prefer.

LPG

7.6 The absence of price reductions for LPG points to both a lack of competition in retail supply and the possibility that retail prices might not be reasonable.

7.7 In 1995 the Council published a report into the domestic gas supply market called Assessing competition in the Domestic Water Heating and Cooking Fuel market. In that report the Council indicated that there were problems in the market for the supply of domestic gas which pointed to regulatory and technical problems of transmission and storage of LPG.

7.8 For consumers to switch from a centralised gas supplier such as Towngas to LPG (either in bottled form, or piped from a central reservoir) or vice versa after construction is virtually impossible. This is because a complete overhaul of the transmission piping for the whole system is not practical, or a change in bottled gas supplier is extremely inconvenient. In effect, the consumers have no substitutes and are therefore part of a captive market.

7.9 There is a choice of energy mix exercised at the pre-consumer stage by developers for new dwellings. However, while there is competitive supply among energy suppliers through the tender processes, in answer to the demand from developers, in the end the successful supplier is able to lock in its customers. Given the above, there is no competitive incentive for LPG suppliers to reduce prices to dwelling occupiers. Accordingly, the suppliers have the characteristics of a utility, and hence should be so regarded in terms of analysing their retail prices.

7.10 In terms of determining whether prices are reasonable, it is also useful to consider pricing for energy used for purposes similar to that of LPG, and which share similar input costs.

7.11 For example, non LPG gas consumer and electricity tariffs are subject to any cost variation for their energy source, for example, naphtha (a petroleum based material for the production of non LPG gas). Where there is an increase in the cost of naphtha, the supplier recovers the difference from consumers. Likewise, where there is a decrease the difference is returned to consumers. (It should be noted the supplier in this case is a publicly listed company and its adjustment in monthly charge with reference to the final cost is voluntary).

7.12 In recent discussions with one oil company on this issue, it recognised the relationship it had with its LPG customers (in that it was similar to that of a utility) and stated that the company does carry out a periodic review of retail prices and costs. It also stated that adjustments are made on a yearly basis having regard to the seasonal factors that had to be taken into account.

7.13 Given that consumers of LPG in the domestic water heating and cooking market are locked into using the product, much the same as customers of utilities, it is not unreasonable to expect that LPG suppliers should engage in a similar process of retail price transparency as utilities, passing on any reductions in cost to consumers.

7.14 The Council notes that the retail price review process outlined by the company is not transparent. Neither does it use any formal benchmarking which is advised to consumers, such as indexing prices to a major input relevant to determining the final price to consumers.

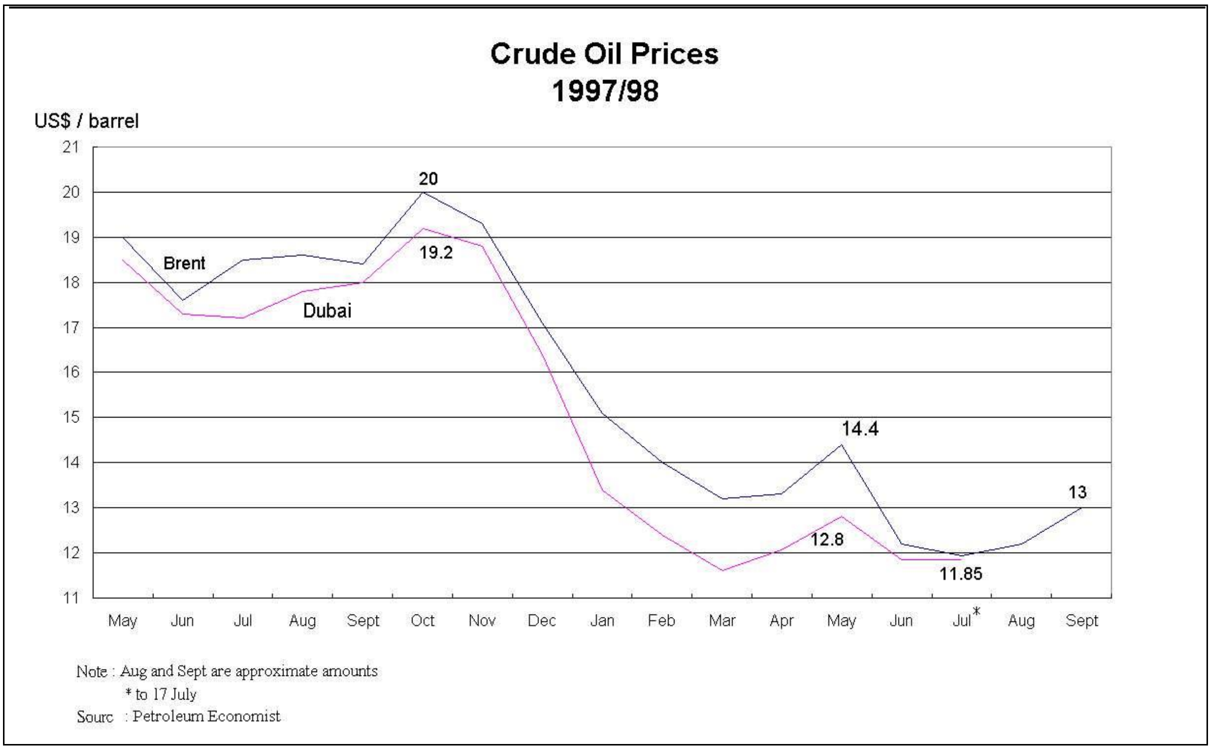
7.15 The Council's conclusion is as follows:

(a) Even though it has been stated that oil companies prefer to take a long term approach and not make frequent tariff changes, it still appears to the Council that there was room for a reduction in the retail price of LPG during the period under study, given the reduction in import costs.

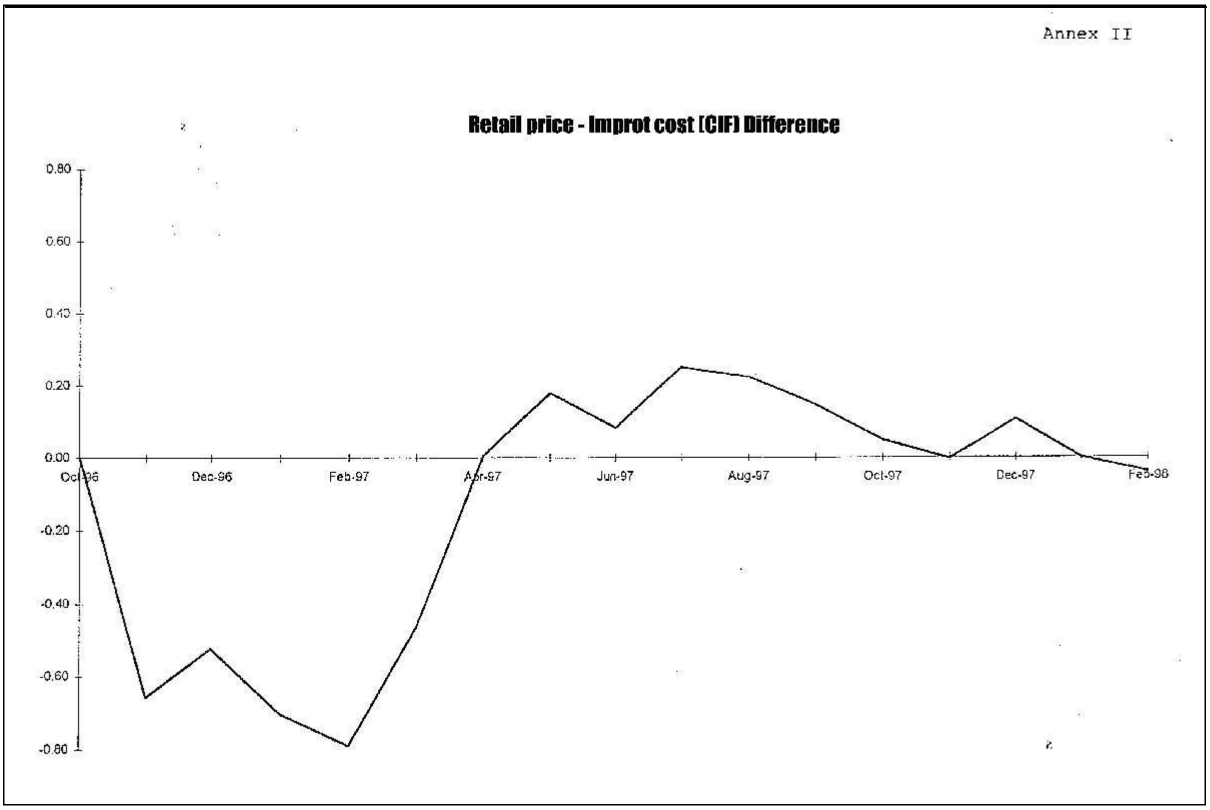
(b) That in view of the fact that LPG customers are largely a captive market, the process of reviewing retail prices should be more transparent and prices should be indexed, with the index advised to consumers. The construction of an index is a matter for the suppliers to consider taking into account their own particular circumstances. For its part, the Council believes that the index should not be tied to one particular product, but should be constructed with reference to the range of variables relevant to determining the final price to consumers and should encourage efficient pricing.

