FUEL PRICING AND SUBSIDIES IN INDONESIA:
Reaching an Equitable and Sustainable Policy

Table of Contents

LIST OF ACRONYMS

ADO	Automotive diesel oil
Avtur	Aviation turbine fuel
BBM	The oil fuels component of the demand barrel, therefore excluding non-energy products such as bitumen, chemical feedstock, lubricants and solvents
BPH Migas	Badan Pengatur Hilir Minyak dem Gas Bumi, the downstream natural gas, LPG and oil products regulator
CCT	Conditional (as opposed to Unconditional/universal) cash transfers
c.i.f.	Cost, insurance and freight—generally meaning the total cost of a cargo of oil imported from an overseas source and delivered to the unloading flange
CNCP	China National Petroleum Company (the largest Chinese oil company)
CNG	Compressed natural gas
ETU	Energy Transport Utility: the concept expressed in the FACTS Inc report of constituting Pertamina's ports, terminals, pipelines and depots as a separate, open access, public utility regulated by BPH Migas
GoI	Government of Indonesia
IDO	Industrial diesel oil
IDR	Indonesia Rupiah currency
IMP	International Market Price (of oil products)
IOC	International oil company
JV	Joint Venture, a business enterprise entered into by two or more partners. Usually the partner with the largest interest will be the operator. This form of business is widely used in the upstream oil industry and usable also in the downstream
KPPU	Indonesian Business Competition Supervisory Commission (the Indonesian competition watchdog)
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
MFN	Most Favoured Nations treatment of third parties in terms of access to facilities and products purchase arrangements
MFO	Marine fuel oil (presumably corresponding to "C" grade or Number 6 heavy fuel oil in international nomenclature
MOPS	Mid-oil Platt's Singapore
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
PLN	State-owned Indonesian power utility
PSO	Public Service Obligation
RON	Research Octane Number
SOE	State-owned enterprise
UCT	Universal/unconditional cash transfers

EXECUTIVE SUMMARY

INTRODUCTION

Indonesia is an oil producing country and is the only East Asian member of the Organization of Petroleum Exporting Countries (OPEC). Over the years, this endowment of oil resources has been steadily exploited with substantial rents flowing to the government from production and exports of crude oil. The country is also one of the world's largest exporters of another petroleum resource—liquefied natural gas.

Indonesia maintains domestic petroleum fuel prices for a number of products below international levels through government subsidies. This system of "patronage" for domestic consumers is applied with the intention of sharing the benefits of its natural resources with its people, but is misguided.. As the Indonesian economy grew, the rising demand for oil fuels required increasing subsidy outlays to a point where the policy reduced the availability of funds for and public investments in health, education, and infrastructure and placed a strain on the overall budget. Subsequent attempts to reduce the subsidy by increasing domestic fuel prices have been only partially successful: the Government of Indonesia (GoI) has been challenged to forecast the necessary funding levels in the highly volatile international oil pricing environment of recent years. This has retained a major element of uncertainty to fiscal planning and public budgeting.

The introduction of a new Oil and Gas Law in 2001 (the Law) provides the policy and legal basis for moving away from the present ineffective and fiscally inefficient fuel pricing and subsidy regime, towards the goal of an independent, reliable, transparent, competitive, efficient, and environmentally friendly petroleum sector that encourages the growth of the national potential and role and at the same time does not exclude the GoI fully meeting its social responsibility towards certain community groups. Implementation towards achieving the goals set out in the Law has been slow and hesitant. The Indonesian treasury is still saddled with a rather inefficient and ineffective fuel pricing and subsidies regime. This present report identifies a way forward for Indonesia to meet the requirements of the Law. That way forward will progressively eliminate the waste inherent in the present system, signal correct market behaviors to consumers, achieve large fiscal savings and help the economy grow while the any negative impact on the poor and vulnerable are cushioned.

- Chapter 1: Tracks the recent history to the present situation in terms of petroleum fuels utilization, supply, pricing and subsidies, and identifies some of the key impacts of the prevailing policies.
- Chapter 2: Identifies the target petroleum fuel market regime based on the goals established in the Law, evaluates where the present policy falls short, and proposes measures that would help Indonesia achieve the outcomes that are consistent with the Law.
- Chapter 3: Proposes a step-wise transition that will be required to transform the present regime and at the same time opening the oil products market to the beneficial forces of competition and restructuring Pertamina's downstream operations.

CHAPTER 1: RECENT HISTORY AND PRESENT CONDITIONS

Key Messages

Demand and Supply: Demand for petroleum fuels is growing in Indonesia despite a slow down since the Asian Financial Crisis and several price increases in recent times. The domestic oil market is large and characterized by an exceptional proportion of high value products - gasoline, diesel fuel (ADO) and kerosene making up nearly 90% - and a relatively small share of other lower-value fuel oil. In proportionate terms, transportation uses have been growing at the relative expense of household and industry use. The share of oil fuels going into power generation has also been rising, which may reflect some failures on the part of the electricity industry. The growing appetite for petroleum fuels is mostly appeased increasingly by imports because of dwindling domestic capacity and production.

Pricing and Subsidy: Indonesia maintains domestic petroleum fuel prices below international levels through significant fiscal subsidies. Faced since 1999 with rapidly rising and highly volatile international oil market prices, depreciating Rupiah and budget constraints, the GoI has had difficulty in implementing established policies for managing oil products prices in the domestic market at below world levels. As a result, it has had to reduce the coverage of the price-managed (subsidized) products from nearly 100% to some 60% of the total market, to allow managed prices to rise in several unplanned steps and then to follow on an ad hoc basis policies that have some prices moving in a ratio with the international market, but with upside caps. Presently, subsidies apply to ADO, gasoline, and kerosene.

Legal and Institutional: The 2001 Oil and Gas Law provides a legal basis for an petroleum fuel sector that is independent, reliable, transparent, competitive, efficient, and environmentally friendly petroleum sector that encourages the growth of the national potential and role and at the same time does not exclude the GoI fully meeting its social responsibility towards certain community groups. Despite this mandate, the law is yet to be effectively implemented, and therefore, Indonesia is yet to receive the full extent of its benefits. Institutionally, Pertamina remains the dominant player in the downstream domestic oil market despite no longer legally being a monopoly, and control over 95% of the petroleum fuels sold in Indonesia. A few other investors have begun the enter the market, and BPH Migas is entrusted with regulating the entire sector.

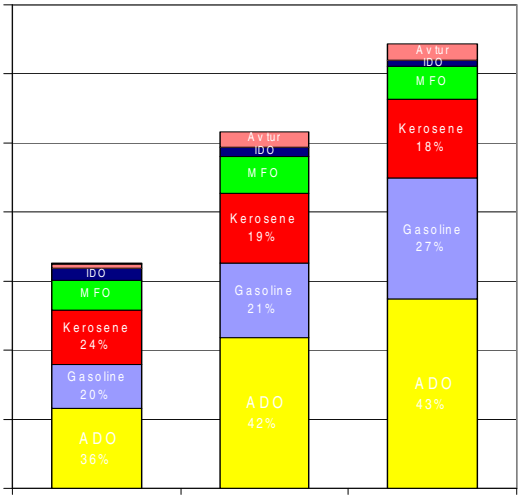
Impact of Fuel Pricing and Subsidy Regime: The present policy results in a number of challenges:

- Inefficient use of petroleum fuels including over consumption;
- Compromises the fiscal position of the Government due to excessive and unpredictable outlays;
- Ineffective targeting towards to poor;
- Leakages and smuggling; and
- Adverse environmental effects.

1.1 DEMAND FOR PETROLEUM FUELS IN INDONESIA

Indonesia's petroleum fuel consumption reached 64 million kiloliters (1.1 million barrels per day) in 2005, with Automotive Diesel Oil (ADO), gasoline, and kerosene dominating this mix (figure 1)[1]. Until 2005, the prices of most fuels were controlled by the Government resulting in price subsidies to over 95% of the petroleum fuels consumed nationally. Due to changes in policy in 2005-06, the Government now provides subsidies to only about 60 percent of national consumption, mostly to large consumer categories for the three major fuels[2].

FIGURE 1.1: ADO, Gasoline, and Kerosene Dominate Demand



Indonesia experienced brisk fuel demand in the 1990's up until the beginning of the Asian Financial Crisis in 1997. During this time, fuel demand growth averaged about 7 percent per year largely due to rising demand for gasoline and ADO needed to keep up with growing transportation needs. Since the Asian Financial Crisis, fuel demand growth has slowed to an annual rate of about 3 percent reflecting the impact of the economic downturn as well as several upward adjustments of fuel prices since 1999.

[1] Seven petroleum fuels are marketed in Indonesia: ADO, gasoline, cooking kerosene, Industrial Diesel Oil (IDO), Marine Fuel Oil (MFO), Aviation Turbine fuel (AvTur or Jet Fuel), and a trace of Aviation Gas (Avgas). Two variants of ADO are marketed: High Speed Diesel (locally known as Solar) and a higher quality diesel known as Pertamina Dex. There are three variants of gasoline: RON 88 (marketed as Premium) dominates followed by RON 92 (marketed most widely as Pertamax) and RON 95 (marketed most widely as Pertamax Plus).

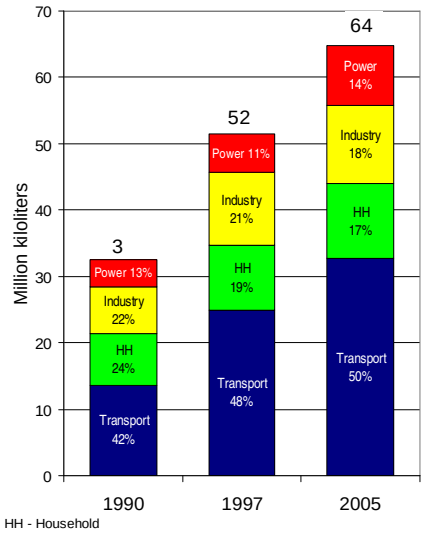
[2] Since October, 2005, GoI subsidizes ADO and gasoline for transportation over land and water as well as kerosene for households and small enterprises.

1.1.1 THE MAIN FUEL PRODUCTS AND THEIR USES

The composition of fuel demand by product-group is shown in previous Figure 1.1 and by consuming sector in Figure 1.2.

ADO, with a 43 percent share of 2005 fuel consumption, dominates the fuel mix, and it is utilized for multiple purposes. Power generation, industrial use, and transportation are responsible for most of the ADO consumption with a 24%, 34%, and 41% respective share[3]. Prior to the Asian Financial Crisis, ADO demand grew at nearly 10 percent, outpacing the growth in demand of all other fuels except for aviation fuels. Since 1997, however, this demand has been more measured at around 3 percent per year.

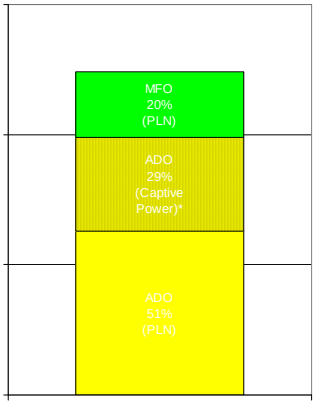
FIGURE 1.2: Sector-Wise Distribution of Fuel Consumption



Sources: Indonesia Handbook of Energy Economics Statistics (2005) for 1990 and 1997; Indonesia Oil & Gas Statistics 2005 for 2005

Power Generation: The use of petroleum fuels for power generation has been on the rise in Indonesia. PLN, the state-owned power utility, has seen its consumption double since 2000. Most of this has come from significant increases in the use of ADO, which is seeing substantial use for a number of reasons. First, PLN is facing capacity constraints and system bottlenecks largely in their load-centers in West Java, whereby they have had to resort to utilizing what might be considered an excessive number of diesel power plants. More significantly, PLN has been unable to secure gas supplies for about 4,000 MW (over 20% of their total capacity) of gas-fired power plants, and are spending even more by relying on higher cost ADO to operate these plants. Finally, over 75% of PLN's power generation capacity outside Java and Bali rely on diesel for their operation.

FIGURE 1.3: Petroleum Fuel Consumption for Power Generation



Industries also consume significant amounts of ADO for producing power for their own use (Captive Power)[4]. It is estimated that two thirds

[3] The percentage breakdown of consumption by sector is based on 2004 data.

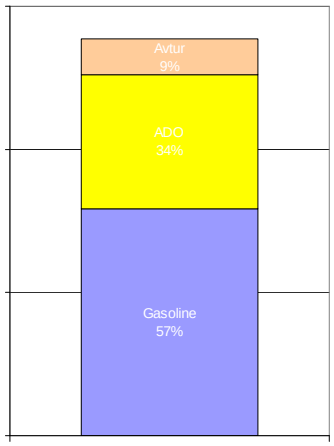
[4] Indonesia has an unusually high capacity (estimated at 14,600 MW) of captive power plants in addition to the capacity of the 24,700 MW of PLN and Independent Power Producers (IPPs). An estimated two-thirds of captive power plants are diesel-fired mostly in Java-Bali.

of this captive power utilizes diesel, which is usually classified as industrial consumption thereby underestimating the true use of petroleum fuels for power generation. A recent assessment indicates that ADO usage in captive power may be as high as 3.6 million kiloliters in 2005 accounting for about 13% of total ADO consumption. This implies that the true share of ADO consumption for power generation, accounting for PLN and captive power plants, is as high as 38%, reflecting to a large extent the failure of PLN to provide adequate and reliable supply of power. The sources of fuel for power generation are presented in Figure 1.3 which also shows the use of marine fuel oil (MFO) account for an additional 20 percent.

Transportation: This end-use accounts for 41% of ADO use, which in turn represents 34% of Indonesia's total petroleum fuel consumption in transportation. Two-thirds of the ADO demand is from a truck fleet that has more than doubled since 2000. Another grade of distillate, aviation turbine fuel (avtur) accounts for 9% of total transportation use and almost all of aviation fuel, the balance being very small quantities of aviation gasoline.

Gasoline, representing 27% of Indonesia's oil products consumption is used almost exclusively in *transportation*, by passenger cars, trucks and motorcycles and accounts for 57% of the fuel used in that sector. The composition of fuel use in the transportation sector is set out in Figure 1.4.

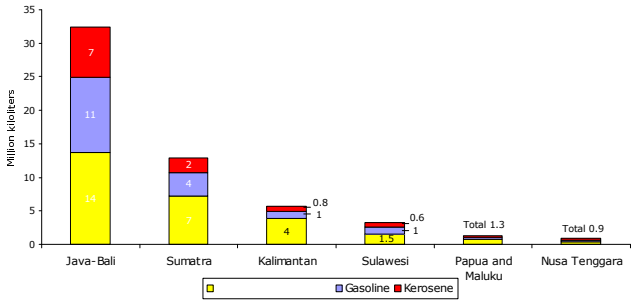
FIGURE 1.4: Petroleum Fuel Consumption for Transportation



Kerosene, in volume terms the third most important fuel with a 18% share is mainly for *households' consumption:* households and small enterprises consume over 90 percent of kerosene mostly for cooking and lighting where they have unreliable or no access to electricity. Kerosene is consumed by the rich and the poor alike, irrespective of whether they live in urban or rural areas. The growth in kerosene consumption has been modest compared with other petroleum fuels, however. Prior to the Asian Financial Crisis, kerosene consumption grew at about 4 percent per year, but it has tapered off at around 2 percent since.

Geographic breakdown of fuel use: Some 60 percent of petroleum fuels in Indonesia are consumed in the islands of Java and Bali (figure 1.5), which reflects the geographic distribution of population and vehicle ownership as well as the economic output and income levels. Over

FIGURE 1.5: Two-thirds of the Subsidized Fuels are Consumed in Java-Bali



Source: Pertamina

two thirds of the vehicles are registered in Java and Bali, where around 60 percent of the population live. Consequently, nearly two-thirds of gasoline and kerosene as well as half of the country's ADO end up in these two islands.

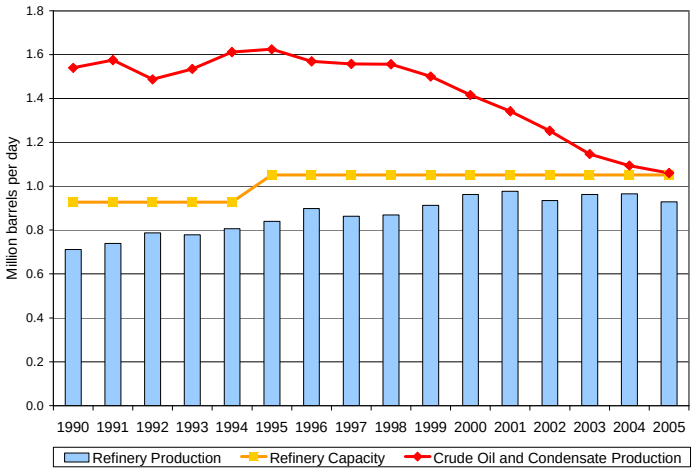
In the outer islands (outside Java and Bali) consumption is dominated by ADO, predominantly due to PLN's heavy reliance of diesel for power generation. For this reason, per capita ADO consumption in the outer islands is 50 percent higher than in Java and Bali.

In summary, the Indonesian oil market is large and characterized by an exceptional proportion of high value products[5]—gasolines, diesel fuels and kerosene---and a relatively small share of lower-value fuel oil. In proportionate terms, transportation uses have been growing at the relative expense of household and industry use. The share of oil fuels going into power generation has also been rising, which may reflect some failures on the part of the electricity industry.

1.2 SUPPLY OF PETROLEUM FUELS TO MEET DOMESTIC DEMAND

Indonesia is a member of the Organization of Petroleum Exporting Countries (OPEC), and revenues from oil exports have buoyed its economic growth in the past. Indonesia simultaneously exports crude oil, imports some crude oil for domestic refineries. and imports refined petroleum products for domestic consumption. There has been a steady decline in oil production in Indonesia since the Asian Financial Crisis (figure 1.6), however, largely due to a lack of investments for further exploration and

FIGURE 1.6: Domestic crude oil production has been falling and refining capacity has remained stagnant since 1997

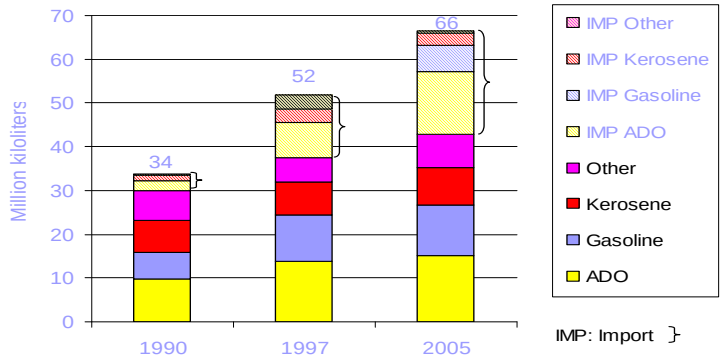


Source: Indonesia Handbook of Energy Economics Statistics (2005) for 1990-2004 and Indonesia Oil & Gas Statistics 2005 for 2005.

[5] Indonesia's consumption of light (gasoline) and middle (avtur, kerosene, diesels) distillates appears to be of the order of 90% of the total fuels demand barrel. The share of light and middle distillates in total oil demand (therefore including non-fuel products such as asphalt, chemical feedstocks and lubricants) is 64% in the Asia Pacific region and in Central and South America and 69% in Europe. Source: BP Review of World Energy 2006.

declining production from maturing fields. Crude production that remained steady at about 1.5 million barrels per day is now reduced to just over one million barrels per day[6]. Domestic refining capacity has also seen little expansion. Pertamina, the state-owned oil company, which operates all the refineries in Indonesia, has not increased capacity since 1997. Declining crude oil production in the face of rising demand for refined petroleum products led Indonesia to become a net oil importer in 2005, the only member of OPEC to be in a deficit position. Since domestic production was insufficient, Indonesia had to further resort to oil imports to meet local demand. ADO and kerosene made up the bulk of these imports. In 2004, Indonesia also for the first time began to import gasoline to meet rising demand from the transport sector. Figure 1.6 shows the steady growth of imports to meet domestic needs.

FIGURE 1.7: Demand Growth Mainly Served by Imports



Total supply numbers for 1990 & 2005 are larger than total consumption in figure 1.1 due to stock changes. Source: Indonesia Handbook of Energy Economics Statistics (2005) for 1990-2004 and Indonesia Oil & Gas Statistics 2005 for 2005

1.3 PETROLEUM FUEL PRICING

The Government of Indonesia (GoI) hopes to provide what it deems as its public service obligation to maximize the benefits of the country's natural resources to its people, in part through policies that control petroleum fuel prices. This interventionist policy is practiced by establishing domestic petroleum fuel prices below international levels with the expectation of benefiting Indonesian consumers. Prior to 2005, every petroleum fuel except Aviation Turbine Fuel had regulated prices that were set below international prices, held down through Government subsidies. Since then, price controls and subsidies are applied only to ADO, gasoline and kerosene for certain uses. These three fuels with price controls still account for nearly 60 percent of total consumption, although previously over 95 percent of the domestic fuels consumed in Indonesia received some level of subsidy.

[6] More recently, Indonesia has signed a contract with Exxon-Mobil to develop the Cepu oil field, which, is eventually expected to boost production by about 20 percent by 2008.

TABLE 1.1: Key Fuel Prices in Indonesia

Date	Gasoline (Premium)	Kerosene (Households)	ADO		
	Retail	***Retail***	***Retail***	***Industry***	***Others#***
1 Feb 1999	1,000	280	550	550	550
1 Oct 2000	1,150	350	600	600	600
1 April 2001	1,150	350	600	990	1,990
16 June 2001	1,450	400	900	1,285	2,570
1 July 2001	1,450	400	900	1,250	2,500
17 Jan 2002	1,550*	600	900 - 1,150*	900 - 1,150*	900 - 1,150*
2 Jan 2003	1,810	700	1,650	1,650 - 2,100*	2,100
1 Feb 2003	1,810	700	1,650	1,650 - 2,100*	2,700
1 March 2003	1,810	700	1,650	1,650 - 2,100*	2,700
1 March 2005	2,400	700	2,100	2,700	2,700
1 July 2005	2,400	700	2,100	4,740*	4,740*
1 Oct 2005	4,500	2,000	4,300	5,350*	5,350*

* Prices were allowed to fluctuate with international price levels (within a band where indicated)
# Others includes oil and gas mining companies, foreign shipping vessels, and any shipping vessels headed for international destinations
Source: Compiled by Indonesian Institute for Energy Economics

1.3.1 DIFFERENT METHODS WERE USED TO CONTROL PRICES

Since 1999, the Government has implemented no less than five changes to the structure of the petroleum fuel pricing policies in effect, with a number of additional adjustments to price levels in between. Structural changes to the pricing regime have mostly been driven by a combination of political, social, and fiscal concerns. None have been maintained for more than a year: the regimes have been incapable of dealing with an international commodity as volatile as petroleum fuels and the impact of exchange rate fluctuations. This has resulted in unsustainable fiscal burdens that have led to ad-hoc price changes. These various regimes have used, at times, a combination of various pricing mechanisms that can be summarized as follows:

- Through 2001, Fixed Prices at below International Levels: Prior to April 2001, the GoI maintained fixed prices for different petroleum fuels[7]. These prices differentiated between types of fuels, but not consumer categories. They were also held below international prices, with varying differentials. ADO, for example, was close to international prices (about 80%) at the time while kerosene was held far below (about 30%). As the end of 2000 approached, international prices began to

[7] These fixed prices included a 10 percent value added tax (VAT) and, gasoline and ADO, a 5 percent vehicle fuel tax.

soar, around 200 percent in Rupiah terms, compelling the GoI to adjust the price levels, but also rethink their policy of maintaining fixed prices. Caught between the political sensitivity of substantial price increases the GoI only increased prices by 10-25 percent.

- Since 2001, Varying Pricing Mechanisms for Different Fuels and Consumer Categories: After 2001m the GoI proceeded to apply alternative pricing mechanisms for some fuels, while the fixed price mechanism was maintained for others as described below:
    - Continued fixed prices significantly below international levels for fuels deemed as "Most Sensitive": Kerosene for private and small commercial use.
    - Link to International Benchmarks with Price Caps for "Sensitive" Fuels: The GoI attempted to link some fuels such as ADO and gasoline, for private and small commercial consumers, to an international benchmark price. Up to 2003, GoI used a proxy benchmark they had developed, and thereafter shifted to using the Mid-Oil Platts Singapore (MOPS) as the international price benchmark. Fuel prices that followed this regime were initially established at 50% and then 75% of the benchmark price. The GoI also established caps on those prices, which were breached as international prices reached historical highs. The fiscal burden also began to increase as the absolute value of the subsidy expanded in the face of rising international prices, and the GoI looked to other means to manage petroleum fuel prices.
    - Float with International Market for "Less-sensitive" Fuels: In some instances, Indonesia has floated the price of some petroleum fuels and relied on international market forces to determine their levels:
        - Without caps: Aviation Turbine Fuels have been priced at international levels without restrictions through the past decade
        - With caps: Prices for ADO for industrial use were allowed to float at international levels in 2003 until they reached an established ceiling in the face of soaring global price levels. Overall, very few petroleum fuels apply international prices domestically.
- Price Differentiation between Consumer Types: After 2001, petroleum fuel pricing regimes also began to apply differential prices for various types of consumers. For example, for ADO and Kerosene, industrial and non-industrial consumers face different prices, making it a difficult pricing policy to enforce likely leading to significant leakage from one group to the other.

1.3.2 HOW INDONESIA MANAGED AGAINST INTERNATIONAL PRICE VOLATILITY

Despite a variety of pricing mechanism, price controls have had little success in helping Indonesia achieve price or fiscal stability. Most methods have been challenged in keeping up with volatile international petroleum fuel prices and have been untenable for

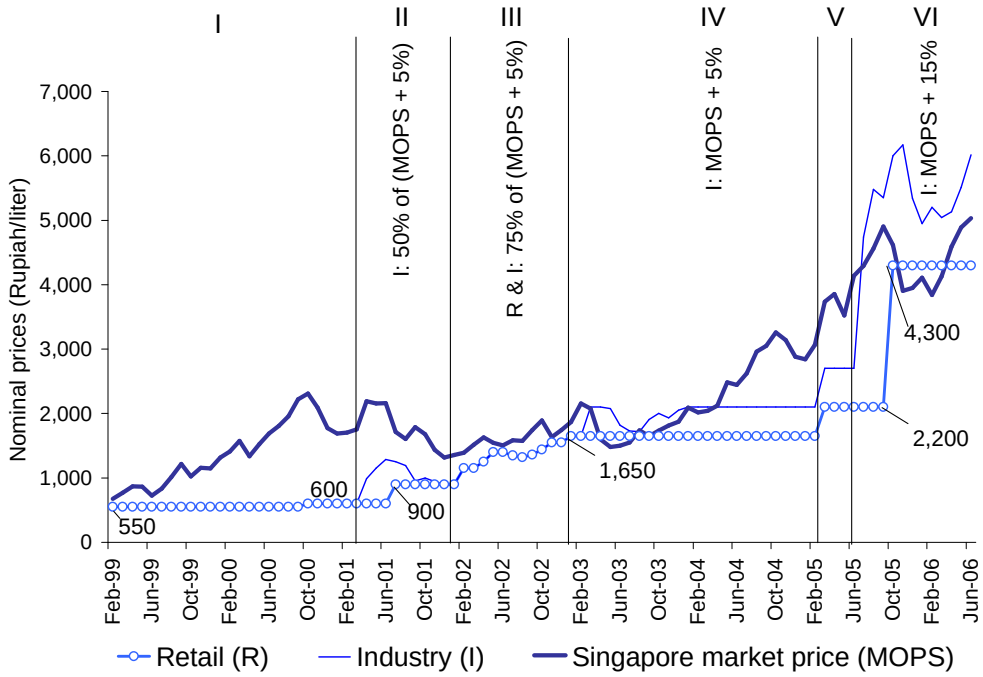
any significant period of time. In fact, the longest period any one pricing regime has been effectively sustained is about one year.

Automotive Diesel Oil: ADO pricing has gone through significant transformation in pricing since the late 1990s with a variety of mechanisms being employed. Since 1998, the price of ADO was fixed at IDR 550/liter for all consumer categories. The international price of ADO, which was about 20% higher than the Indonesian fixed price in early 1999, began a steady upward climb that peaked at over IDR 2000/liter in late 2000. The ballooning gap between the domestic and international prices was being supported through subsidies by GoI, which became untenable. Facing counterbalancing political and fiscal pressures, the Government decided to increase the domestic ADO price to IDR 600/liter in October 2000. By this time, international ADO prices were declining, but they remained high. By February, 2001, the Government decided to apply differential prices for Industrial (including power) and retail consumers. The industrial tariff was set at 50% of a Government determined "market" proxy for international prices. The retail price remained fixed as before until June, 2001, when under budgetary pressure, the Government raised the price by 50% to IDR 900/liter. In the year following February 2002, the Government shifted pricing policy for ADO once again. The price of ADO was set at 75% of the international "market" proxy for all consumers, eliminating the previous regimes price differentiation between industrial and retail consumers. By February 2003, international fuel prices were beginning another steady climb that would eventually reach historical highs, and the domestic prices that were set as a percentage of international prices followed reaching a ceiling that has been established previously. The Government's reaction was to, once again, differentiate prices by allowing the industrial price of ADO to be equal to the MOPS price plus 5% with a ceiling limit, while the retail price was set at IDR 1,650/liter. By February 2004, the industrial price had reached the limit, but with elections looming, the effectively fixed price was maintained at the level of the ceiling until 2005, when it was floated with the MOPS price plus 15%. The retail price also was adjusted up twice in 2005, to IDR 2,200/liter and then IDR 4,300/liter. With international fuel prices subsiding recently, the domestic prices have surpassed international levels, and now there is effectively a tax on ADO consumption in Indonesia.

Premium Gasoline: The pricing of gasoline has been less complex than that of ADO, but has also had little success in achieving some of the Government's objectives. Between 1999 and 2002, the price of gasoline was fixed by the Government below international price levels. During this period, the retail price of gasoline was adjusted from IDR 1,000/liter up to IDR 1,450/liter, in an attempt to reduce a burgeoning subsidy due to rising international prices as well as a currency that was depreciating sharply at times. As with ADO, Indonesia then settled on setting gasoline prices at 75% of an international market proxy and then eventually linked to MOPS plus 5%. This policy worked effectively until ever increasing international prices drove the domestic price of gasoline towards a ceiling established by the Government at IDR 1,850/liter. Thereafter, the Government has reverted to a fixed price for domestic gasoline, which was adjusted up to IDR 2,400/liter and in February 2005 and then again to 4,500 in November 2005. Without a flexible mechanism, domestic prices have been unable to adjust to pass

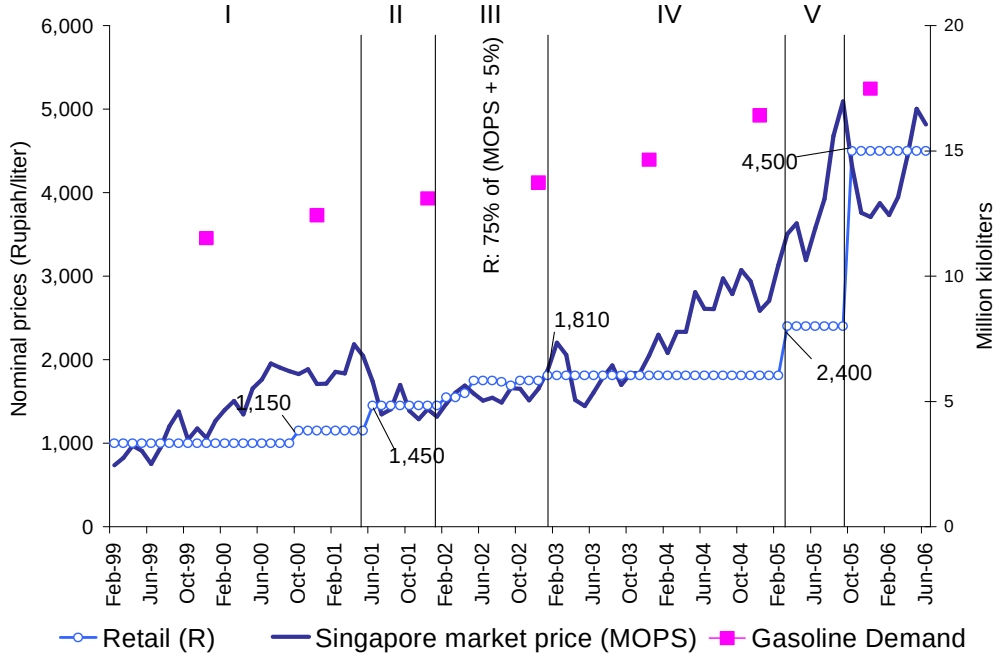
through to consumers any benefits stemming from recent declines in international oil prices.

FIGURE 1.8: Six Pricing Mechanisms for ADO since 1999



Source: For MOPS: Platts; for domestic prices: Presidential decrees on fuel pricing 1999-2005 and Pertamina; ADO demand from Indonesia Handbook of Energy Economics Statistics (2005) for 1999-2004 and Indonesia Oil & Gas

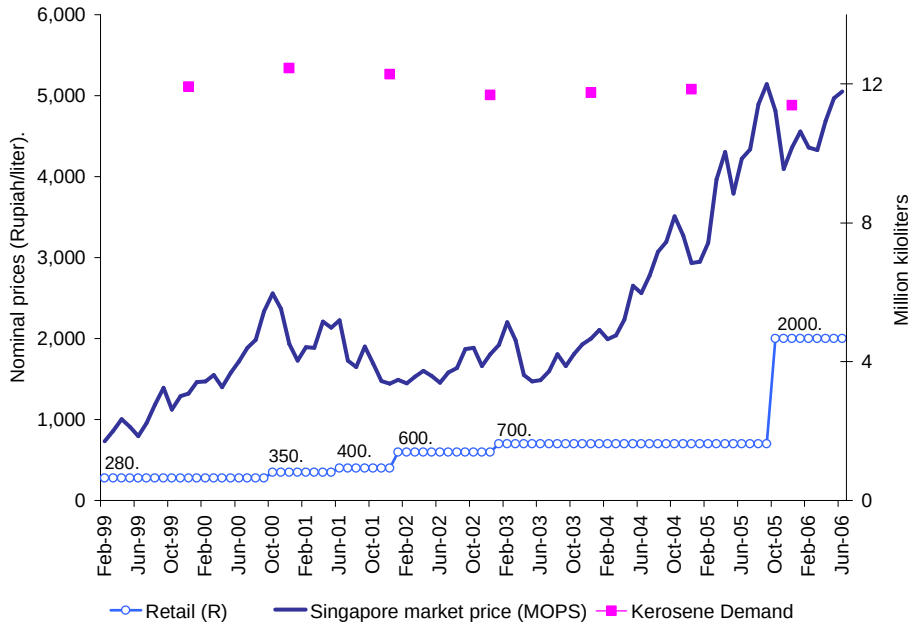
FIGURE 1.9: Pricing of gasoline for transportation



Gasoline sales for non-transport consumption are small. Source: For MOPS: Platts; for domestic prices: Presidential decrees on fuel pricing 1999-2005 and Pertamina; Gasoline demand from Indonesia Handbook of Energy Economics Statistics (2005) for 1999-2004 and Indonesia Oil & Gas Statistics 2005 for 2005

Kerosene: Given the high social sensitivity attached to kerosene prices, the Government has always maintained a fixed domestic retail price. This fixed price has also been set further below international levels, compared with other domestic prices for petroleum fuels. Despite rising international prices similar to other petroleum fuels, the Government has been measured with their price increases for kerosene despite the substantial budgetary burden it posed. In November 2005, however, the Government had little choice but to substantially increase the price of kerosene from IDR 700/liter to IDR 2,000/liter, where it remains today. Still significantly below international levels, kerosene continues to exert fiscal pressure.

FIGURE 1.10: Retail Price of Kerosene



Source: For MOPS: Platts; for domestic prices: Presidential decrees on fuel pricing 1999-2005 and Pertamina; Kerosene demand from Indonesia Handbook of Energy Economics Statistics (2005) for 1999-2004 and Indonesia Oil & Gas Statistics 2005 for 2005

In summary, faced since 1999 with rapidly rising and highly volatile international oil market prices, a depreciating rupiah and budget constraints, the GoI has had difficulty in implementing established policies for managing oil products prices in the domestic market at below world levels. As a result, it has had to reduce the coverage of the price-managed products from nearly 100% to some 60% of the total market, to allow managed prices to rise in several unplanned steps and then to follow on an ad hoc basis policies that have some prices moving in a ratio with the international market, but with upside caps.

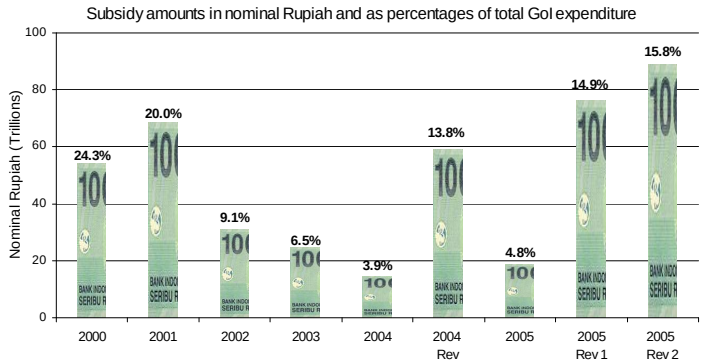
1.4 GOVERNMENT SUBSIDIES TO SUPPORT DOMESTIC PETROLEUM FUEL PRICES

The Government of Indonesia provides a subsidy to sustain the petroleum fuels' prices below international levels. Since international fuel prices have reached record highs in the past few years, the subsidy in Indonesia has grown to exert significant pressure on the fiscal budget. Furthermore, the volatility in international prices has caused the required fiscal allocation to fluctuate, generating tremendous uncertainty when planning public expenditures.

1.4.1 FISCAL BURDEN OF PETROLEUM FUEL SUBSIDIES

There are four key factors that determine the size of the required budget allocation to fund the duel subsidies in Indonesia: the domestic demand for fuels, international fuel prices, the exchange rate, and domestic fuel prices determined by GoI[8]. As previously discussed, domestic demand has grown in the past decade and international fuel prices have risen with volatility while the instability of the Rupiah/US dollar exchange rate following the Asian Financial Crisis only began to subside around 2002. GoI's domestic pricing policies have attempted to manage the impact of the changes in these key variables through domestic price controls supported through subsidies[9]. The GoI has had little success, however, managing the fiscal burden in this volatile environment.

FIGURE 1.11: Fiscal impact of Fuel Subsidies



Rev: Revision.
Source: Ministry of Finance & the National Development Planning Body

The subsidy allocation required to support the petroleum subsidies have grown despite GoI efforts to adjust prices to reduce the burden. Total fuel price subsidy outlays have risen from less than IDR 1.3 trillion ($ 0.6 billion in 1994) or below 2.5 percent of total GoI expenditure prior to the Asian Financial Crisis to reach IDR 96 trillion ($ 9.8 billion) or 17 percent of total GoI expenditures[10] in 2005. In 2006, the budget allocation for the fuel subsidy was reduced to IDR 54 trillion based on the November 2005 price increased, but has already revised twice to IDR 64 trillion or over 9 percent of total GoI expenditure.

[8] Annex 3 presents the process GoI uses to determine and distribute subsidy amounts.
[9] This chapter summarizes the subsidy policy and its impacts, but a more detailed account of the GoI subsidy policy is presented in Annex 2.
[10] Note that the exchange rate in Indonesia changed dramatically from 2,368 IDR/$ in the year prior to the Asian Crisis to 9,751 IDR/$ by 2005.

The Government has also had limited success managing the impact of international price volatility. Sudden significant price adjustments administered through ever changing mechanisms have brought uncertainty to many investors and consumers. These ad-hoc adjustments in the face of international price volatility and exchange rate fluctuations have also made fiscal management a challenge. The period between 1999 and 2001 provides a good illustrative example. In October 2001, the GoI administered a modest fuel price increase in response to international oil prices that have risen from under $15 per barrel to around $40, which would have increased the subsidy burden. By June 2001, however, the Rupiah depreciated 22 percent in relation to the US dollar, forcing another ad-hoc upward adjustment of prices. Even with the domestic price increases, the fuel subsidies remained substantial at IDR 68 trillion ($6.7 billion) or 20% of total GoI expenditure. Later in 2004, the GoI budgeted IDR 14 trillion ($1.7 billion) or the equivalent of 4 percent of total GoI expenditure towards the fuel subsidy in anticipation of international oil prices remaining around $40 per barrel. By October 2004, the price per barrel had reached between $56 to $61 compelling a 300 percent higher budget revision to IDR 59 trillion ($6.6 billion) or about 14 percent of total GoI expenditure. The budgetary burden from fuel subsidies continued to grow thereafter as international fuel prices continued to rise to historically high levels. As previously mentioned, by November 2005, GoI had little choice but to administer the largest fuel price increase in recent memory while also revising the fuel subsidy allocation upwards to IDR 89 trillion ($ 9.2 billion) or 16 percent of total GoI expenditure. In order to assist the poor mitigate the impact of the price increases, the GoI transferred some of the saving from the reduction of subsidies towards a cash transfer program (see box).

BOX 1.1: Experience of Cash Transfer Program in Indonesia

"In preparation for the major price increases in October 2005, GoI decided in August 2006 to rapidly roll out a cash transfer scheme. The program was initially for 15.5 million poor and near-poor households in Indonesia (some 28 percent of the national population in excess of the poverty rate of 16 percent). The size of the transfer was about US$ 30 per household every three months, to be continued for one year in four payments. The speed at which the program had to be put in place—the cash transfer began in October 2005—inevitably meant that there would be some implementation problems. There were numerous media reports about problems with initial implementation, including cases of mis-targeting, leakage, and lack of crowd control at cash disbursement points. The Central Bureau of Statistics stated in February 2006 that the process of identifying eligible beneficiaries was becoming increasingly difficult with time: at the beginning, households being assessed were not fully aware of the benefits of being qualified but by February 2006, people knew and put pressure on the bureau officials to declare them eligible. (*Antara 2006).*

Overall, however, considering the amount of time available to the government, the program performed well. Out of the original 15.5 million cards, about 600,000 cards were withdrawn on the basis of verification conducted in late 2005. Of the 12 million new applications, 4.3 million households have been found eligible. As a result, the total number of beneficiaries has increased to 19.2 million for the second tranche. The government responded quickly to reports of irregularities and commissioned an early assessment of problems with the first tranche of disbursement. The assessment pointed to overall satisfactory results. Regional targeting and transfer of funds worked on time and beneficiaries expressed satisfaction with the program. For poor recipients, the cash transfer more than compensates the losses incurred as a result of the fuel price increase. Even under assumptions of moderate mis-targeting—with cash benefits randomly distributed to the bottom 40 percent instead of the targeted bottom 28 percent—the program is anticipated to prevent an increase in the poverty rate due to the fuel price increase. There were additional savings as a result of shifting away from universal price subsidies to targeted cash transfer. These savings were re-directed to pro-poor programs in education, rural development, and healthcare. Thanks to all these measures, in a country marked by a history of violent protests against fuel price increases, the very large price increase of October 2005 passed without major public protest."