7.16 A pre-requisite to this form of indexing, to ensure transparency in pricing is accurate data. Government authorities need to consider the relevant party responsible for verifying the data.

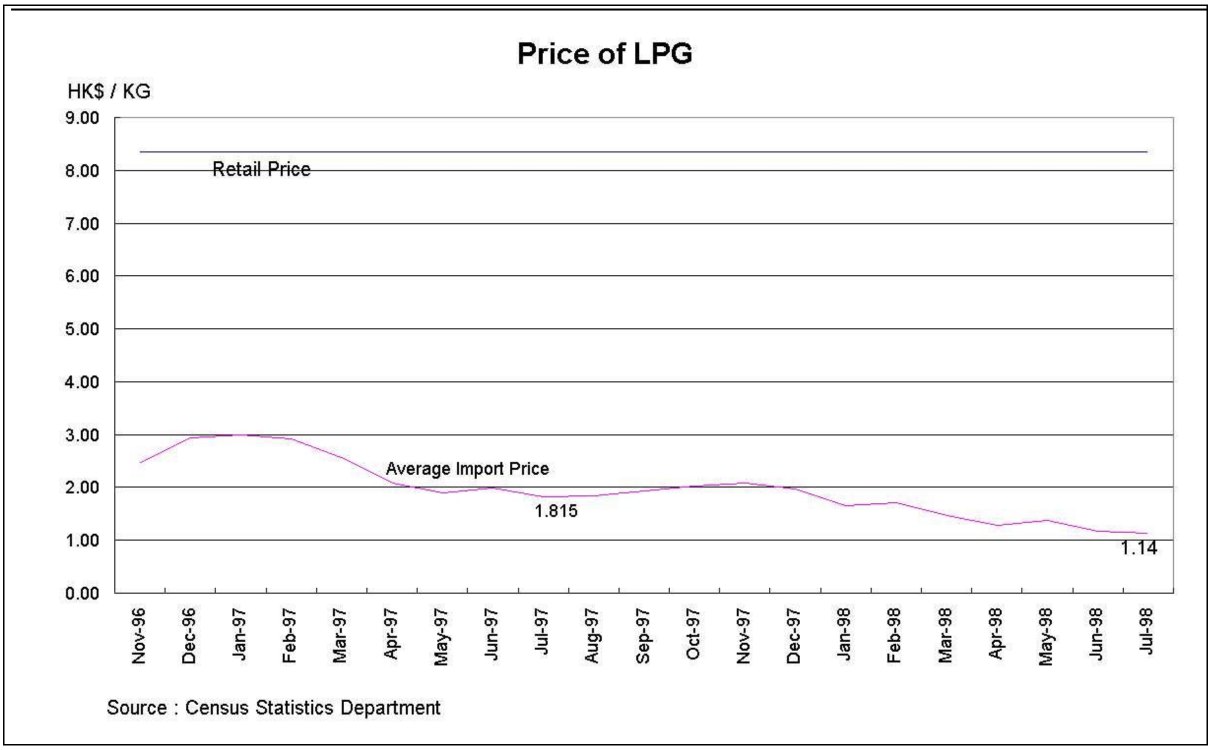
Annex I



Annex II



Annex III



Price of LPG
HK$ / KG
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Retail Price
Average Import Price
1.815
1.14
Nov-96
Dec-96
Jan-97
Feb-97
Mar-97
Apr-97
May-97
Jun-97
Jul-97
Aug-97
Sep-97
Oct-97
Nov-97
Dec-97
Jan-98
Feb-98
Mar-98
Apr-98
May-98
Jun-98
Jul-98
Source : Census Statistics Department