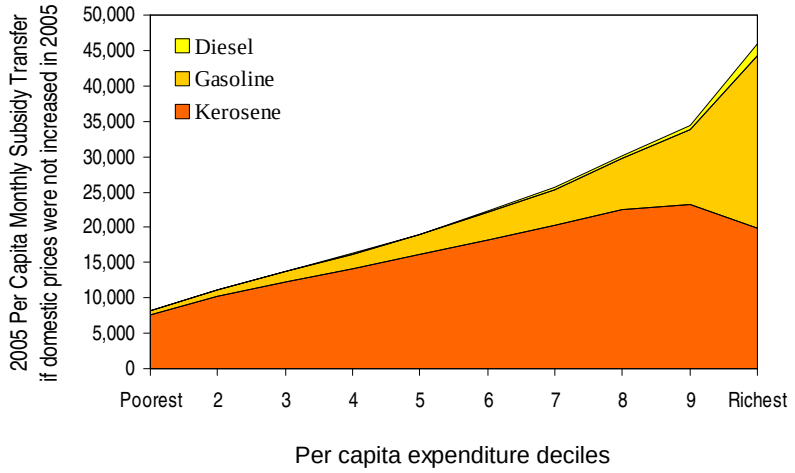
--From "Coping with Higher Oil Prices, World Bank (June 2006), ppg. 76-77

1.4.2 THE TARGETING OF BENEFICIARIES OF THE PETROLEUM FUEL SUBSIDIES

The GoI policy to provide price subsidies towards domestic consumption of petroleum fuels has allocated fiscal support to consumer groups who may not need them. Furthermore, prices that are maintained below economic costs lead to inefficient outcomes due to over consumption of petroleum fuels. Finally, differential domestic prices that are held below international levels encourage leakage through smuggling and fuel mixing.

The poor are not effectively targeted: The present subsidy is regressive as it does not effectively target the poor – a key intended beneficiary of price subsidies. A basic calculation shows that out of the approximately 12 million kiloliters of kerosene sold to households in 2004, only 2.8 million kiloliters or about a quarter were consumed by the poor and near-poor[11]. This imbalance is reflected regionally as well. For example, Maluku, where 39 percent of the population lives in poverty, receive less than 5 percent of the fuel subsidy for kerosene that people in West Java enjoy, where the poverty level is only 12 percent. A recent World Bank assessment[12] concludes that the richest 10 percent benefited five times more than the poorest 10 percent from fuel subsides in 2005. Alternately, it estimates that the top 40 percent captured 60 percent of the subsidy benefits, as shown in Figure 1.11. The regressive nature of the subsidy is particularly stark for consumers of gasoline who tend to be wealthier. The kerosene subsidy also tends to benefit the rich more although many poor people also receive these funds.

FIGURE 1.12: Current Fuel Subsidies are Regressive



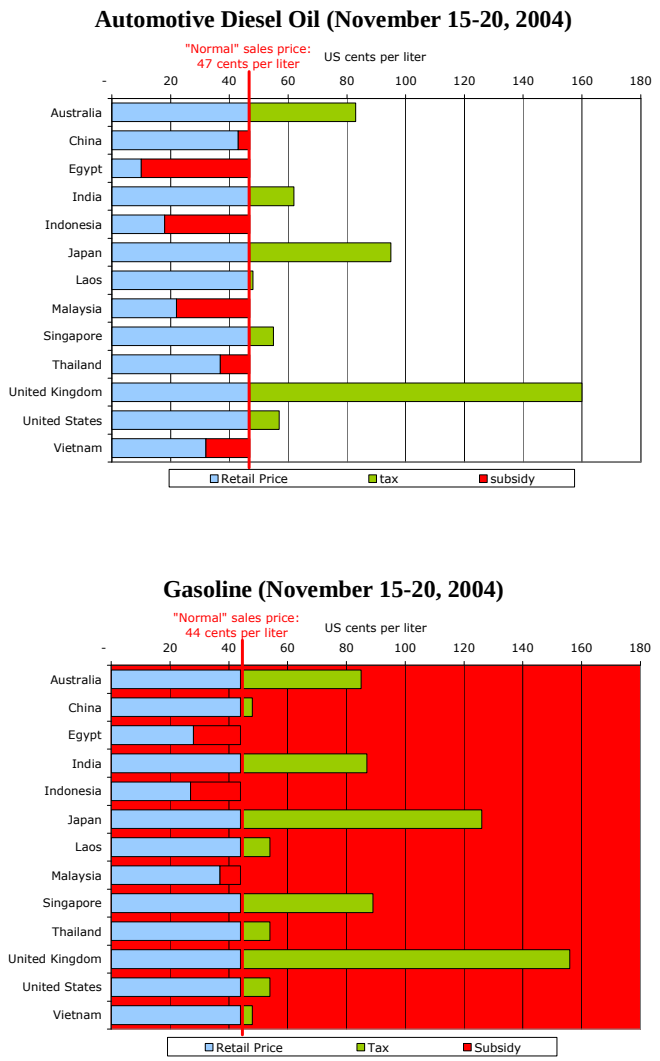
Per capita monthly subsidy incidence based on Susenas Core 2004 household fuel expenditure data. Subsidy estimate is based on difference between domestic fuel prices at the beginning of 2005 and average international price for each fuel in 2005. Households purchase small amounts of diesel (mostly among the better-off).
Source: World Bank Indonesia Poverty Assessment 2006.

[11] BPS estimates that Indonesia has over 35 million people (16% of total population) who the Government defines as poor and another 26 million people (12% of total population) who are classified as "near poor" with per capita expenditure within 205 above the poverty line..
[12] World Bank. Indonesia Poverty Assessment 2006.

Leakages due to fuel subsidies: The prices of petroleum fuels in Indonesia have been significantly lower than in neighboring countries such as Malaysia and Singapore[13]. These large differentials create incentives for cross-border smuggling of fuel. During a Government led crackdown on such activity in 2005, a number of fuel smuggling operations were discovered and violators prosecuted. Large price differential among different fuels also encourage adulteration. Since the domestic price of kerosene is significantly lower than that of other fuels, consumers may mix it into diesel or gasoline to maximize benefits from the subsidy[14]. Differntial pricing among various consumer categories can also lead to misallocation of subsidies. For example, the price of kerosene for households and industrial consumers is significantly different, which could lead to redirecting household kerosene purchases towards small industry use.

Specific data on the quantity of fuel that may be leaked is unavailable. Anecdotal evidence does suggest that the there is considerable scope for smuggling, fuel mixing, and inter-category leakage. These infractions would be difficult to quell as long as differential

FIGURE 1.13: Indonesia has some of the Lowest Prices for Petroleum Fuels



* "Normal" (non-subsidized) sales price set at 10 US cents below average US sales price

Source: International Fuel Prices, Gerhard Mettschies, GTZ, 2005

[13] During the third week of November 2004 (14 weeks before the first price increase of 2005), the price of a liter of gasoline was 27 cents in Indonesia compared to 37 cents in Malaysia and 90 cents in Singapore. At the same time, the price of a liter of diesel was 18 cents in Indonesia compared to 22 cents in Malaysia and 55 cents in Singapore. Malaysia also has deep fuel subsidies while Singapore has significant taxation of fuels. In October 2005, GoI raised the prices of gasoline and diesel to 48 cents and 46 cents per liter, respectively.

[14] Diesel engines can operate on a cocktail of kerosene mixed into diesel fuel. In some countries, up to 30 percent of kerosene has been found to mixed in diesel.

prices are being applied for petroleum fuels in Indonesia.

Box 1.2: Reports of Impact of Smuggling

The following are accounts that appeared in the media regarding Indonesia's recent crackdown on various petroleum fuel smuggling operations.

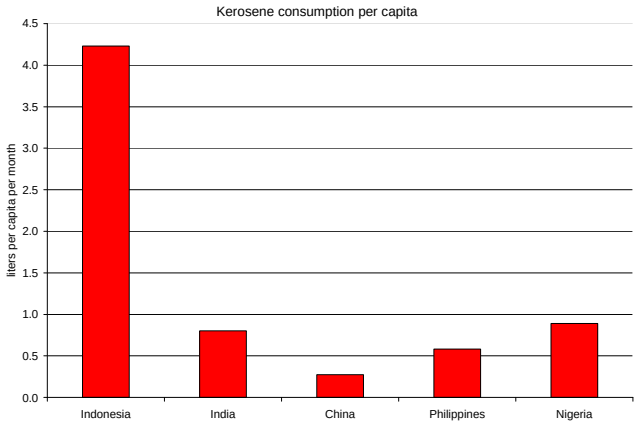
"The Rp 8.8 trillion (US$850 million) in annual state losses by oil theft and smuggling was committed by low-ranking officials, PT Pertamina's board of directors announced on Friday, and 12 of them have already been discharged…Pertamina's President Director defended himself by saying that the oil firm was in the process of questioning several middle- and high-level officials over the case, but with no early indication of their involvement so far." –from *Pertamina says only little fish linked to smuggling*, The Jakarta Post, September 10, 2005

"Fifty-three people were nabbed by the East Nusa Tenggara police for trying to smuggle fuel into neighboring Timor Leste. 'Along with the suspects, the local police confiscated 1,370 liters of premium gasoline, 60,910 liters of diesel fuel and 21,192 of kerosene as well as six small ships and two fuel trucks,' said the National Police spokesman." –from *Dozens arrested over fuel smuggling*, The Jakarta Post, July 16, 2005

"The Indonesian Navy has apprehended two ships carrying tens of thousands of liters of fuel over the past week, one in the Riau Islands [for hoarding fuel before the Oct 1 fuel price increase] and the other in Maluku waters…[where] Navy personnel nabbed a ship in Arafura waters…carrying 1,100 tons of diesel. The arrest was made as the diesel was not accompanied by legal documents…The fuel was believed to be on its way to Thailand, the police spokesman said." –from *Two ships seized for hoarding*, smuggling, The Jakarta Post, October 6, 2005

Over-consumption due to subsidies: When Government interventions alter market based price signals, as is the case for petroleum fuels in Indonesia, it generally leads to an inefficient outcome. There is evidence of over consumption of petroleum fuels in Indonesia driven by domestic prices that have been kept below international levels for a number of years. Indonesia seems to use significantly more kerosene on a per capita basis than most other countries where prices are closer to market levels such as the Philippines and China. Indonesia's per capita consumptions, however, significantly surpasses even countries such as India and Nigeria, who have a significant deviation between international and domestic prices due to substantial subsidies on petroleum fuels.

FIGURE 1.13: Indonesia Consumes Significantly Higher Amount of Kerosene

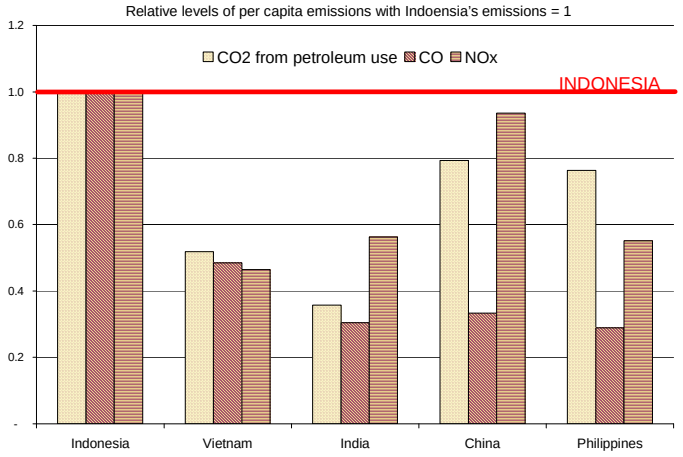


Sources: Kerosene consumption data from Bacon and Kojima, Coping with Higher Oil Prices (2006); population data from World Bank World Development Indicators

1.4.3 ENVIRONMENTAL AND HEALTH IMPACTS OF THE FUEL SUBSIDY POLICY

Fuel subsidies in Indonesia indirectly contribute to environmental degradation that ultimately leads to negative health impacts. The key pollutant levels in Indonesia are high compared with other East Asian countries, which is significantly a result of the excessive use of petroleum fuels. While a calculation of this excess in emissions caused by fuel subsidies is beyond the scope of this study, it is clear that the present regime of controlling prices below "efficient" levels through subsidies encourages "over consumption" that incrementally damages the environment and adversely impacts people's health[15].

Figure 1.15: Indonesia's high fuel-based emissions



CO_2 emissions for 2004; CO and NO_x emissions for 2000; Sources: World Resources Institute Climate Change data for CO and NO_x; US Department of Energy, Energy Information Administration website for CO_2; World Bank World Development Indicators 2006 for population.

Air pollution in Jakarta can serve as an indicator for the rapidly deteriorating air-quality throughout Indonesia[16]. In the late 90's, it was estimated that over three quarters of NO_x and SO_2 emissions in Jakarta were from fuel consumption mostly from transport[17]. In addition, some 90 percent of the carbon monoxide (CO) emissions[18] were from vehicles, mostly motorcycles[19]. The World Bank identifies lead emissions that mostly result from leaded gasoline to be a significant danger to the environment in Indonesia, particularly affecting children. Atmospheric lead pollution in Jakarta was found to triple between 1998 and 2000 again

[15] The main causes of urban air pollution are lead, fine particulates ($PM_{2.5}$, PM_{10}), carbon monoxide (CO), nitrogen oxides (NO_x), and sulfur dioxide (SO_2). Lead impacts the nervous, renal, reproductive, hepatic, cardiovascular, and gastrointestinal system—children are especially sensitive. Fine particulates (of aerodynamic diameter below 10 microns [PM_{10}] and below 2.5 microns [$PM_{2.5}$]) cause irritation of mucous membranes and the possible initiation of a variety of respiratory diseases. Nitrogen oxide increases susceptibility to infections and irritates lungs, and can also induce asthmatic attacks. Atmospheric SO_2 can combine with moisture in the air to form 'acid rain' which affects crops, forests, buildings, and surface water quality. CO impairs perception and thinking. It brings on angina and can cause unconsciousness and death. Unlike CO, carbon dioxide (CO_2) does not have direct local health consequences but it is an important greenhouse gas with climate change effects.

[16] This is also why air quality measurements are for Jakarta and why most available data is about Jakarta.

[17] Reducing Vehicle Emissions report, RETA 5937, reported in Government of Indonesia, Ministry of Environment presentation to the World Bank, 11 May 2006.

[18] primarily due to the incomplete combustion of vehicular fuel

[19] about 70 percent from motorcycles, 16 percent from cars, and 4 percent from buses

primarily believed to be due to the increasing numbers of vehicles. While Jakarta phased out lead in July, 2001, GoI's plan to phase out lead across the country by 2003 has faced delays[20]. Further, it is estimated[21] that two-thirds of Indonesia's particulate emissions are from fuel use, and the levels are significantly higher than in neighboring countries[22].

The negative health impacts of air pollution have significant economic costs. A 2002 Asian Development Bank study estimated that air pollution imposes costs of at least US$ 400 million on the Indonesian economy every year. While various assessments have arrived at different estimates, they tend to agree that air pollution is a key determinant of these impacts on health. Since fuel consumption is a major source of the high levels of emissions in Indonesia, it is clear that the present subsidy policy which encourages excessive use of fuels bears significant costs to the economy by contributing towards adverse environmental effects[23].

1.5 INSTITUTIONAL AND LEGAL EVOLUTION OF THE PETROLEUM FUEL SECTOR

For more than three decades until 2001, Indonesia's oil and gas sector was vertically integrated and operated by a single national oil company—Pertamina[24]. In the upstream sub-sector, Pertamina contracted private oil and gas exploration and production companies on GoI's behalf[25]. It was the world's largest LNG exporter. And Pertamina was the country's only downstream oil company conducting all refining, oil transport as well as the import, export and retail marketing of refined petroleum products. Pertamina also acted as the *de facto* regulator of the oil and gas sector on GoI's behalf. And since Pertamina also conducted some oil and gas exploration and production itself, private exploration and production companies were effectively contractors to Pertamina but also competed with it.

GoI controlled fuel prices through Pertamina and compensated the difference differential between the import costs and regulated domestic prices. The GoI also established a regional quota for each petroleum fuel, which Pertamina was required to serve (see Annex 3). The GoI also determined the fixed retail prices that would apply to Pertamina sales. To compensate for their losses, the GoI calculated a subsidy based on a 'cost and fee' method where Pertamina was reimbursed for their unrecoverable production costs plus a $ 0.2 per liter of subsidized fuel they distributed. The actual re-imbursement to

[20] Challenges to the phase-out plans have included limited capacity at Pertamina refineries and resistance in authorizing private refiners to produce and/or import unleaded gasoline for retail.
[21] Little Green Book 2006
[22] concentrations of 114 micrograms per cubic meter ($\mu g/m^3$) for Indonesia compared to 80 for China, 77 for Thailand, 34 for the Philippines, 66 for Vietnam, and 28 for Malaysia.
[23] Indoor air pollution (mainly from cooking with firewood) is understood to have significant adverse health effects but its impact in Indonesia remains grossly under-investigated.
[24] Pertamina's status was *perum*, i.e., a government owned entity.
[25] Private companies produce some 90 percent of Indonesia's oil and gas.

Pertamina would be made after a review by the Government audit agency, BPKP, which delay repayments up to two years which required Pertamina to bear the burden of pre-financing the GoI subsidy.

The Oil and Gas Law of 2001 (The Law) legally ended Pertamina's downstream monopoly by opening up Indonesia's hydrocarbon sector to private entrants and competitive forces. Further, the oil sector was unbundled into its upstream and downstream components. BP Migas was established as GoI's supervisory and contracting arm for upstream private investment while BPH Migas was established as the downstream regulator and planner. In compliance with The Law, Pertamina was converted to a Persero, a Government-owned limited liability company. The Law envisages that new entrants, whether private or public, can enter the import, refining, distribution and retail sub-sectors, and that pricing in the downstream oil sector will be conducted on the basis of competition. Any social obligations to provide for certain groups in the community are expected to be undertaken by the GoI.

Petroleum fuels pricing remains with GoI but the quota for subsidized fuels are now developed by BPH Migas instead of Pertamina (see Annex 3). BPH Migas also has the authority to grant the distribution rights throughout Indonesia for subsidized fuels, referred to as the Public Service Obligation (PSO), to a single provider each year. Pertamina has been granted the PSO rights for the past two year which makes them the sole distributor of subsidized fuels, which account for more than 60% of total supply in the country effectively limiting the scope of operations for other entrants in the downstream petroleum product market. For undertaking the PSO obligation, Pertamina is provided a subsidy to cover their revenue shortfall which is calculated based on MOPS plus a region-specific margin[26].

Indonesia's sizable petroleum fuels market[27] has been undergoing a gradual transformation since the Oil and Gas law of 2001. But, today, it remains overwhelmingly dominated by Pertamina—a US$ 25 billion company—with domestic fuel sales serving as its major business. In the last couple of years, at least a third of Pertamina revenues have come from its sale of subsidized fuels across the country under the PSO. Pertamina remains one of the world's leading LNG producers exporting some US$ 6 billion worth of LNG every year[28]. Pertamina also operated the country's seven refineries and exported an estimated US$ 2.5 billion worth of oil products in 2004. Domestic sales of non-oil products (LPG, petrochemicals, lubricants, etc.) amounted to another US$ 3 billion in 2004. Pertamina also conducts business in geothermal exploitation for power.

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[26] The PSO implementer proposes a factor (called alpha) for each region to cover its cost of distributing fuels in that region plus the PSO implementer's margin. This alpha is added to the MOPS price of each fuel for each region (hence, this method is called the 'MOPS plus alpha' or 'alpha' method). The subsidy re-imbursement amount is fuel sales in the region times the difference between MOPS plus alpha for the region and the domestic price.

[27] According to the BP Statistical Review of World Energy, 2006, Indonesia's domestic petroleum fuels market consumed 1.2 million barrels per day in 2005 compared to Brazil 1.8 mbbl/day, Mexico 1.98 mbbl/day, India 2.5 mbbl/day, Malaysia 0.5 mbbl/day, Thailand 0.96 mbbl/day, China 7 mbbl/day, Argentina 0.4 mbbl/day, and the Philippines 0.3 mbbl/day.

[28] Although LNG proceeds are booked as GoI revenue because GoI owns the gas resource.

Pertamina still distributes over 95 percent of petroleum fuels in Indonesia—estimated at US$ 18.2 billion including subsidies in 2004. Retail sales are conducted through more than 3,150 filling stations across the country, with a majority of them owned and operated by Pertamina dealers[29]. Over 60 percent of the stations are located in Java with the remainder scattered throughout the country[30]. There has been a major expansion of filling stations, as the network which was expanding about 60 new locations a year added 620 new stations in 2005 as Pertamina has made it more attractive to become a dealer.

Meanwhile, new entrants have expressed interested in establishing a presence in Indonesia's large downstream market. For example, Shell and Petronas have established a handful of filling stations primarily in Jakarta serving their version of non-subsidized variants of gasoline. However, their expansion will be constrained if Pertamina maintains its market dominance through their extensive distribution network and their concession as the only provider of a significant quantity of subsidized petroleum fuels.

[29] Only 40 stations are owned by Pertamina, the rest of them are franchises operated by Pertamina dealers.
[30] In 2004, 60 percent of the filling stations were in Java, 22 percent in Sumatra, 6.5 percent in Sulawesi, 5 percent in Kalimantan, 4.4 percent in Bali and Nusa, 1.4 percent in Maluku and Papua, and the rest in smaller islands.

CHAPTER 2: The Target Regime

Key Messages

Policy: The GoI's objective as expressed in the Oil and Gas Law is to create an efficient, competitive, environmentally-friendly oil and gas regime that provides products of standard quality at prices that are formed by wholesale competition plus the costs of distribution and retailing together with applicable taxes. As well, policy is to encourage the growth of the national potential and role. The Law aims to ensure the security and sustainability of fuel supplies, while it also maintains the Government's social responsibility towards certain community groups. This latter provision is assumed to relate primarily to the poor. It is clear from GoI statements and behaviors, that this is an important social goal.

Evaluation: The GoI's objectives for the oil products industry have not been met by GoI's numerous policies for controlling prices and providing commensurate subsidies to maintain these price levels. Besides its obvious deficiencies at the macro budget level, the pricing and subsidy system: creates an economically inefficient oil products market; is ineffective as an instrument of social policy because of "leakages" and because it poorly targets low-income populations; denies to most oil products consumers the benefits of marketplace competition; has some adverse environmental effects; results in the use of off-specification oil products; and creates opportunities for corruption. Moreover the national potential and role is not being encouraged, partly because Pertamina, with its 95%+ share of the products market, is undercapitalized and almost certainly not internationally competitive.

International experience: Policies of non-oil producers and net oil importers (like Indonesia) that are intended to fulfill a social objective by holding some oil products prices below international levels have always had perverse effects in terms of market functioning and national budgets. At the same time they have failed to efficiently meet their social objectives. Public outreach in terms of communications programs and transparency have been critically important in achieving public acceptance of programs designed to address problems for low-income groups caused by high oil prices. Price stabilization funds need to be capitalized with large initial transfers which usually become another form of subsidy. Price subsidies can result in fuel shortages as consumers either are unable to obtain sufficient supply at regulated prices or are forced to resort to paying a black market premium. A wide range of countries—rich and poor, small and large, oil-importers and exporters—have introduced market-based fuel pricing of combined with special measures to avoid social disruption and to cushion any price impacts on low-income consumers

Market structure and functioning: The Indonesian oil products market is largely closed to competitive forces. Unless they are released, bringing-in new investment, entrepreneurship and technology, consumers will not reap the full benefits available from replacing the price-subsidy regime and moving to international price levels. Market restructuring is therefore a prerequisite for a successful transition from a price-subsidized state-enterprise monopoly and should take place as far as possible in parallel with the adjustment of prices and subsidies, but without being identified as a cause of those price adjustments. At the same time, Pertamina's role and activities will have to be changed: to facilitate the entry of new market participants; to create a competitive market; and to enable the company to realize its full potential and role in accordance with the Law.

Target regime: The recommendations are designed to help create an Indonesian oil products industry conforming to the policy objectives set out in the Law, something which pricing and subsidy regimes up to the present have failed to do. Direct subsidies on Indonesian oil products prices should be removed and replaced by subsidies targeted at low-income oil consumers. All oil products prices should be adjusted to international market parity levels. This is an intermediate step before the establishment in Indonesia of a bulk oil products market characterized by significant numbers of buyers and sellers and sufficient liquidity to allow competitive price formation. Prior to that condition being achieved, consideration should be given to mechanisms to smooth short-term price variations and possibly to hedging against volatility in prices of products used by low-income consumers where that volatility may have to be offset by e.g. cash subsidies. Any such mechanisms should be chosen and implemented so as not to impair the early development of a competitive oil products market. This recommended target regime together with restructuring of the market and of Pertamina's role in it, subjected to modern regulatory oversight, is the most effective way to achieve the policy objectives of an independent, reliable, transparent, competitive, efficient and environmentally friendly petroleum products sector as set out in the Law, as well as encouraging the growth of national potential and role.

ABOUT THIS CHAPTER

This chapter first identifies what are the GoI's broad policy intentions for the petroleum and natural gas sector, of which the oil products industry is a major part (see 2.1). Secondly it considers the extent to which the prevailing pricing system supports those intentions (2.2). It thirdly posits desirable characteristics of a new system based on a review of relevant international experience (2.3). Fourthly it highlights the need for and components of a liberalized oil products market (2.4). Finally it proposes a target pricing and focused subsidization regime towards which, arguably, the GoI is already moving (2.5).

2.1 ESTABLISHED POLICY INTENTIONS

Four key objectives of the Oil and Gas Law of 2001 (see Box 2.1) have direct bearing on Indonesia's downstream petroleum fuels market to provide for the following:

(i) a secure and sustainable supply;
(ii) a competitive market;
(iii) efficient and competitive pricing, and
(iv) support to 'certain community groups'.

The Law's main aim is to ensure the security and sustainability of adequate fuel supplies to the downstream market in Indonesia. A key task of BPH Migas, the downstream regulator and planner established by the Law, is to guarantee the availability and smooth distribution of oil. The Government, through BPH Migas, is also required to develop a strategic petroleum reserve. The Implementation Rules and Regulations (IRR) of the Law subordinate the establishment of a competitive market to the consistent availability of fuels. The IRR's state that market competition will be implemented gradually in order to ensure the availability of fuels.

The Law aims to create a petroleum fuels market in which business is 'carried out through a reasonable, fair, and transparent business competition mechanism'. To this end, the Law abolishes Pertamina's monopoly over the downstream sector opening the sector up to entry by other players. It is The Law that led to Pertamina being converted to a government-owned limited liability company (a *persero*) having to compete in the sector with other companies. While this stipulation was implemented some three years ago, Pertamina has significant market share while other companies are limited in their presence in the downstream market. BPH Migas, in its market supervision role, is to ensure security of supply (including in areas where the market mechanism has not worked well and in remote areas) and determine each oil company's contribution to the distribution of fuels in the country as stipulated by the Government. BPH Migas is to settle any disputes arising in fuel trading.

BOX 2.1: Key Features of the Oil and Gas Law 2001

- Petroleum and Natural Gas are **strategic natural resources controlled by the State** and constitute a vital commodity; their exploitation must **maximize the people's prosperity and welfare** (Article b);
- The **purpose** of the new law is to create independent, reliable, transparent, competitive, efficient, and environmentally friendly petroleum and natural gas business activities as well as encourage the growth of the national potential and role (e);
- **Legal unbundling** between upstream activities (exploration and production) and downstream activities (processing, transportation, storage and trading) though holding companies owning separate upstream and downstream businesses are allowed (Article 10),
- **Goals**: (a) upstream exploitation through an open and transparent mechanism to make it effective, efficient, highly competitive and sustainable; (b) downstream business based on accountability and carried out through a reasonable, fair, and transparent business competition mechanism; (c) efficient and effective supply; (d) increase ability to compete nationally, regionally, and internationally; (e) increase state's income to provide maximum contribution to economy (f) create job opportunities, improve public welfare and preserve the environment (3);
- An **upstream implementing agency** (BP Migas—accountable to the President) will be the government party to all production-sharing contracts granting approvals (in consultation with regional governments) to resource development plans/budgets and supervising their implementation (5.1b, 11.1, 12.2, 44 & 45),
- A **downstream regulator** (BPH Migas—accountable to the President) will, in its market supervision role, ensure the availability and smooth distribution of oil, regulate gas transmission and distribution, tariffs for households and small-scale commercial customers (gas prices for large-scale customers are negotiated), tenders for new transmission and distribution investments in the natural gas master plan (8, 46 & 47.4),
- **Production sharing:** The government owns the natural resources till the point of sale, BP Migas conducts operational management (grant of approvals and supervision) and developers are responsible for capital and fully bear the risks (6),
- **Open access** to gas transportation infrastructure (8.3),
- Upstream developers will sell a minimum of **25% of production domestically** (22.1),
- The Ministry will develop a **strategic petroleum reserve** & a national downstream gas master plan (8 & 27.1)
- Oil and its products shall comply with government-stipulated **standards and quality** (28.1)
- **Pricing** shall rely on a mechanism of fair and reasonable business competition mechanism (except gas for household and small consumers) keeping in mind the government's social responsibility to certain community groups (28)
- Transport and storage **facilities can be utilized collectively in remote areas** and in regions where there are scarce amounts of oil under BPH Migas regulation (29)
- **Land settlements** to be carried out through consensus, a sale and purchase transaction, and the grant of reasonable compensation (34)
- Developers and service providers will be obligated to **prevent and overcome pollution** as well as to restore environment damages, guarantee **work safety and environmental management**, and priority to local manpower, goods, and services (40)
- **Transition:** Pertamina to continue playing BP Migas' contractor role till BP Migas is established (61a); Pertamina will become a state-owned limited liability oil and gas company by Nov 2003 (60a, 63.d); all existing contracts with Pertamina will remain in effect till their expiration (63.c)

Efficient and competitive pricing of petroleum fuels is to be supervised by BPH Migas. Fuel prices shall be assigned to a fair, healthy, and transparent competition. Retail fuel prices shall consist of four components: the wholesale price plus the cost of distribution

and the addition of the retailer's margin and taxes imposed pursuant to the laws in force. The Government may take action to stablize prices in the interest of burdens imposed on users, consumers, and oil companies when prices are deemed to be unstable and volatile.

The pricing policy stipulated in The Law, however, does not preclude the social responsibility of the Government towards certain social groups. This is understood to relate primarily to protection of the interests of low-income consumers. Therefore, any price adjustments should be complemented, as they have been in the past, by carefully targeting programs to mitigate any adverse impact on the poor. This stipulation may possibly also drive political decisions such as ones designed to safeguard critical industries such as fertilizer. Consideration is also given to remote areas for which the Minister of Energy can issue a policy based on location, preparedness for the establishment of a market, and the strategic value of the area. In such remote areas, BPH Migas can guide the joint utilization of fuel transportation, storage, and distribution facilities. In addition, an oil marketing company may cooperate with a variety of regional and small enterprises, cooperatives, national and otherwise, which have distribution networks in such areas.

2.2 COMPARATIVE EVALUATION BETWEEN THE EXISTING PRICING AND SUBSIDY SYSTEM AND THE GOVERNMENT'S OBJECTIVES

The present system is evaluated against the expressed broad as well as specific policy goals of the GoI, as follows:

2.2.1 EFFICIENCY

As described in Chapter 1, the GoI has tried to achieve the goal of bringing maximum benefit of the country's natural resources to the public by controlling prices through subsidies and differentiation of prices between fuels and among consumer categories. Kerosene has received the greatest subsidy while domestic gasoline prices have been kept closest to international price levels. This approach has led to sub-optimal economic choices, unsustainable fiscal costs, regressive outcomes that mis-target away from the poor, as well as waste and abuse of the pricing regime through smuggling and adulteration. The impact of these policies on the efficiency of outcomes can be described as follows:

- **Economic efficiency**: Efficient utilization of scarce resources is best achieved when prices reflect the marginal costs of supply. Indonesia is a net importer of oil products. The marginal cost of a unit of supply is therefore the price of oil products in the international market (IMP) plus freight to the end-user. Those prices reflect both the cost of meeting Indonesia's large products import

requirements and the international market value of the oil products produced by Indonesian refineries for local markets[31].

The present system accepts those prices, currently as expressed by the Mid-Oil Platt's Singapore ("MOPS") price (plus a incremental factor for some customer categories, as described in Chapter 1), but then due to the application of the price controls and subsidy mechanisms, they are not adequately reflected in the prices of about 60% of the total products volume consumed in Indonesia. Consumers therefore do not receive correct price signals. The resulting impacts include:

- *Over-consumption of the subsidized products* leading to inefficient choices in such matters as the volume of kerosene used by the country (see Chapter 1);
- *Distortion of the composition of the petroleum products market*, with excessive demands for the subsidized products relative to unsubsidized ones and probably adverse consequences for the composition of refinery outputs compared to unsubsidized market behaviours.
- *Unfavourable impact on the petroleum trade balance,* because total consumption is exaggerated, exports are smaller or imports are larger, or both.
- *Distortion of the energy market:* the utilization of alternate energy resources, many which are available in abundance in Indonesia, is discouraged by subsidies that depress the price of oil fuels. For example, there have been little incentive to use compressed natural gas ("CNG") for vehicles or natural gas for power generation, which has likely led to under-investments due to the inability of these sectors to price compete with below market levels for fuel oils.
- *Distortion of the broader energy economy:* By subsidizing non-renewable energy, for example kerosene for lighting in rural areas, the system retards the introduction of competing renewable-energy technologies such as photovoltaics, modern biomass and geothermal. Furthermore, the subsidy system discourages the use of natural gas: the gasoline subsidy reduces the incentive to use CNG in vehicles and the former subsidy for electricity generation fuels discouraged the use of natural gas in power plants. And both distortions have had adverse effects on the atmospheric environment.

- **Fiscal (budgetary) efficiency:** The oil products subsidy has in recent years become as high as 25% of the total GoI budget. This unacceptably large amount severely constrains other expenditures such as health, education, and infrastructure. Moreover, because of the volatility of the international oil market, the subsidy costs cannot be confidently forecasted even 12 months ahead, as illustrated in Chapter 1. This introduces a huge element of uncertainty in annual and longer-term budget planning.

[31] If the country were to become a net exporter of oil products, the value of those products in Indonesia would be the IMP minus ocean freight.

- **Efficient achievement of social policy goal:** It is evident that the pricing and subsidy system is not efficient or effective in social terms, for the following principal reasons;:

    - *Ineffectiveness in relation to meeting the GoI's social responsibility towards low-income consumers of oil products:* Chapter 1 illustrates that fuel subsidies disproportionately benefit the better-off consumers than the poor who it is intended to help. Gasoline used by cars, motorcycles, and intra-city trucks are generally not a fuel used by the poorest, yet it receives a subsidy. Substantial subsidies for kerosene have led to significant consumption by the better off even when a cledaner and safer fuel such as LPG is available to them. There is therefore significant subsidy "leakage" towards higher-income groups as a result of the present pricing and subsidy policy. Given that there appears to be a regional concentration of these higher income groups mostly in the economic growth centers in the islands of Java and Bali, it is reasonable to conclude that this "leakage" also has a geographical component. If the subsidy were a tax (and it is of course the reverse of a tax) it would be considered to have a regressive effect in terms of personal incomes as well as regionally.
    - *Ineffectiveness in "targeting" efficiently private and small commercial Indonesian consumers of specific products:* Available data and anecdotal evidence suggest that there is major "leakage" of the subsidy as a result of smuggling subsidized products out of the country and because of mixing of such products with unsubsidized fuels (adulteration). The price differentials between Singapore price and Indonesian prices have encouraged smuggling, and the inter-fuel price differential between Indonesian prices for diesel and kerosene have encouraged adulteration of kerosene into diesel, as highlighted in Chapter 1.

  On both these grounds, therefore, the subsidy regime is found to be inefficient as an instrument of social policy. The financial subsidy "inputs" (namely, budgetary expenditures on oil subsidies) appear to be far greater than the desired "outputs" (namely, value received by the low-income target social group).

2.2.2 COMPETITIVENESS

The present fuel pricing system inhibits the desired development of a competitive oil products market. This is because a Public Service Obligation ("PSO") is conferred on the state oil company, Pertamina, for use by the GoI as the sole channel to flow subsidy funds to the targeted consumption sectors (see section 1.5 and Annex 3). This means that the 60% of the oil products market which receives the subsidies is not open to investment funds, entrepreneurship and technology that could otherwise be available from domestic and foreign sources—state-owned enterprises (SOEs) (for example Petronas) as well as

private international oil companies (IOCs) (for example Shell) or private companies from other developing countries (example: Indian oil refiners).

This situation has at least two adverse consequences. First, it denies the Indonesian consumer most of the direct benefits, such as competitive retail prices and product innovations, associated with new entrants, and which they are presently enjoying only in respect of the small quantities of higher-octane gasolines that are being marketed by companies other than Pertamina. Second, it robs the economy of the efficiencies that would undoubtedly be forced onto Pertamina in a competitive environment in which other companies could bring new primary supply to the market (from imports or new domestic refining) and/or create and use their own wholesale and retail distribution channels[32]. Besides increasing consumer satisfaction, by achieving supply at efficient costs, competition could over the long term create consumer price structures that would help to somewhat offset high international oil prices.

The present system has also placed a financial burden on Pertamina in cash-flow terms. This is because the GoI does not compensate the company with its subsidy payments as quickly as would the oil market if all its oil products sales were at international prices Reimbursements to Pertemina has been delayed up to two years forcing the SOE to essentially pre-finance the subsidy program. This places Pertamina;s finances in a precarious position constraining their own investments and operations. BPH Migas, which is now responsible for auditing Pertamina;s fuel sales for the purpose of subsidy compensation, is presently trying to rectify this problem.

In China, the threat of competition resulting from accession to the World Trade Organization (WTO) pressured the government to speed up the restructuring of its national oil company, creating three competing businesses (China National Offshore Oil, China National Petroleum Corporation [Petro-China], and SINOPEC). These companies were then partially listed on the New York and Hong Kong stock exchanges, a step that necessitated an unprecedented degree of transparency of their operations and accounting. They have emerged from this process as much leaner, profitable, respected corporations able to compete at a global level. Pertamina now has a similar opportunity, and is beginning to consider restructuring its operations.

2.2.3 ENVIRONMENTAL IMPACTS

By encouraging greater consumption of petroleum fuels, Indonesia's fuels subsidies have an indirect adverse impact on the country's environment and also on public health. The emission levels in Indonesia are high in comparison with neighboring countries and fuel use is a key contributor as discussed in Chapter 1. Therefore, the negative health impacts of air pollution are estimated to impose a significant economic cost. Un-favorable environmental effects also stem from large-scale adulteration of gasoline and automotive diesel oil (ADO), by mixing in subsidized kerosene. Oil fuels that are adulterated will not

[32] For example, this could mean a lower alpha factor in the MOPS plus alpha pricing formula.

meet GoI's standards and quality specifications, and therefore, lead to reduced engine life and poor vehicle performance in addition to having detrimental environmental effects.
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2.2.4 CORRUPTION

The GoI is committed to cracking down on corruption. The present oil products subsidization system unfortunately creates opportunities for corruption through out-smuggling of below-world-price product which would be reduced if the oil products economy were run at international price levels (Note: Smuggling-out would only be eliminated in the unlikely event that consumption taxes were roughly equal between Indonesia and her neighbours such as Singapore. However, smuggling of Indonesian oil products that do not embody a government subsidy would represent not a cost to the Indonesian budget, but a loss to, say, the Singaporean one)

2.2.5 EVALUATION AGAINST HIGH LEVEL POLICY CONSIDERATIONS

Politicized oil pricing: The Government is closely identified with oil pricing issues since the domestic price is heavily regulated under the present regime. In turn, the Government is challenged to alter policies with regards to fuel pricing largely in fear of a possible political backlash. Since oil prices are ultimately set by international market forces and because the Indonesian Government exercises little control over its levels, it is probably beneficial in the long-term to disassociate itself from setting domestic oil prices.

Sharing in the "national patrimony": It may be argued that the current oil pricing and subsidization regime is a desirable way of conferring on the population at large some benefit from Indonesia's petroleum resources patrimony that is, the "resource rents" from upstream production.

This argument is not sound. The philosophically correct way of distributing the revenue stream from taxing of petroleum resource rents is to invest in the country's capital, whether human (education, health) or physical (infrastructure) and possibly in an investment fund such as Alaska (USA), Alberta (Canada) and Norway have been doing. It is unsound to "spend" these rents, which are in the nature of capital consumption, on current consumption by subsidizing oil use, especially if those subsidies are socially regressive and subject to leakage. Furthermore, carried to excess, such spending can have significant adverse effects, as has been the case in Indonesia. Mexico also illustrates how the low domestic price of gasoline has been a key factor driving demand for automotive fuels much in excess of the country's refining capacity, forcing it to import some 200,000 b/d of the product at a net import cost in 2005 of some $US5 billion.

In conclusion, the fiscally prudent and politically wise course of action is to subsidize low-income fuel consumers and not the fuels themselves. Also there are more efficient ways to equitably distribute the rents arising from petroleum resource development. With

the needs of future generations in mind, these rents could better be “invested” rather than “consumed”.

2.2.6 EVALUATION IN RELATION TO INTERNATIONAL EXPERIENCE

In all member countries of the Organization for Economic Cooperation and Development (OECD), the prices of oil products are generally aligned with the international market. In the North American member countries, this policy position was arrived at after painful experiences of managed prices over a period of a dozen years. The Asian/Australasian membership of the OECD includes Australia, Japan, Korea and New Zealand. The same world-market pricing is used by other advanced countries such as Singapore and Taiwan. Typically, because of high consumption taxes levied in almost all these countries, the prices of automotive fuels are far above any import parity level. The high taxed price of these fuels means that, in proportionate terms, fluctuations in international prices are muted. The experience of developing countries is more mixed and varied.

Conclusions on international practice: As summarized in Box 2.2 (and detailed in Annex 3), four relevant conclusions can be drawn with some confidence from the World Bank’s existing work in this area:

1. Policies of non-oil producers and net oil importers (like Indonesia) that are intended to fulfill a social objective by holding some oil products prices below international levels have always had perverse effects in terms of market functioning and national budgets. At the same time they have failed to efficiently meet their social objectives.
2. Public outreach in terms of communications programs and transparency have been critically important in achieving public acceptance of programs designed to address problems for low-income groups caused by high oil prices.
3. Price stabilization funds need to be capitalized with large initial transfers which usually become another form of subsidy.
4. Price subsidies can result in fuel shortages as consumers either are unable to obtain sufficient supply at regulated prices or are forced to resort to paying a black market premium.

A wide range of countries --rich and poor, small and large-- have opened their oil products markets to competition and let prices be determined by international levels. They have usually done so in combination with special measures to avoid social disruption and to cushion any price impacts on low-income consumers. This report makes a case for a similar strategy for Indonesia, which is consistent with the stated aim of the Oil and Gas Law.

Box 2.2: International experience of fuel pricing and subsidies (from Annex X)

Non-market-based pricing has perverse effects. Where the burden of international prices is not passed on to consumers, perverse impacts appear on government budgets, oil company profits, and even long-term sector viability. India, like Indonesia, tried various mechanisms for linking rising international prices with domestic prices but now supports price controls through large budget outlays. In China, where fuel prices are linked to international levels with a lag (no direct subsidization), the government has at times delayed the flow-through of international price increases to domestic prices. The resulting heavy financial burden on domestic refiners had to be compensated with massive lump-sum payments by government. In Argentina, the government has effectively forced private companies to transfer part of their upstream crude oil rent to support below-market downstream prices. As a result, Argentina is less attractive for exploration and development at a time of steady decline in domestic oil production. The Philippines, heavily constrained by a debt burden and unable to introduce fuel subsidies, has maintained its free-market pricing during the large price increases of 2004-2005 despite opposition. It has conducted extensive energy efficiency and conservation. As a result, the country used an estimated 8 percent less energy in 2005 compared to 2004 even as the economy grew 5.1 percent in 2005.

Transparency is a key success factor for subsidy reductions. Indonesia's own experience attests to this. For the October 2005 price increase, Indonesia conducted an effective communication campaign, a crackdown on smuggling, and a compensatory cash transfer scheme for the poor. Ghana (February, 2005) identified the winners and losers from a fuel price increase through a poverty and social impact assessment (PSIA), develop a strategy based on the PSIA, effectively communicated the strategy, and implemented impact mitigation measures that the public could easily monitor. Both countries were able to increase fuel prices without widespread protest. The February 2006 experience of Malaysia, a net oil exporter, shows that a surprise price increase at a time when the national oil company is posting record profits can draw unprecedented ire.

Price stabilization funds need to be capitalized with large initial transfers which usually become another form of subsidy. Thailand's State Oil Fund has accumulated large debts which have necessitated the issuance of oil bonds as well as increasing oil fund levies even as world fuel prices have been declining. The Philippines has chosen not to revive its unsuccessful oil fund (wound up before the Asian Financial Crisis) despite popular pressure. Chile's time-bound stabilization fund required an initial injection of capital that was possible only because of the strong budgetary position and a higher-than-expected world price of copper.

Price subsidies can cause fuel shortages. Holding prices down at the expense of oil marketers has led to fuel shortages and rationing even in such formerly liberalized markets as Thailand. In India, the same problem led providers of subsidized LPG to stop taking on new customers for a period in 2005. Such fuel shortages have also been experienced in China. Kazakhstan, an exporter of oil products, has also suffered repeated shortages and product price spikes. Invariably, the rural poor pay higher, black-market prices. In extreme cases, fuel subsidies can become anti-poor.

2.2.7 CONCLUSIONS FROM EVALUATING THE EXISTING PRICING AND SUBSIDY SYSTEM AGAINST GOVERNMENT OBJECTIVES

Simply put, the current regime fails to achieve the GoI's objectives as reflected in the Law. The system is inefficient in economic and budgetary terms. It does not effectively achieve social policy goals, inhibits the development of a competitive market, harms the environment and the GoI's product quality aims, causes distortions in the energy

economy, creates opportunities for corruption and does not accord with international best practices.

2.3 DESIRABLE CHARACTERISTICS OF A NEW PETROLEUM PRICING REGIME

Based on the previous evaluation in this chapter, the following are considered to be the salient desirable characteristics of a target pricing regime that could serve to achieve the aims stated in The Law:

Sustainability: The present regime is undesirable from an economic and energy policy standpoint and probably unsustainable on account of the large and uncertain burden it imposes on Indonesia's fiscal capacity. *The target regime should substantially reduce the fiscal burden and remove to the greatest extent possible the economic and energy impairments of the present system.*

Certainty: The existing system embodies political uncertainty because there is no price adjustment formula to guide politicians, government officials, industry and the public: heretofore most adjustments have been *ad hoc.* This characteristic also creates uncertainty for consumers and investors. It causes significant fiscal uncertainty because of a seeming open-ended commitment to offset international price increases. *The target regime should provide a predetermined price adjustment formula and should consider some mechanism to provide fiscal predictability even if that is only on an annual basis.*

***Fair and effective system to achieve social objectives*:** The present regime of blanket subsidization is not fair in relation to the GoI's social objectives because it is biased towards the better-off people and regions. Among those groups it has probably bred a sense of "entitlement" to subsidized fuels which is surely not justified. *To break away from the "entitlement syndrome", which encourages perpetuation of a costly, ineffective and unfair system, a new regime must create the perception of fairness, by targeting primarily the needy users, ultimately only of kerosene. It must also convey legitimacy, which can be achieved by clear expression of purpose, close adherence to that purpose and transparency of key data relating to the regime.*

Simplicity: The existing system appears complex and has, in the past, applied a number of mechanisms as well as differential prices for various types of consumers. As a result, it is difficult to understand specific pricing policies. This is reflected in present public debate whether or not to adjust prices of some fuels downwards as a result of falling international prices. *The target regime should be simple and understandable so that the public can anticipate price behaviours on the basis of publicly available information. Ideally, the system should be "depoliticized" and able to function "automatically" without requiring government intervention.*

Efficiency: The present system allows and encourages inefficiencies at many stages—it creates the conditions for smuggling and adulteration; it subsidizes the well-off more

than the poor; it distorts the oil market; it inhibits competition; it has discouraged economically-justified fuel substitution such as gas for oil in power generation; and it worsens the country's trade situation. *The target regime should flow correct price signals through to all parties--oil products suppliers, traders and buyers--encouraging efficient market behaviours, discouraging wasteful practices and reducing the opportunities for smuggling and adulteration.*

Competitiveness: As explained under heading 2.2.2, the existing system denies Indonesian consumers the benefits of a competitive oil products market. As well, it also denies Pertamina, as the PSO implementer, from being a stronger player in the market, due to a weakened financial position since subsidy payments, which make up to a third of their revenue, is usually delayed. *A new target pricing regime cannot be fully successful unless it eventually functions in the broader context of a market that is progressively opened to new entrants which will bring consumer benefits in terms of pricing and the quality and range of service offered.*

BOX 2.3: How the Public is kept Informed of Pricing Policies and Practices in some other Countries

Bolivia: The regulator of oil and gas is the Superintendent of Hydrocarbons. The website explains government policy towards oil products, which are subsidized at below world levels, and provides information about the maximum prices of all oil products and LPG. This information is only available in Spanish < http://www.superhid.gov.bo/>

Canada: The public is well informed by government statements that prices are determined by the free working of market forces and not by government management of prices. There is a high degree of commercial transparency of oil products pricing. All the refiner-marketers publish their "rack prices". The government contributes to the transparency of retail pricing: prices of the main oil products and of propane for 60 Canadian cities are published weekly on the website of the Department of Natural Resources, which has responsibility for oil and gas matters
http://www.oppi-bipp.gc.ca/price_map_e.cfm#allprices

Europe: There is a general public understanding of government policies and that governments are not in the business of managing oil products prices. There are many sources of public information for those prices, including published ones in newspapers. There are as well subscription-based sources such as "Opal" a publication of the British consulting firm Wood Mackenzie
http://www.woodmacresearch.com/cgi-bin/wmprod/portal/energy/productMicrosite.jsp?productOID=664074

United States: The website of the Department of Energy's Energy Information Administration contains a large amount of explanatory material about international and USA regional oil markets and how they are connected with each other. There is as well a wealth of published information about oil products prices in the USA
http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/price_text.htm

2.4 WIDER CONTEXT FOR PRICE AND SUBSIDY REFORM: MARKET OPENING AND RESTRUCTURING PERTAMINA

The foregoing considerations have been taken into account in formulating the proposal for the target fuels pricing regime. However the new regime, combining international prices with targeted subsidies, should be placed in a broader context. The oil products market needs to be restructured and Pertamina's operations adjusted so that competition, currently almost completely absent in the downstream oil sector, can enter and flourish to the benefit both of Indonesian consumers and of Pertamina. These questions are discussed in the Section 2.4.1 which follows, before the target fuels pricing regime in presented in Section 2.4.2

2.4.1 RESTRUCTURING OF THE PETROLEUM PRODUCTS MARKET AND OF PERTAMINA'S DOWNSTREAM FUNCTION

Market reform and the evolution of Pertamina's structure and functioning to facilitate market opening is a necessary condition for the creation of the independent, reliable, transparent, competitive, efficient and environmentally friendly oil products industry called for in The Law. As well, it can stimulate the growth of national potential and role partly through Pertamina which, under the right conditions, could become a financially and technically strong player nationally and internationally as, for example, the Chinese oil companies have become since their corporatization and partial-listing in the late 1990's.

Because market restructuring is a necessary condition for truly effective implementation of the target pricing regime, it will be discussed before the target regime is elaborated.

Previous reports and studies

These issues have been the subject of several previous outside studies including World Bank Report No. 20512-IND *Indonesia Oil and Gas Sector Study*, June 2000 and *A Blueprint for Downstream oil Deregulation, February 2003*. Previous to that, reports were also prepared on Pertamina restructuring by a number of management consulting firms. No doubt further similar work has been done internally by the GoI.

The analysis and findings of these reports are remain fundamentally sound, and the present report is philosophically consistent with these other analyses, findings and prescriptions. The predecessor reports, however, went further and into more detail in regard to Pertamina restructuring.

It is obviously neither possible nor desirable to try to update this previous work with the facts and conditions of late-2006. Therefore the following paragraphs simply highlight salient elements of the necessary restructuring of Pertamina without attempting to further deepen the analysis. An additional level of detailed planning would be required to

implement the said restructuring, requiring the advice of industry consultants and practitioners, Indonesian and foreign.

The Indonesian petroleum products market—characteristics and structure

Indonesia's downstream petroleum products market is commercially attractive. At some 1.1 million barrels daily, it is fairly big by international standards, comprises a large proportion of high-value products (gasolines, kerosene, and diesel), and is marked by some strong geographical concentrations, principally in the islands of Java and Bali, as well as by some dispersed and remote island markets. Chapter 1 describes the domestic petroleum products market in Indonesia in greater detail.

The market is to all intents and purposes a monopoly of Pertamina which owns and operates almost all the facilities—refineries, terminals, storage depots and controls perhaps 95% of the service stations—through which oil products reach consumers. This monopoly is strengthened by the fact that Pertamina is the vehicle by which the GoI provides oil price subsidies and by the fact that the licenses which are required to engage in market activities are granted only for up to one year at a time thus far. It is true that some IOCs are active in the market, but they appear to be engaged mainly in the sale of aviation fuels, lubricants and the two unsubsidized grades of gasoline which comprise only about 4% of the total gasoline market. As well the LPG market is open to competing suppliers. If the IOCs are limited in this way to serving only niche markets, they unlikely to be willing to make a long term commitment and related investments to provide competitive supplies of the main fuel products for the benefit of the Indonesian market.

2.4.2 RESTRUCTURING PERTAMINA'S DOWNSTREAM OPERATIONS

Corporatization: the change in Pertamina's status recommended in previous reports has been in effect since the beginning of 2004. It previously functioned like a department of government. Now, as a *Persero*, it is a limited liability company more than 50% government owned. The indications are that management is already acting independently, is carefully scrutinizing the structure and operations of the company, aims to be internationally competitive and seeks all the while to perform in what the management considers to be the best long-term interests of its shareholder. Important first steps down the road to restructuring are therefore under way and deserve strong support and encouragement by the GoI. The government in turn must respect the rules governing *Perseros* and the obligations of such companies, by not imposing on Pertamina any social obligations without properly compensating for additional costs.

Transparency: There is a pressing need to conform with the purpose of the Law to create a transparent oil and gas sector. This characteristic is strongly encouraged by the World Bank for the energy economy at large, in the matter of resource-revenue sharing, and as an aspect of sound governance of state enterprises. All three aspects are of concern here. Transparency of resource-revenue generation will be assisted by the recommended "unbundling" (see below under "Other Pertamina restructuring issues") which will at a

first level involve separation of the company's up- and downstream businesses. If transactions between the up- and downstream businesses, principally crude oil, are made at market prices, then resource-revenue generation will be concentrated and accounted for in the upstream profit center. Since Pertamina completely dominates its sector this means that a high degree of transparency will be required of the company. Comprehensive financial reporting in accordance with internationally accepted accounting practices is a necessary place to start. This will enable policymakers to assess the profitability of the main components of the business. A subset of the accounts would deal with costs of operations. This information will be important to have as long as the margins associated with prices are subject to government regulation (the "alpha factor" referred to in Chapter 1). There is clearly a long way for Pertamina to go in this area since the company does not yet have even a balance sheet for the start of its *Persero* era.

Rationalization: The indications are that Pertamina with its new status as a *Persero* is seeking to respond to the objectives of the Law regarding creation of a competitive, efficient oil and gas sector. However, from experience around the world, the best way to bring about efficiency and rationalization of operations on the part of SOEs is by the introduction of competition from new market entrants. This report is not the place even to outline what may need to be done by Pertamina on this score. However, it is assumed that the present examinations being carried out by and on behalf of Pertamina's management will extend to consideration of such matters as: the identification of core business functions and the assets needed to discharge them; divestment of non-core activities; rationalization of remaining operations including oil refining; and the acquisition on a fully-competitive basis of goods and services, for example shipping services.

Other Pertamina restructuring issues: Earlier reports concluded, unsurprisingly, that Pertamina's very large refining operations are probably inefficient when compared to international benchmarks. The network includes some small plants which can probably never be economic. There is at least one large plant, Cilacap with a distillation capacity of 339,000 barrels daily, whose equipment configuration is unsuited to the modern world and which for economic viability requires upgrading investments costing well in excess of $1.5 billion[33]. Pertamina should be left alone to manage its refining operations in the best long term financial interests of the shareholder. This could conceivably involve extensive rationalizations and investments, including possibly joint ventures with IOCs or foreign SOEs. Whatever may develop in regard to investment in and ownership of Pertamina's refineries, there is a strong case from a corporate standpoint and probably a necessity from a market-opening one, for Pertamina to "unbundle" first its downstream operations as a whole and then the major components in them, such as refining, bulk products storage and distribution, retail, and speciality products such as asphalt, lubricants and solvents.

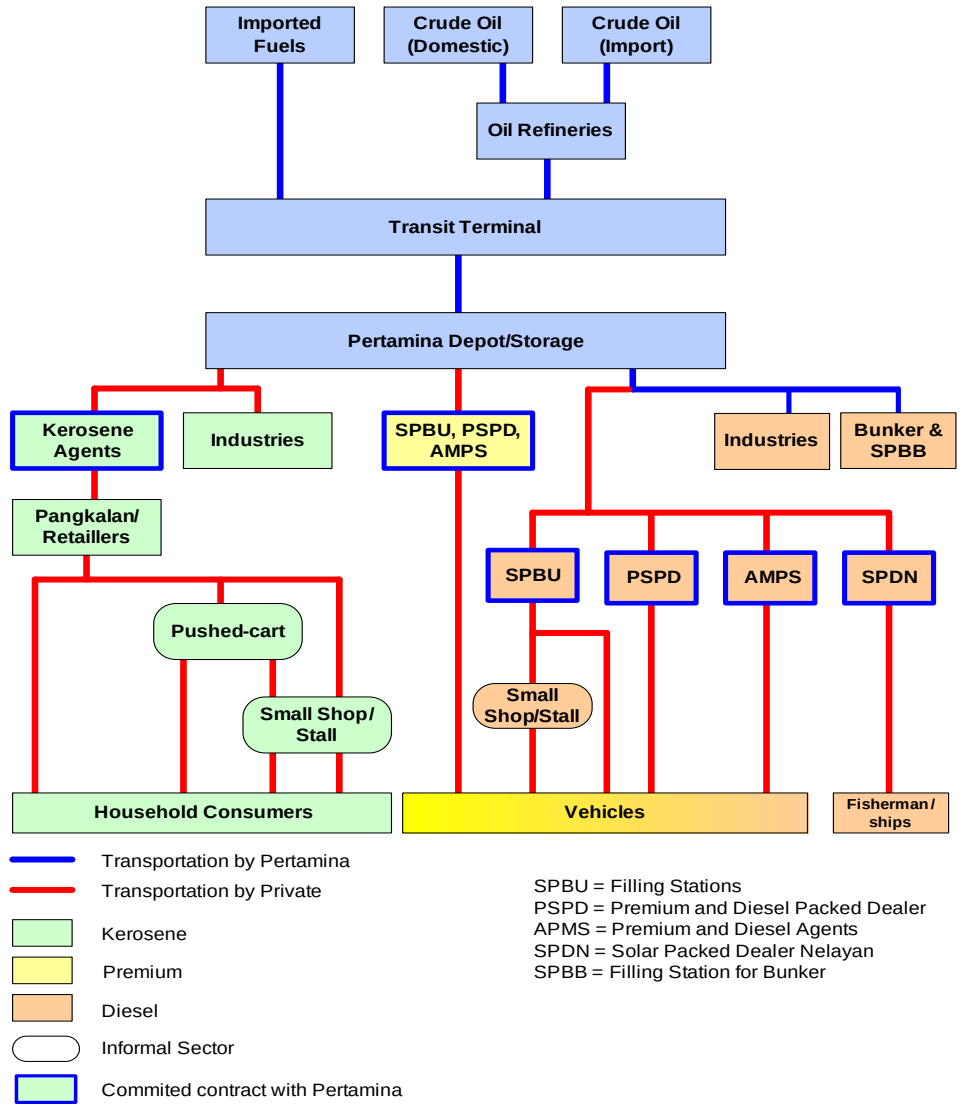
Public service function: If Pertamina is required to carry out what the GoI may judge to be a necessary public service obligation, then the company should receive appropriate

[33] This is the potential cost of upgrading the capacity of a hydroskimming refinery to produce a larger proportion of high value products by the addition of a large cracking unit.

compensation from the GoI. Such a function might include, for example, the provision of oil products in remote parts of the country at prices that do not reflect the full costs of doing so. Also, as reports indicate, Pertamina's refinery staffs are swollen by the inclusion of about one-third "non-refinery personnel" because the company may be providing much of the local social infrastructure for surrounding communities such as medical care, road maintenance, fire services and other functions that are typical of governments rather than of commercial enterprises. These functions should preferably be divested or, if retained, the GoI should fully compensate Pertamina for carrying them out. There are lessons to be learned here from the Chinese experience of corporatizing and partially listing former SOEs. Businesses such as China National Petroleum Corporation ("CNPC") were formerly engaged in many non-core functions--- education, health care and housing. The approach by the listed SOEs was to retain these responsibilities in the holding companies until such time as they could be returned to government. The core activities were taken over by operating companies, Petro-China in the case of CNPC, which were then able to compete nationally and internationally without the costly "baggage" of social responsibilities.

2.4.3 OPENING THE OIL PRODUCTS MARKET TO COMPETITION

BOX 2.4: Oil Products Supply Chain



Source : Compiled by IIEE from various resources

The law requires that prices of oil products be set by fair, healthy and transparent competition. Ultimately, this means the creation in Indonesia of a physical oil products market with sufficient liquidity and enough competing buyers and sellers for competitive price formation to occur. It will take time to create these conditions. Competition requires competing suppliers and buyers. There are plenty of Indonesian oil products buyers of all types. What the market needs is competing suppliers. What those suppliers need is

admission to the market, the right to import bulk products or buy them locally on a non-discriminatory basis, access to facilities to store, transport and distribute those supplies and the possibility to buy as well as build service stations and other retail outlets and eventually to engage in oil refining operations.

Administrative terms of access: There are no sound economic grounds for restricting entry by qualified Indonesian or foreign investors to any of the "links" in the chain of oil products supply. Licensing may be required for purposes of government regulation in such areas as collecting taxes on oil fuels, product quality and safety of installations. It should be available without discrimination by nationality and for terms sufficiently long to provide confidence that, if a business venture is viable, it will be able to continue for an indefinite period.

Access to refining: Refining appears to have been treated heretofore as a state monopoly. Now, private interests should be allowed to enter the oil refining industry alone or in joint ventures with Pertamina. The IOCs in particular can bring experience and technology of great value to the Indonesian economy. It is also possible that SOEs or private foreign investors would be attracted to Indonesian oil refining. Private investors who invest in wholesale and retail operations should be allowed to access oil products supply from import sources and from Pertamina's refineries on the same terms as Pertamina's own wholesale and retail operations which, for this purpose, should be "unbundled" from refining and other large-volume products supply activities.

Access to physical facilities: Pertamina's existing facilities to import (oil jetties), store (tank farms), distribute (pipelines, depots) and retail (contracted, dealer-owned service stations, fuel outlets) oil products are presumably generally adequate in a physical sense to meet the needs of the Indonesian market. They may of course require continued upgrading for safety, product quality and environmental reasons and investment will be needed as well to meet market growth. But there may be no immediate call for large new oil products handling facilities to be built. In these circumstances, market opening will require that market entrants obtain access to these facilities. A number of approaches have been canvassed in previous reports. They include commercially-negotiated throughput arrangements with Pertamina; joint ventures involving purchase of an interest by new entrant(s); and the creation of an Energy Transport Utility which would own some or all of Pertamina's physical supply chain and operate it in the manner of an open-access oil pipeline.

Treatment of retail outlets: Retail outlets can only exceptionally be treated as "common use facilities" in the way that tank terminals, pipelines and up-country depots may be. Some new market entrants will certainly want to build their own stations to improve coverage and to present and protect brand images that they may wish to promote. In other cases and also because it takes time to build a network of own stations, there will be interest in acquiring existing outlets. About 95% of the service stations in Indonesia appear to be "dealer-owned, dealer-operated". Most of them are of course contracted to Pertamina. Market entrants will therefore have to compete against Pertamina to access these facilities by offering superior contractual terms. This will be opposed by Pertamina. The resulting competition for outlets will benefit the service station owners.

Supply to remote, low-density markets within the country: The options for providing the necessary quality of service to areas that may be difficult, relatively costly and possibly unattractive to supply for other reasons, include: imposing a public service obligation (PSO) on Pertamina; or requiring as a condition of licensing arrangements that licensees of above a certain size accept a supply obligation for such areas; or requiring some form of joint industry supply arrangement; or creating a regime where suppliers to concentrated markets (Java-Bali) pay a small additional tax on oil products while those in remote areas receive a negative tax (subsidy) and leave the market to work on that basis. In all cases, the GoI would be expected to compensate suppliers if policy prevented them from attempting to fully recover their costs from the particular remote markets.

2.4.4 REGULATION OF THE DOWNSTREAM OIL SECTOR

Market-opening would require the GoI to provide sound, modern regulation of the downstream industry focussed on BPH Migas in respect of economic regulation (for example: licensing of qualified market participants; fees and access principles for "natural monopoly" facilities for importing, storing and handling oil products; dispute resolution) and on BPH Migas and other entities for such matters as human health, safety, environmental protection, product measurement and quality and minimum stocks obligations. BPH Migas would also likely be responsible for initial regulation of prices and for market monitoring and market transparency on a continuing basis. In Chapter 3, section 3.1 the issue is raised whether BPH Migas is yet adequately staffed, trained and resourced in other respects to take charge of administration and monitoring of the oil products sector during the transition.

2.4.5 RECOMMENDATION REGARDING MARKET OPENING AND PERTAMINA RESTRUCTURING

The Law requires an independent, reliable, transparent, competitive, efficient and environmentally friendly petroleum sector that encourages the growth of the national potential and role. This objective cannot be achieved without market opening and Pertamina restructuring. It is therefore recommended that the GoI review advice previously received from external and internal sources together with the comments offered in this report and that it initiate oil products market opening and related Pertamina adjustments in parallel with a new regime for fuel pricing and targeted subsidies for low-income oil consumers.

2.5 PROPOSED PRICING AND SUBSIDY POLICY FOR PETROLEUM FUELS IN INDONESIA

The Target regime

2.5.1 SETTING THE BASE PRICE

In the longer term, a competitive oil products market can develop in Indonesia when the conditions described previously for opening the domestic market and restructuring Pertamina have been fulfilled. This is the policy objective in the Law. In today's circumstances of near-monopoly and where Indonesia is a net importer of oil products, the base price for each of the seven major grades of petroleum products described in Chapter 1 delivered to main storage terminals from domestic refineries or from import sources has to be derived by reference to an international market price, previously referred to in this report as IMP.

The IMP could, for example, be the Singapore market price plus ocean freight also at market rates, plus the usual allowances. This is essentially the classic "c.i.f." definition of price (cost of product, insurance and freight). The "usual allowances" over and above c.i.f. price are for such items as wharfage and losses - well established matters of industry practice that usually make-up a very small proportion to the c.i.f. price. The base price will exhibit relatively small geographical variances within Indonesia, reflecting essentially ocean freight cost differences, which in some cases will be a function of tanker size as well as distance.

As noted previously, if the country were to become a net exporter of oil products, the international value of those products in Indonesia would be the IMP minus ocean freight.

Recommendation: the base price for oil products should initially be derived from the IMP, as reflected for example by the Singapore market price plus freight. In the longer term, when a competitive oil products market has developed in Indonesia, prices throughout the transaction chain will be formed by competition.

BOX 2.5: Market Pricing of Oil Products in Canada

Regulation: The Canadian oil products market was managed by the government at prices below world levels from 1973 to 1985. Imports of products were subsidized. Exports were taxed.

Deregulation: When controls were lifted in mid-1985 there were enough competing suppliers, including suppliers with access to products imports from Europe and the USA, to ensure workable competition from the start. Prices were deregulated in one step with no transition. There was a small initial "price shock". Then in late 1985 international crude oil prices collapsed and oil products followed with the result that price levels within six months of deregulation had fallen to below the previous regulated levels.

Market functioning: Oil products prices are subject to three competitive influences:
(1) imports from the USA and overseas; (2) export opportunities to the USA; and (3) competition between refiner-suppliers within Canada, which is weaker or stronger depending on whether there is refining capacity surplus to Canadian market needs.

Price levels: As a result of this market functioning, prices vary in their relationship to international levels in those parts of the country which are accessible to imports or are influenced by exports. They seldom significantly exceed international levels. They have sometimes been somewhat below them as a result of strongly competitive conditions within the domestic products market.

Price volatility: The retail market prices follow the wholesale (or "terminal loading rack") prices of the refiner-marketers which are adjusted very frequently, often daily, to reflect changes in the New York Mercantile Exchange ("NYMEX ") prices of gasoline, heating and diesel oils.

Consumer behaviour: It is very difficult to identify specific short-term consumer behaviours with short-term price movements. Long-term, the influences are clear. The relatively high price of heating oil (a diesel-type distillate fuel used in home heating) compared to natural gas has resulted in the virtual disappearance of the heating oil market in areas where natural gas service is available. The relatively high after-tax price of motor gasoline (in November 2006 $US0.75/liter in Ottawa the capital city) has resulted in a higher proportion of small cars and fewer trucks in the vehicle population than in the USA. The Honda Civic is the largest-selling passenger car in Canada. In the USA it is the larger Toyota Camry.

2.5.2 DEALING WITH PRICE VOLATILITY (EXCLUDING VOLATILITY BEARING ON SUBSIDY REQUIREMENTS)

There are two issues to be addressed here. First, is the matter of dealing with volatility by short-term smoothing mechanisms. Second, is the question whether to attempt to insulate domestic prices from long-term cyclical change in the IMP.

2.5.2.1 Consideration on Price-Smoothing with Prices at International Levels

When the IMP has been reached, immediate flow-through to the domestic market of IMP fluctuations is the most desirable solution from an economic standpoint because it communicates price changes promptly to all market participants and facilitates and encourages free operation of markets. This approach therefore embodies the key fundamentals of simplicity in implementation and market efficiency.

It may be important to provide some degree of "protection" to consumers when prices are rising and to suppliers when prices are falling. In order to soften the impact of short-term volatility of IMP, GoI can opt to implement a pricing mechanism to smooth-out domestic levels through the following:

i. Adjust the base prices that suppliers are allowed to charge once a month (or quarter) based on the average IMP of the previous month (or quarter); or
ii. Predetermine a range within which the IMP may fluctuate without triggering a change in the base price for sales in the Indonesian market.

If for accounting and income tax purposes the cost of sales is reckoned on a "first-in first-out" (FIFO) basis, these smoothing methods result in "sharing" of inventory gains (on price upswings) and losses (on prices falling) between suppliers and buyers[34]. Price smoothing is consistent with the key criteria of managing volatility and probably of perceived fairness, particularly if the issue of inventory gains/losses arises.

A potential disadvantage of price smoothing is that circumstances can arise in which smoothing could tend to cause supply disruptions when prices are rising very rapidly: commercial buyers having their own storage will try and build stocks ahead of the anticipated price increase while suppliers will tend to hoard oil for the same reason. These behaviors and their adverse consequences have been observed in China's oil

[34] Pertamina does not yet have in place the comprehensive international standards accounting system that its *Persero* status requires. The question of valuing inventories for cost of sales purposes has therefore not yet been dealt with. International practice has tended to move in the direction of LIFO treatment which therefore eliminates paper inventory "gains" and "losses" when prices fluctuate.

products markets where, in principle, selling prices are adjusted to the IMP with about a one-month lag.

Another possible disadvantage is that, unless the smoothing mechanisms are operated completely at arm's-length from the policymaking side of government, and unless they do not put any significant cash-flow burdens on suppliers when prices are rising quickly, they may have a tendency to discourage new investment, especially new foreign investment in the country's oil products business. This is because of the perception that the smoothing may present a ready-made mechanism for government to penalize oil suppliers in order to satisfy some other immediately pressing social objective.

Recommendation: Smoothing may be a necessary feature of the target regime once the IMP has been reached and before a fully competitive oil products market has developed in the country. Consideration should be given to the alternative mechanisms sketched above and to the potential disadvantages of the smoothing mechanisms from the standpoint of private industry participants.

2.5.2.2 Long-Term Price Stabilization

Price smoothing as discussed is a means to reduce the frequency of price changes resulting from short-term volatility in the international market.

Price stabilization is the concept of minimizing the effect of long term fluctuations in prices by some kind of inter-temporal transfer of revenue. In its simplest form, this would involve "taxing away" the consumer-price savings resulting from a fall in international prices, placing the resulting revenues in a "stabilization fund" and drawing on that fund to subsidize consumer prices when international levels increase. This kind of scheme is administratively complex, it masks correct price signals coming from the market and there may be a temptation for government to withdraw money from the stabilization fund for other, short-term, purposes if the market seems to have entered a period of stability. Foreign interests may be less willing to invest in the Indonesian oil products market if such a system were to be put in place because of the potential it creates for government to manipulate prices.

Recommendation: for the foregoing reasons, longer-term price stabilization is counter-indicated and is not recommended as a feature of the target regime.

2.5.2.3 Provision for On-Costs above c.i.f.

Provisions for costs beyond the import terminal can be considered, broadly based along the following factors:

1. Owning and operating the ocean- or refinery-terminal;
2. Transporting the product to the second-level of storage depot; and

3. Distributing and retailing the product, for example gasoline retailing through service stations and kerosene retailing through local fuel-stations.

Considerations relative to costs beyond the import terminal

It is not the intention to try and identify what might be appropriate margins for each level of operation in each part of this large country. However, the following principles are relevant:

1. The costs of terminaling, wholesaling and retailing (these are components of the "alpha" factor in the current regime as described in Chapter 1) will tend to vary depending on the product: unit costs of handling kerosene to the final consumer are obviously much higher than for ADO, industrial diesel oil (" IDO") or marine fuel oil ("MFO") because of the typically very small final units of sale and because of the retail network required to service consumers. Allowed margins should reflect these cost differences.
2. The costs of carrying out terminaling etc. in remote parts of the country with a low density of consumption will be higher than in urban/industrial centers. Allowed margins should therefore vary geographically to reflect this fact.
3. Prescribed margins for the oil products business should be related to efficient costs of operation, including return on invested capital. Pertamina's costs will clearly provide an information base. The company may have to provide accounting data for costs both for fiscal purposes and for purposes of regulated prices. The two sets of accounts will not necessarily be kept on the same basis. Pertamina's costs for purposes of determining allowable margins should be critically examined in relation to whatever information is available about the costs of privately owned operations in Indonesia and the costs of similar activities in other Southeast Asian countries. The outcome will have to satisfy conflicting objectives:
    - On the one hand, these costs build up into the final selling prices supervised by BPH Migas and it is desirable that they should be reasonably minimized, particularly in today's environment of high international prices.
    - On the other hand, it is desirable that the allowed margins be reasonably generous:
        - To ensure well-financed operations by Pertamina, and its competitors as they come along, so that consumers are safely provided with high-quality products at good service levels (example: an adequate number of well maintained service stations selling gasoline and ADO); and
        - To attract competitors, domestic and foreign, who will bring fresh investment, entrepreneurship and technology to the downstream petroleum products business, enabling the creation of a truly competitive business environment starting in the geographical areas where consumption is most dense. BPH Migas could then step back from a price-supervisory to a market-monitoring function as, under the influence of competition, prices fall below the

prescribed maxima because of the efficiencies that are found as a result of that competition.

Recommendation: prior to the development of a fully-competitive oil products market, the GoI will have to establish wholesale and retail margins. In doing so, a balance will need to be struck between, on the one hand, the need to minimize consumers costs and, on the other hand, the need to create an environment favorable to investment by Pertamina and by new market entrants that can on the longer term provide consumers with the pricing and service benefits of competition.

2.5.3 THE SUBSIDY REGIME

This section considers the end-state to be achieved. It does not consider the transition to that state, which is addressed in Chapter 3.

What products should be subsidized?

In principle, the current regime provides for the prices of gasoline, kerosene and ADO for personal and small commercial use to be held below the equivalent international levels (plus wholesale and retail margin) by means of GoI cash subsidies. In practice, as a result of domestic price increases in 2005 and falling international prices in 2006, the current prices of gasoline and ADO may be at or above international levels. However, discussion of a subsidy regime must take account of the possibility that prices will rise again in a foreseeable future, causing the same sort of fiscal strains that were felt through 2005.

There is no case for subsidizing **personal and small commercial consumption of gasoline and ADO**. Gasoline is not a "fuel for the very poor". It is therefore not possible to consider that the average private-use gasoline consumer is likely one of the "community groups" towards which the GoI has a "social responsibility" under The Law. Moreover, if some low-income group were indeed identified as making a significant portion of their expenditures on gasoline, then there are ways in which they could be assisted more efficiently than by maintaining a subsidy on the fuel price itself. In principle, removal of the gasoline and ADO subsidy is desirable because:

1. It would eliminate part of the fiscal burden which could be either invested or redirected towards supporting low-income consumers of kerosene (see below). Properly presented to the affected publics, it would achieve the needed perception of legitimacy and fairness; and
2. It would encourage long-term efficiencies in terms of vehicle types and vehicle use by raising their fuel-input costs.

It should however be noted that by the standards of the industrialized countries, in Indonesia these fuels would still be significantly under priced. There is probably considerable "headroom" available to the GoI in due course to increase taxes on these

fuels to recover the direct costs of the infrastructure and infrastructure improvements that their users require and also to reflect pollution and congestion externalities caused.

A policy decision appears already to have been taken not to subsidize **commercial use of gasoline and other petroleum products** (aviation fuels, ADO, IDO, MFO). That decision, which certainly accords with the objectives of the Law, should if necessary be confirmed as applicable for an indefinite future. Commercial transportation users of ADO (public transport, bulk and package freight for example) will adjust to full-cost pricing of their fuels by finding efficiencies in operations and eventually in the composition of their fleets. Additionally, ADO appears to be used for an extraordinarily high proportion of electricity generation, public as well as private, for a country that is well endowed with alternative sources in the form of coal, gas, geothermal and biomass. The previous availability of subsidized ADO clearly did not encourage the changes in public generation capacity, fuel use and supply reliability that is needed to bring about a permanent reduction in ADO for power generation. It would obviously be counter-productive to again extend subsidies to this use of ADO. Confirmation of what may still be a *de facto* decision not to subsidize would, again, conform policy towards the key features of sustainability, fairness, and efficiency. Industry will have to adapt similarly in its use of IDO and MFO. Hopefully the more widespread availability of natural gas will in some cases provide a less expensive and less polluting alternative.

Recommendation: the target regime should not provide any subsidies other than those aimed exclusively at low-income consumers of kerosene.

The product grade and user group that should have continued special attention is **kerosene used by low-income consumers**. This is warranted on the grounds that:

- Kerosene is the petroleum product that very poor people use (they tend not to use gasoline and obviously not ADO, IDO or MFO);
- The very poor constitute a community group towards which the GoI has a social responsibility and it would arguably fail in that responsibility if low-income kerosene consumers were required to pay international prices at current levels.

How should low-income kerosene consumers be subsidized?

Taking account of the earlier comments about smuggling, product adulteration and leakage of the kerosene subsidy to better-off consumers, there is a strong case in terms of economic and fiscal efficiency for an end-state regime in which consumer prices of kerosene are determined according to the same principles as the prices of other petroleum products while at the same time effective strategies are pursued to reduce kerosene use; to provide acceptable lower-cost alternatives; and to fairly compensate those low-income Indonesians who continue to use kerosene.

A further consideration in favor of subsidy elimination is that it could clear the way for greater competition in the distribution of kerosene. Heretofore, the sale of subsidized kerosene has been under a monopoly since Pertamina has been the GoI's vehicle to

extend the subsidy to consumers, a function that now conflicts with the company's *Persero* status if it is not properly compensated. Greater competition resulting from new market entrants should tend to erode margins and tend therefore towards lower-than-otherwise prices.

Recommendation: Kerosene prices in the target regime should not be subsidized. Existing subsidies on that fuel should be converted to subsidies directed at low-income kerosene consumers in the context of a national "off-kerosene" campaign.

The kerosene subsidy problem is a sensitive one because this fuel is an important component of the expenditures of low-income households. A multi-pronged strategy is needed to reduce kerosene use, encourage alternatives and compensate remaining users.

The *recommended* main elements of that strategy are as follows:

1. *Foster through market mechanisms the most widespread possible use of LPG, which is a cleaner, safer, better-performing cooking and lighting fuel and which can be marketed as such to better-off consumers* (Given the capital costs associated with switching to LPG, including the purchase of new cooking equipment as well as LPG containers, it is likely to appeal more to the better-off. Further, the availability of LPG may be insufficient for a rapid transformation at a significant level since or even a 20 percent switch from current kerosene consumption will require the LPG supplies to double.)
2. *Foster the use of coal briquettes as an alternative to kerosene, particularly in areas where LPG may not be widely available and coal briquettes are* (Briquettes may also be of more interest to street food vendors. For households, the potential problems include: conversion to briquettes requires purchase of new cooking appliances; briquettes can't replace kerosene for lighting; briquettes are a "dirty fuel" compared to LPG or kerosene, almost regardless of how efficiently they are burned, and conversion to briquettes may be considered a retrograde step for environmental and human health standpoints).
3. *Seek economies in the kerosene subsidy program by working hard to reduce or eliminate "leakage" of subsidized kerosene to adulteration and smuggling* (existing efforts must be reinforced and the now-abandoned program for coloring [dyeing] of subsidized kerosene needs to be revisited).
4. *Provide targeted cash subsidies to kerosene users who do not have access to alternative fuels*, the subsidies being designed to keep the cost of kerosene at a predetermined proportion of average low-income household expenditures (there are no obvious insurmountable problems: targeted cash subsidies have already been used in Indonesia with some success, as described in Chapter 1. However at the administrative level there may be problems in identifying the "residual kerosene consumers" who would be the target of the subsidy program. Ideally, the program should move away from the universal cash transfers (UCT) currently used to conditional cash transfers (CCT) targeted at the most needy consumer group(s).

Annex 4 "Potential Replacements for Direct Subsidization of Low-Income Kerosene Users" firstly identifies programs in addition to cash transfers which might form components of a broader subsidization program, if such a broadening were considered necessary. Secondly, the Annex tabulates the components of an "off-kerosene" program. Thirdly, it identifies potential mitigative measures if ADO prices were moved to IMP levels and it were considered necessary to recognize the needs of ADO consumers. Finally, it sets out some universal measures that have small budgetary costs and which, mainly by properly informing various publics, would mitigate the effects of the recommended change to the IMP and the transfer of subsidies from the fuels to the needy users.

BOX 2.6: GoI/Pertamina LPG Program

In response to the deep fiscal strain caused by the international fuel price rises of 2005, GoI has launched two programs to help substitute away from kerosene: one for introducing coal briquette stoves and another for introducing the LPG 3kg bottle.

In late 2005, GoI announced a Rp 150 billion budget allocation for 2006 to produce 10 million coal stoves. Lignite (low-rank coal, uneconomic for export, and plentiful in Indonesia) was designated for this program. The Coordinating Ministry for the Economy was to fund the coal stoves. The Agency for the Assessment and Application of Technology was to design the coal stoves (for households, restaurants, and SME's). The Ministry of Cooperatives and SME's was to disseminate the stoves. And the Ministry for Women's Empowerment was to encourage the use of coal briquettes as a household fuel. The program was introduced in provinces that have coal briquette distribution networks. About 343 cooperatives that had already participated in a 2002 program on coal briquette distribution were said to be involved. But the program was suspended in May 2006.

Subsequently, GoI announced that Rp. 58 billion of the briquette stove program allocation would be shifted to the LPG 3kg bottle program. The target of this program is to replace the 2005 quota of subsidized kerosene (9.9 billion liters) with 5.7 million tons of LPG during 2007-2012. To influence the choices of kerosene users, GoI intends to provide a subsidy for the initial investment on the stove, the bottle, and a certain volume of LPG to fill the bottles. Since domestic LPG production is not showing a significant uptrend, LPG imports are likely to help meet the rising LPG demand in the first years of the substitution program

Managing the impact of volatility in the IMP of kerosene

The question arises, how might international kerosene price volatility be managed in order to provide fiscal certainty to the GoI and to avoid the need for unforeseen increases either in the price of kerosene (hurting particularly the low-income consumer) or in the amount of targeted subsidies provided by the GoI (hitting the national budget)?

Volatility can occur in the international price for kerosene during a fiscal period for which a particular level of domestic kerosene price and associated targeted subsidies (cash transfers, for example) were determined. Policymakers and their advisers therefore need to consider whether the potential exposure of the GoI or of the kerosene consumer is sufficiently great to make it worthwhile accepting the costs and complexities of a price hedging program.

The fiscal exposure would result from the number of "residual kerosene consumers" and the potential per family cash subsidy to which they would be entitled under varying assumptions about international kerosene price behaviour and the qualifying amounts of personal expenditures on that fuel.

If upon consideration it were decided that the forward price of kerosene should be hedged, this could be achieved by using available commercial mechanisms. These mechanisms are widely used to lock-in the future price of predefined volumes by buyers such as airlines (jet fuel), sellers such as oil producers or royalty owners (crude oil, natural gas) and intermediaries such as refiners (margins between crude oil and oil products). Knowledge and experience of hedging should be available to the GoI from Pertamina, although the company is now forbidden to engage in hedging in respect of its own operations. The hedging operation could be contracted by the GoI to a group of financial institutions.

BOX 2.7: A poverty-reduction perspective on fuel-price and targeted subsidies

Indonesia's fuel subsidies were, de facto, the centerpiece of Indonesia's social protection scheme until 2005. In the decade prior to 2005, the portion of Indonesia's budget spent on universal fuel subsidies was similar in absolute and relative size to what many governments in middle-income countries spend on welfare and social insurance. Between 1998 and 2005, fuel subsidies averaged three-quarters of the total subsidies and transfers that constituted Indonesia's social protection system—far ahead of subsidies for food items, electricity, fertilizers, interest, drugs, scholarships, health cards, etc. Taken together, these social safety net programs address a diversity of issues but remain low in coverage, inadequately targeted, institutionally fragmented and are not managed under any umbrella system. The result is an emerging mismatch between these programs and household needs for addressing actual risk and vulnerability.

The establishment of a targeted cash transfer program in 2005 signifies a shift from a generally ineffective and blunt instrument—universal price subsidies—to a social protection regime that is leaner and more focused on targeting poor and vulnerable households. Consensus about a coherent and coordinated national social protection system is now developing among Indonesian policymakers. This is driven mainly by the enormous budget subsidies generated by the reduction in universal fuel subsidies in 2005, the desire to channel these savings towards more effective poverty reduction programs, and concern over signs of a return to an ad hoc, fragmented approach to the design and implementation of poverty programs in the post-crisis recovery period. An important option being considered is conditional cash transfers. Such 'cash for health and education' programs aim to induce the poor to choose better uses of public money (for example, by getting health check-ups for children and keeping their school attendance high to secure cash transfers).

--From 'World Bank: Indonesia Poverty Assessment 2006', Chapter 6.

Hedging has a transaction cost. It also creates in some circumstances problems of perception. For example, if market prices that eventuate are lower than the hedged prices, then that may publicly be presented as a "loss". This view is of course incorrect: what hedging does is to buy "certainty", a quality that has value for the GoI and may be worth paying for.

Recommendation: hedging of kerosene prices is a matter for consideration in the light of the foregoing commentary and with advice from professional sources.

2.5.4 IMPLEMENTATION OF THE NEW PRICING REGIME AND TARGETED SUBSIDIES

The target regime must be implemented over a carefully prepared and managed transition, guided by a comprehensive road map. An outline for such a transition is proposed in Chapter 3.

Once established, the target regime must be subject to careful management involving, initially, *control of prices* at international levels then, as competition develops, *monitoring of price behaviours*. The transfer of subsidies from specific oil products in particular uses to specific social groups will have been accomplished during the transition. However, there will be need for special attention to the management of the subsidy programs, relating them to oil products market conditions including prices.

The management of the transition and of the new regime will require the creation or reinforcement of a clear responsibility centre within the GoI, properly staffed and resourced. If BPH Migas is to continue as the regulatory instrument, its relevant structure will have to be developed, resourced, and its staff adequately trained.

2.5.5 CONCLUSION

The recommended target petroleum product pricing regime would have the features and meet the goals of:

1. Sustainability, by relieving the GoI of its significant burden of oil price subsidies, enabling the resources that are released to be applied to more pressing expenditure ends, and by securing a socially much superior distribution of the remaining burden.
2. Capability, if desired, to manage price volatility therefore reducing uncertainty for the GoI budget and budget planning.
3. Achievement of social objectives with fairness and legitimacy, always provided that transparency is an integral part of the regime and that its conceptual underpinnings are carefully and convincingly presented to the public.
4. Simplicity of implementation and monitoring, because market-based mechanisms are inherently easier to implement and monitor than complex administrative mechanisms and are less susceptible to abuse through corrupt practices. The approaches proposed for dealing with the problem of low-income users of kerosene do contain elements of complexity. But they have already been piloted in the form of UCTs in connection with the 2005 oil price increases.
5. Encouragement of efficiency, because greater reliance on market mechanisms will send correct price signals to buyers and suppliers and result in more economically efficient outcomes with better all-round use of human and financial resources. As

well, the removal of direct subsidies to consumers presently provided through Pertamina as the GoI's intermediary, should help open the market to competitors, whether national or international, SOEs or private, that will provide a further encouragement to market efficiencies including by Pertamina.

Recommendation: For all of the foregoing reasons, the target regime outlined above is recommended to the GoI for consideration and action.

This target regime is compared in Box 2.8 with the main elements of the pricing regime recommended in the Government commissioned report, referred to above.

BOX 2.8: Comparison of Proposals from Present Report with Other Recent Government Analyses

The target regime recommended in this chapter was developed separately from and an initially without reference to a previously commissioned GoI assessment. It is however very similar to the latter:

Component	**Recommended:**	
	Previously Assessed GoI Reform	**In this Report**
1. Price levels	1. Internationally competitive levels, first "managed", then "automatic" (formula) later free-market	1. Same
2. Price signals	2. Correct, although kerosene may be subsidized for low-income buyers	2. More correct! No kerosene subsidy
3. Subsidies	3. Kerosene subsidies for low-income, eventually eliminated?	3. No subsidies on any oil products
4. Subsidy mechanism	4. Funded by surcharge on non-kerosene products to provide cash transfers to low-income consumers (optimal) or discount vouchers (second-best)	4. Funded from the national budget (but surcharge would also be possible), initially universal cash transfers (seen as sub-optimal) subsequently conditional transfers to consumers (seen as optimal)
5. Price adjustment	5. Managed, then "automated", then by sellers with ex-post monitoring	5. Automated, then by sellers (skip the stage of "managed" pricing because of the risk of recidivism)

CHAPTER 3: THE TRANSITION

Key Messages

The Transition to the Target Regime: is four-fold: (1) prices aligned with international market prices ("IMP") with low-income consumers receiving targeted subsidies; (2) an opened oil products market permitting and encouraging competition in accordance with the Law; (3) the related restructuring of Pertamina's downstream operations; and, for effective implementation of the first three, (4) institutional structuring and strengthening..

Duration of the Transition: the choices are: a swift price change minimizing inflationary effects (but possibly posing political management problems) or a step-wise transition that may be politically easier. The level and direction of change of the IMP will be important considerations at the time a choice is made. At the time of writing, the domestic prices of gasoline and diesel are not far from their respective international prices. Market opening should start immediately and be phased over what may be as long as ten years. Pertamina restructuring should always run ahead of market opening to enable the company to prepare for (and benefit from) the ensuing competitive challenges.

Design of the transition: Four parallel components constitute the recommended transition.

I. Alignment of domestic prices with international market prices: Given the high costs and distortions due to the current pricing and subsidy regime, the transition to international market prices should not be delayed till complete market opening and restructuring of Pertamina. Therefore, domestic prices should be aligned with international prices as soon as possible. As a transition step, a suitable international benchmark should be used as the reference market price until a domestic competitive market is able to form domestic market prices. There are four price and subsidy issues and in addressing them there is much to be learned from the GoI's progress and experience particularly since early 2005:

1. Adjusting prices:
    a. The number and size of steps—a specific Rupiahs/L approach is recommended. The adjustments should be made as quickly as possible. Given the current IMP environment which is favorable to consumer interests, the strongly preferred recommendation is to adjust prices in one step to the IMP;
    b. Differentiation by fuels: if the recommendation for a one-step adjustment is not followed, there is a case for different rates of change for each fuel: gasoline immediately, diesel over a 12-month period and kerosene more slowly as targeted subsidies are phased-in;
2. Transferring the "social subsidy" from all retail fuels to only the low-income fuels users, preferably only low-income kerosene users:
    a. Timing: at a minimum, coincident with the first price change;
    b. Ensuring that the subsidy transfer program is fully "ready" with budgets approved etc. and there is an adequate supply of substitute fuels available to those who wish to substitute (e.g., from kerosene to LPG);
    c. Deciding how much of the subsidy saving to retain in the budget, how much to pass through to consumers;
3. Mobilizing the support of civil society: persuading the public that the changes, including market restructuring, are "right" and "fair"; providing base data and an information flow about progress of the transition; mobilizing various interests within the society.
4. Ensuring that demonstrated and justified secondary price effects are allowed to take place.

Key Messages (continue...)

II. Market-opening: The GoI's policy of and progress towards market opening is acknowledged. The downstream petroleum fuels market is open legally but there are significant barriers for new entrants because of the incumbent Pertamina's domination of the sector and the monolithic, pan-territorial Public Service Obligation (bestowed on Pertamina so far). The oil products market should be further opened in stages over a period of up to a decade, starting at the level of distribution and working progressively "upstream" to primary oil products supply, including oil refining. New market entrants should be licensed, enabled to buy product from Pertamina on a most-favoured nations (MFN) basis, allowed to contract with and re-brand some existing retail outlets; and eventually obtain access on a fully commercial basis to Pertamina storage facilities, pipelines and depots, and finally involved in refining perhaps in joint ventures with Pertamina.

III. Pertamina adjustments: the Government of Indonesia (GoI) should undertake actions designed to help Pertamina face competition and Pertamina in turn will have to adjust to the sort of competitive market conditions that are required by the Law. Demand growth will create some "headroom" for new entrants, but it is normal that, where a state monopoly occupies 95%+ of the market, opening to competitors will necessitate some absolute shrinkage by the incumbent supplier which as a result can become leaner, more efficient and more competitive.

IV. Institutional arrangements and concerns: the design and management of the transition will pose challenges for policymakers and regulators. The transition should be initiated by a high level policy statement and guided by a published road map for change incorporating milestones and review points. The downstream regulator BPH Migas is not presently equipped and able to manage change in the oil products market. BPH Migas capacity in the area of oil products will have to be strengthened in terms of human and financial resources for its implementation and monitoring roles.

ABOUT THIS CHAPTER

This chapter first recapitulates the need to place the target pricing and subsidization regime in the context of market opening and of Pertamina restructuring to adjust to that opening (3.1). It then addresses the issue of the duration of the transition (3.2) and the design of the transition (3.3) before considering the principal steps to initiate market opening (3.4) facilitate Pertamina restructuring (3.5) and strengthen institutions (3.6).

3.1 IMPLEMENTATION OF THE TARGET REGIME

The ultimate target is a liberalized oil products market which achieves the goals and requirements set out in the Oil and Gas Law for an independent, reliable, transparent, competitive, efficient, and environmentally friendly petroleum sector that encourages the growth of the national potential and role and at the same time does not exclude the GoI fully meeting its social responsibility towards certain community groups.

The recommended move away from state-managed, subsidized prices creates at the same time both the *opportunity* and the *necessity* to go further and open Indonesia's downstream oil business to competition.

The ultimate target cannot be achieved merely by taking administrative steps to remove the GoI's longstanding subsidies on certain oil products and substituting different subsidies targeted directly at low income oil consumers. That is simply a first step. What is needed is a change in the GoI's philosophy of dealing with the oil products market. That change must recognize that international oil products prices are formed by market competition beyond the influence of governments. Those prices apply to all the world's economies in the sense that they express the value of the oil products they use. They are allowed and encouraged to drive the oil markets of all the advanced industrial countries and many of the developing ones. Where governments intervene to insulate their economies in varying degrees from international prices, consumers receive wrong price signals, there are economic distortions, and government budgets are adversely affected with negative impacts on social and developmental goals. Indonesia's own experience with domestic fuel pricing since 2001 shows that trying to predict or 'chase' international fuel prices does not lead to a reliable, predictable, transparent or efficient sector. Whenever domestic prices have not been allowed to reflect international market prices, significant strains have been placed on the government's fiscal position or on Pertamina's financial health or both.

A liberalized oil products market can only be created by a regime that combines price and subsidy reform with market opening. Only that combination will confer on Indonesian consumers the prices and services that result from healthy competition; on the Indonesian economy the benefits of investment, technology and entrepreneurship brought by new entrants; and on Pertamina the stimulus of international competition.

Four parallel components constitute the recommended transition to the target regime:

I. Because oil products market opening and Pertamina restructuring will take time, **the first priority is rationalized fuels pricing together with subsidies channelled by transparent means to target populations** of low-income fuels consumers, mainly users of kerosene. Fuel prices should be linked to the international market price (IMP), probably taking as a benchmark the transparent, liquid Singapore market. This will eliminate the negative effects of the current regime that were described in Chapter 2.

II. The second step is the opening of the oil products market in a phased manner to permit and encourage qualified new entrants, who will bring the benefits of competition to consumers and new investment, entrepreneurship and technology to the economy at large. Indonesia's oil products market is legally open but new entrants remain on the market's sidelines because of the incumbent's overwhelmingly dominant position and the existence of a pan-territorial PSO (also with the incumbent).

III. The third step, in parallel with and running somewhat ahead of market opening, is adjustment/restructuring of Pertamina's downstream operations to enable and facilitate the market opening and also to transform the company into an efficient, internationally competitive player in the downstream industry in Indonesia and potentially abroad.

Only when these three steps have been accomplished will the ultimate target of an efficient, competitive Indonesian oil products market have been achieved. However, since the transition time for components II and III is long, it is recommended that component I be implemented as soon as possible. But the implementation of these components also needs a parallel strengthening of institutional arrangements for policy implementation and supervision market operation—a 'control' component labelled IV.

IV. The fourth step, institutional arrangements. The design and management of the transition will pose challenges for policymakers and regulators. The transition should be initiated by a high level policy statement, overseen at the ministerial level, managed by an implementation group of senior officials and guided by a published road map for change incorporating milestones and review points. The downstream regulator BPH Migas will have a key role to play.

The character of the change

The transition is concerned in the first place with a change to achieve the target regime described in Chapter 2 as the "Recommended Petroleum Product Pricing/Subsidy Regime for Indonesia" and to doing so in an orderly manner that avoids economic disruption and social unrest. Depending on the level of prices on the international oil market at the end of the transition, it may or may not result in an increase in oil products prices on the Indonesian market (it almost certainly will involve an increase in the presently subsidized kerosene price which is currently at only about 40% of international levels).

But the focus of change is two-fold:

- Immediate--price adjustments for all controlled oil products (again, they need not necessarily be increases) and substituting targeted subsidies for fuel-specific subsidies in respect of kerosene and possibly for some diesel consumers; and
- Starting soon but extending over a longer term--getting the benefits of a functioning oil products market with large public and private investments in it.

The processes could best run concurrently although market opening and Pertamina restructuring will necessarily take longer than price adjustments. Also it will be beneficial if steps were taken to ensure that the public is not misled into identifying the adjustment of prices to international levels (which eliminates a dysfunctional system having perverse effects) with the restructuring of the petroleum fuels market (which is necessary to achieve long term gains for consumers and for the Indonesian economy).

This chapter provides an overall transitional road map that charts the steps needed to achieve the target regime and to implement market opening and Pertamina restructuring as necessary further steps to the complete realization of GoI's policy for the oil products sector of the Indonesian energy economy as expressed in the Law.

3.2 DURATION OF THE TRANSITION

It is not feasible at this stage and for the following reasons to provide with any precise "timetable" for every step on the road map of the transition:

3.2.1 PRICES AND SUBSIDIES

On the one hand, a rapid transition to international market prices likely minimizes inflationary effects and would be consistent with the GoI's bold pricing moves taken in 2005 but, depending on the amount of the change, may be politically difficult to manage. On the other hand, a step-wise transition involving changes that are predefined in terms of amount and frequency may be politically easier to initiate but may have more adverse effects in the long run, for example by keeping the price adjustments repeatedly in the news, by possibly building-in greater inflationary pressures and by creating the opportunity to abandon the policy change rather than finishing the course.

Recommendations:

- ***Gasoline****: the case is strong for a one-step change. The domestic price is close to or may even be slightly above the IMP at present. International prices have been falling since mid-2006 and may continue to do so. The GoI should therefore preferably move gasoline prices to IMP levels as quickly as possible.*
- ***Diesel****: the case is almost as strong for a one-step change. The domestic price (4200 IDR/L) is at about 80%+ of MOPS + 15% allowance for distribution costs (5100 IDR/L). The GoI should move diesel prices to IMP levels unless an assessment of the economic impacts of adjusting the diesel price to IMP clearly identifies politically sensitive winners and losers (as presented for Ghana in Chapter 2) in which case step-changes to the IMP are recommended, possibly linked with targeted subsidies to particular user-groups.*
- ***Kerosene:*** *retail kerosene prices (2000 IDR/L) are about 40% of the MOPS + 15% (4800 IDR/L) and for retail kerosene the 15% factor may be a sufficient proxy for the cost differential between bulk imports and retail distribution. It is recommended that the GoI move kerosene to IMP as soon as a carefully-designed, tested and fully-budgeted program is in place to transfer the effective subsidy*[35] *on kerosene to a subsidy specifically targeted at low-income kerosene users. In the alternative, which is not recommended, the GoI might consider the case for a phased reduction in the kerosene subsidy matched by a phased introduction of targeted subsidies for low-income consumers, although this would have the undesirable effect of prolonging some of the incentive for adulteration and smuggling.*
- ***Subsidies:*** *this chapter addresses principally one kind of subsidy—cash transfers, whether universal as at present or conditional as recommended in Chapter 2. It does not deal with the issue of other subsidies of the kind identified in Chapter 2 and it*

[35] By "effective subsidy" is meant the net amount of the budgeted kerosene fuel subsidy net of allowance for "leakages" by way of smuggling and adulteration of other fuels with kerosene.

raises, but does not debate the issue whether it may be desirable to provide targeted subsidies, cash or other, to certain groups of diesel users.

3.2.2 MARKET OPENING

The GoI has been moving slowly but surely to encourage greater capacity and efficiency of the downstream petroleum sector. Under Presidential Decree No. 31/1997, the government loosened Pertamina's monopoly on refining by allowing private refineries to market their products domestically through Pertamina. So far, however, this has not brought results. Oil and Gas Law 22/2001, already summarized in Chapter 2, marked another step towards liberalizing the downstream sector. Part of the response to that was the decision by Shell and Petronas in 2005 to enter the gasoline market with programs of retail service station opening. However, given the extent of the change needed to move from the present highly concentrated market, this will necessarily be a long-term project which may take as along as 10 years to accomplish. It will be necessary to attract, select and engage new market entrants who will then need to make initial supply arrangements with Pertamina, then invest in their own supply chains and eventually, alone or, more likely with Pertamina, engage in own refining operations. When they have occupied a significant market share, workable competition will have to develop before GoI supervision of prices can be withdrawn in favour of a market- and price-monitoring role. All this will take time. Ten years seems a reasonable estimate. But if the economy is strong with matching oil demand growth and new entrants are impressed with the possibilities, the overall transition may be shorter.

Recommendation: The overall transition—prices, subsidies, markets, Petramina, institutional-- should be phased in a series of steps, summarized under heading 3.4, which might be of equal duration and the first of which should be initiated as soon as possible.

3.2.3 RESTRUCTURING OF PERTAMINA

The restructuring of Pertmina isI in fact already taking place: the company has *persero* status pursuant to Presidential Decree 31/2003 of June 18, 2003; it has a relatively-new, well-qualified, independent, professional senior management; and it is receiving and acting on third-party strategic and operational management advice.

Recommendation: Pertamina restructuring should be undertaken according to the broad principles outlined under heading 3.5 in parallel with, and always runing ahead of, market opening in order that the company adapts in advance to respond to opportunities (for example, joint ventures with other companies) and challenges (example: marketplace competition) that will be presented to it.

3.2.4 INSTITUTIONAL ARRANGEMENTS

This step is the fourth one to be described, but it must be initiated before any of the others and it will continue in parallel with those others until the whole transition is completed

and even beyond when the Indonesian oil products market is regulated by competitive forces and government has stepped back to a monitoring and informational role.

Recommendation: That the GoI promptly create a ministerial-level oil products policy implementation group, a working group at the D-G level reporting to it and that the GoI take immediate steps to provide adequate personnel, resources and training for BPH Migas to enable that body to successfully discharge its regulatory role in relation to oil products price adjustments, eventual removal of subsidies on the products themselves, market opening and Pertamina restructuring.

3.3 COMPONENT 1: DESIGN OF THE TRANSITION FOR PRICES AND SUBSIDIES

There are four major issues to be addressed:

1. What the adjustment steps should be to reach price levels based on the IMP ("the steps")
2. How to deal with the GoI's social responsibilities for low-income consumers. This involves the transfer of financial resources from subsidizing the consumer prices of a range of oil products to subsidies targeted at certain consumer groups ("the social subsidy transfer")
3. How to mobilize public support for the target regime by carefully explaining the case for it, by providing sound factual information, by transparency of the system and by reporting on results ("mobilizing the civil society") and
4. How to identify, adjust for and monitor secondary effects on the economy of moving to the target pricing regime ("secondary adjustments").

In the light of these considerations, the transition actions should take place on the following four parallel tracks with close coordination between each of them. These four tracks are also set out in summary form in **Annex 6.** Note that provision is made there for a succession of oil price adjustments. However this report recommends that, in the world market circumstances of late 2006, the GoI move oil products prices to IMP levels in one step, upon completion of all necessary preconditions in terms of institutional strengthening, preparation of targeted subsidy programs and mobilizing of civil society in support of price and subsidy rationalization.

3.3.1 ADJUST PRICE (S) FROM THEIR SUBSIDIZED LEVELS TO ALIGN WITH IMP

The threshold question is "when to start?" This must be a matter for political judgment again. It is important again to note that, depending on the international market level, the adjustment for gasoline might be negligible and for diesel modest. For kerosene however, the adjustment to IMP would be large. This report is concerned to provide practical, technically-sound advice on price adjustments. It is not intended to provide the related political judgments.

The first operational question is "what mechanism should be used?" Alternatives are available. Issues include:

2. **The number and size of steps**: because the future IMP is not predictable, it is not possible to predetermine both the time period of the adjustment ("speed") and the actual size of the "steps". The only practical option for the adjustment "steps" is to change prices by a specific rupiahs/liter (Rp/L) amount. Fixed fractions or percentages will clearly not work to close any "gap" and it would be clumsy to have to change the fractions or percentages over the adjustment period. Therefore, if the GoI were not to follow the recommended "one step" approach, it would have to commit to a frequency (monthly, quarterly etc) and then allow the price changes to take place "automatically" until domestic base prices equal the IMP. It would be desirable to give the public an estimate as to how long it would take to achieve the IMP and update that estimate in connection with each predetermined price change.

   Recommendation: Depending on the level of the IMP and the amount of the "gap" to be bridged, Indonesian fuel prices should preferably be adjusted to IMP in one step. Failing that, the specific IDR/L method could best be used with the smallest number of steps.

3. ***Whether to adjust all three fuels at same speed and in the same number of steps*** *(the size of steps will vary because of difference in current price levels relative to the IMP which have already been noted):* Policymakers will have to decide if there are good reasons to differentiate between the fuels in this respect. For example, kerosene is the most "politically sensitive" fuel and faces the largest adjustment. There may therefore be a case to move it more slowly than the other fuels, particularly if the "subsidy transfer" systems ("transfer" that is, from direct fuels subsidy to cash transfers, and to kerosene-substitution and "investment" programs) cannot confidently be put in place and have their full effect at least coincide with the adjustment of kerosene prices to the IMP. As to the other fuels, consideration will have to be given to their adjustment having regard to the "gap" between domestic prices and the IMP and the information provided in Chapter 1 about what they are used for, by what social groups and with what regional variations.

   Recommendation: Policymakers must make their decisions on each grade of fuel, based on their careful assessment of the considerations outlined here and of any other relevant matters and taking account of the strongly expressed preference for single-step adjustments.

Comment on the issue of IMP volatility: The IMP is inherently volatile because it reflects the market's response to changing global crude oil and oil products supply and demand conditions. Under the target regime, Indonesian consumers will therefore have to become accustomed to price fluctuations, like most of the rest of the world's oil users. The target regime offers an element of "price smoothing". It does not make

provision for Indonesian consumer prices of oil fuels to be "separated" from the IMP because of the unacceptable budgetary costs, inter-personal inequities, market distortions, fuel adulteration and smuggling problems that characterize the present system. However it is proposed that low-income consumers of kerosene would continue to be cushioned against high and volatile kerosene prices but by means of targeted subsidies, which will vary with the kerosene price, rather than by subsidies on the fuel itself. This means that the budgetary costs of the subsidy program will not be predictable in detail. However, because it is a strongly concentrated subsidy, it will be much less costly and will therefore be a much smaller element of the GoI budget than the present program, and it would be technically possible to make its cost predictable from year to year by hedging against the international price of kerosene.

3.3.2 TRANSFER FROM SUBSIDIZING PETROLEUM FUEL PRICES TO DIRECTLY SUPPORTING THE LOW-INCOME TARGET GROUPS

Transfer the "social subsidy» element of the current pricing regime from the oil fuel(s) themselves to the particular target group of low-income oil consumers:

The issues to be addressed include the following:

a. ***Timing of inception:*** The new regime of targeted subsidies must start at least at the same time as the first price-change step. The Universal Cash Transfers ("UCTs") planned and budgeted for 2007 could be a included in this effort. If possible, with a view to enhancing credibility, some "demonstration" subsidy schemes should be up and running before that first step is taken. The GoI's administrators have a head start in program design because they can draw on the experience of the UCT program for kerosene users that has been operating since the October 2005 price increases.

b. ***Ensuring that subsidy transfer is "ready":*** It is critically important to ensure that the design of the new targeted subsidies is agreed, budgets approved and resources put in place to deliver the subsidies at least coincident with the initial price adjustment, preferably before the first step is made. It will be important to maintain the GoI's credibility with low-income consumers by avoiding problems such as beset the education subsidy that was intended to coincide with the early-2005 price increase but was delayed until long after fuel prices were increased.

c. ***Deciding how much of fuel subsidy budgetary savings should go to targeted subsidies:*** the GoI must want to achieve a substantial net budgetary saving out of the transfer of subsidies. The GoI should consider retaining:

i) The savings from the expected large reduction in smuggling and adulteration; and
ii) The savings from curtailment of the subsidy to better-off consumers, essentially the cost of the gasoline subsidy.

It will be important to try and calculate these "savings" using the best available data and estimates of smuggling and adulteration losses. This calls for a separate study.

Recommendations: The subsidies targeted at low-income kerosene users should:

- *Be initiated coincident with the first price change step, perhaps earlier on a pilot basis;*
- *Be carefully prepared to ensure that no administrative obstacles delay the start of the program; and*
- *Demonstrate fiscal prudence by achieving a substantial budgetary saving over the existing regime.*

Comment: the recommended price adjustments and subsidy transfers are congruent with existing policy and policy intentions: Implementation of the foregoing recommendations for price adjustments and targeted subsidies would represent a logical continuance of policies initiated in 2005 in conformity with the Law (example: phase-out of subsidies for the two highest grades of gasoline and for industrial fuels use, cash transfers and other direct subsidies) and further changes foreshadowed in the Energy Blueprint but not yet acted on (examples: the recommended removal of subsidies on premium gasoline and diesel fuels by 2006 and on kerosene by 2007).

The alternative (not recommended) of a phased adjustment of kerosene prices with a phased introduction of targeted subsidies for low-income kerosene users: This option was identified under section 3.2.1 as a possible phased reduction of the kerosene subsidy. On the one hand, this approach would minimize the "price shock" for kerosene users who, in the case of the recommended one-step adjustment would, at November 2006 price differentials, face a price increase of about 150% (from 2000 to probably more than 4800 Rp/L). And it would provide more time for the "off-kerosene" program to bring results, for example in terms of more widespread availability and acceptability of LPG. On the other hand, it would prolong the incentives for adulteration and smuggling and it might tend to add to administrative burdens of running fuel-subsidy and targeted consumer-subsidy programs concurrently. And it should be within the capacity of the GoI to design cash transfers and other mechanisms in such a way as to completely offset for target populations the effect of even a large kerosene price increase.

3.3.3 MOBILIZING THE SUPPORT OF CIVIL SOCIETY

First, it will be necessary to persuade the public of the "rightness" and "fairness" of government policy. The government can best persuade the public through a careful assessment of the economic impacts of moving diesel prices to international market pricing and a detailed assessment of the poverty and social impacts of moving kerosene prices to international market pricing. Examples of these public arguments are that:

1. It will close–off opportunities for "thieves" (smuggling, adulteration), deal with the mis-targeting issue by taking undeserved income transfers away from the "well-off" or the "rich" and concentrate fuel-price assistance on low-income households where it is most needed. It can be correctly stated that smuggling and adulteration cannot be effectively dealt with by stronger "enforcement". This is because the incentives for "misbehaviors" of this kind that are created by the large price differentials under the current regime are too strong to be offset by enforcement means.
2. It is creating new "helping the poor" schemes in the areas of health-care and education (that is, if the GoI decides to go beyond CCTs).
3. It is re-directing scarce GoI financial resources from current consumption to investment in the nation's future (that is, if the GoI decides to increase health, education and infrastructure budgets directly related to the curtailment of fuel subsidies).
4. It is necessary to help create a better-functioning more efficient energy economy with ensuing long-term benefits all round.
5. It is not allowing the public to immediately gain the benefits of falling international fuel prices because changes in domestic prices are at the discretion of the Government.

Comment: it will probably be necessary to embody different arguments in separate programs aimed at different social groups—for example, items 1 and 2 above better addresses the concerns of low-income consumers; item 3 mostly targets the middle class; item 4 is likely to have an impact with the better educated. An information program would also have to identify and deal from the start with the counter arguments like "the right to low cost oil as part of the national petroleum patrimony".

Second, the GoI must provide base financial data and then set up an information flow to the public about "what's going on" once the transition has gotten underway;

- Example from above—answer the questions "How we are doing relative to the IMP? What are the subsidy "savings" and how are they being distributed? How much is being redistributed to low-income consumers? What is being done with the rest of the savings by way of "investments" and "correcting budget deficits?"
- Information should be provided about progress with the subsidy transfer programs, with "success stories" to publicise them.

A successful program of price change and subsidy transfer should achieve large budgetary savings for the GoI. The stakes are high. It is therefore worth spending generously on the design and implementation of these information programs. It will be critically important to get off to a strong start in the area of transparency by making available high quality data about the existing regime and the progress in implementation of the new one.

Third, the GoI must mobilize the support of the civil society partly on the basis of this flow of information. It should learn from the experience of dealing with the 2005 price increases and subsidy transfers. The government could look for support from:

- *Business interests*--that will want to see sound budgetary management, opening of economic sectors to competition and who can take a favourable "long view" of the probable results.
- *Pertamina (not foreign NOCs or IOCs)*--who could be requested to help with publicity—"here's how you (car owners, commercial transport etc) can achieve economies that will help you cope with higher prices" (if indeed prices are higher).
- *Roles for other SOEs*—there are many of these entities and the GoI should consider how to mobilize their active support for oil price and market reform.
- *Environmental NGO's*--they should see rational oil pricing in a high IMP situation as helping to foster efficiency measures and alternative/renewable energies.
- *Anti-poverty groups*---they can be expected to support the proposed targeted subsidies for low-income consumers and should be asked to express this support publicly.

Recommendation: the foregoing comments on means to mobilize the support of Indonesian civil society in favour of the target regime, oil products market opening and Pertamina restructuring should be taken into account in designing programs of public relations and information.

3.3.4 SECONDARY ADJUSTMENTS

The economic impact of oil price adjustments will be variable depending the amount and direction of the adjustments and on the share of fuel costs in total costs of different sectors. The impact on the consumer price index will in the first case be related to the share of fuel costs in that index. Both elements should be fairly easily quantifiable from existing available data.

As a generalization, the overall economic effects of fuel price adjustments of the sort that are currently in prospect if Indonesia were to move promptly to IMP levels would probably be modest, Certainly this has tended to be the experience in developed countries. Against that background and with current price differentials against IMP, the GoI should not be overly concerned about the effects for gasoline. It should use the results of an assessment of the economic impacts for diesel. It should carry out an assessment of the poverty and social impacts (PSIA) for kerosene. As well, the GoI should identify at least in qualitative terms the "secondary effects" of oil price changes on all government-regulated prices and see that appropriate measures are taken in regard to the "flow through" of those effects:

- *Transportation: Bus, taxi, rail fares*—any feasible steps should be taken to ensure that regulators allow the flow-through only of demonstrated cost effects.
- *Utilities and other regulated industries - PLN rates*—it should be determined whether there will be any "residual effects" on PLN's costs and if there is therefore any need to provide for a further cost-based tariff adjustment. There may be none because since October 2005, PLN has been paying the industrial diesel oil price, which is market-based. Such secondary effects are also likely to extend to water utilities (PDAMs), and other regulated industries.

Recommendation: the GoI should take all necessary steps within its competence:

- *to allow the fair flow-through of oil price changes, increases or decreases, to the prices of other goods and services; and*
- *to prevent oil price changes being used as an "excuse" to raise other prices by amounts that are not fully justifiable.*

3.4 COMPONENT II: DESIGN OF THE TRANSITION FOR MARKET-OPENING

The Indonesian oil products market is in legal terms already open to investment and activity by suppliers other than Pertamina. In practice market-opening has been slow primarily because the price subsidy regime has reinforced Pertamina's *de facto* monopoly position. Moreover, in any situation where an incumbent supplier has more than 95% market share, active means must be employed to create the conditions for workable competition and to move the whole system towards the eventual goal of competitive market pricing of all fuels.

The principal sequential steps in the **transition road map** that the GoI should take to facilitate entry by new market participants, whether Indonesian or foreign, state- or privately-owned, and which constitute *the report's recommendations in these areas* are as follows. They are designed to open the oil products market in stages over a period of about a decade, starting at the level of retail distribution and working progressively "upstream" to primary oil products supply, including oil refining. Again, the progress already made has to be acknowledged. Distribution is open to other investors. . Companies other than Pertamina are allowed to put new primary supply on the market by means of imports. And refining is legally opened to foreign interests. But so far there has been practical progress only in the area of retail distribution of the highest grades of gasoline.

3.4.1 LICENSE NEW ENTRANTS

The GoI should license and/or confirm the licenses granting long term market access to a selected group of qualified new entrants. That group should be chosen from candidate

companies to provide a balance of super-majors, majors and foreign SOEs.[36] The purpose is three-fold: first, to obtain for Indonesia a varied suite of new market participants; second, to give these companies confidence that they have a long-term future in the Indonesian market and can on that basis plan and make their investments and other commitments to the market; third to provide over time the benefits of choice for the Indonesian consumer and of new investment and access to new technologies for the Indonesian economy.

3.4.2 GRANT PUBLIC SERVICE OBLIGATION (PSO) STATUS TO NEW ENTRANTS

Presently, only Pertamina has PSO status for purposes of receiving and passing on to consumers the subsidies on the three main fuel categories. This effectively excludes competitors from about 60% of the Indonesian oil products market. New entrants should be granted PSO status for at least pilot quantities of subsidized products within 12 months of the initiation of market opening. Those quantities should be progressively increased until Indonesian prices have reached the IMP and PSO status is of course no longer relevant. This situation would arise immediately, at least in respect of gasoline and diesel oils, if this report's recommendation as to the timing and amount of price adjustment for those fuels were to be followed.

3.4.3 EXTEND "MFN TREATMENT" TO NEW ENTRANTS

Require Pertamina to extend "MFN treatment" to new entrants. Steps should be taken to ensure that Pertamina makes product available for purchase by new market entrants on the same basis as the company sells to its own retail outlets and to other bulk products purchasers for resale or consumption. The purpose is to enable new entrants to obtain products supply on a fair basis for their retail operations in Indonesia.

3.4.4 ENABLE RETAIL OUTLETS TO CONTRACT WITH MARKET ENTRANTS

Request and require Pertamina not to obstruct the release of retail outlets from contractual obligations, enabling them to contract with market entrants. Conditions should be created under which new market entrants are able to compete fairly with Pertamina to make products sales arrangements with "dealer-owned, dealer-operated" ("DODO") service stations. It is understood that about 95% of the retail service stations

[36] When markets are being opened to competition for the first time, it is not unreasonable for governments to control the rate at which newcomers enter the market and to select those market entrants. After all this is exactly the approach adopted by the Government of the United Kingdom in opening its offshore exploration to investors. Instead of auctioning these rights to the highest bidder, the UK has consistently adopted an approach that is designed to attract a diverse group of explorationists to the development of its resources. This report envisages a similar approach, at least initially, to Indonesian oil products market opening.

in Indonesia are of the DODO type. In most cases this would involve the DODOs in de-contracting from Pertamina, contracting with a new entrant and re-branding their outlets. The purpose is to enable the new entrants to get a foothold in those parts of the market which are already adequately serviced with the needed number and quality of outlets. It is understood that there are typically "out clauses" for both parties in the contracts that Pertamina has with participants in its dealer network. Pertamina will see such a development as disadvantageous. The DODOs will find it advantageous. It is understood that some DODOs are already taking steps to enable them to contract with new entrants.

3.4.5 PROVIDE ACCESS TO PERTAMINA STORAGE FACILTIES AND PIPELINES

Encourage/require Pertamina to provide access to storage facilities and pipelines. The purpose is the same as in 3.4.4 above but in relation to facilities further up the supply chain.

There are several alternatives for new market entrants to gain access:

- By negotiating access for a fee (new entrants might lack leverage to achieve this equitably)
- By entering into Joint Ventures (this is commonplace in the industry, and it would enable Pertamina to recover some capital for investment elsewhere)
- By the GoI creating an Energy Transportation Utility (ETU), akin to an open access regulated pipeline, to take over and operate some or all of Pertamina's products supply network (this was a proposal in the FACTS Inc report to the Blue Water Working Group in 2003). This approach, which is <u>not</u> recommended here, has been followed in some small Central American and African countries where oil products importing and terminaling facilities are in fact natural monopolies. In Sri Lanka it was proposed in draft legislation in 2003 which allowed the government to designate certain petroleum infrastructure belonging to the national oil company (port, storage and pipeline facilities) as providing regulated services for which access could be obtained by third parties.

3.5 COMPONENT III: DESIGN OF THE TRANSITION FOR PERTAMINA RESTRUCTURING

Effective restructuring of Pertamina's operations to both encourage the introduction of competition and the free working of markets and to enable Pertamina to thrive in a competitive environment requires actions by the GoI and by the company itself.

3.5.1 PERTAMINA RESTRUCTURING – ACTIONS TO BE TAKEN BY GOI

The GoI should undertake actions within its area of competence and *parallel with the five steps outlined above* to assist Pertamina to face the development of competition:

- By providing wholesale and retail margins that are assured and related to efficient costs of doing business, while appropriately balancing the interests of oil consumers. If the margins allowed at different points along the oil supply transaction chain are reasonable, this will both enable Pertamina to generate the funds it needs to maintain and modernize its operations and will provide an incentive for new market entrants. As competition develops and the government therefore withdraws from margin-setting, market conditions will tend to erode margins to the benefit of consumers.
- By accepting the need for major capital programs e.g. refinery upgrading to face up to the competition of IOCs and NOCs and undertaking that the GoI will not impede these programs. Pertamina should be allowed to accumulate substantial retained earnings to finance its capital needs and to make it a creditworthy borrower also to meet its investment requirements. Frequently, the government shareholders of SOE's will "raid" those retained earnings to meet national budget shortfalls. A particular case in point has been the treatment of Pemex, the Mexican state company, by the federal government of that country. Pertamina's management needs to be assured that this will not take place and that the GoI's representatives on its board of directors will encourage development of a strong financial position for purposes of making the needed business investments.
- By providing assurance of arm's-length treatment by the GoI as "shareholder", always provided that Pertamina does not obstruct necessary market-opening. Pertamina may be inclined to work against market-opening. This is because, even though the Indonesian oil products market appears to be growing steadily, the coming of new entrants in sufficient numbers and size to bring about workable competition is going to result in Pertamina shrinking somewhat.

3.5.2 PERTAMINA ADJUSTMENTS – ACTIONS BY THE COMPANY

Pertamina in its turn will have to adjust *in parallel with the five market-opening steps and to the greatest extent possible in anticipation of those steps* to the competitive market which is required by the Law. Some of the elements of that adjustment require it to:

- Become more transparent so that the shareholder has a full understanding of Pertamina's needs and possibilities. This will require full transparency in financial and other reporting. In this connection, Pertamina does not yet have an opening balance from the inception of its *persero* status.
- Unbundle, rationalize the unbundled components, divest non-core activities, work cooperatively with new entrants in core areas, be prepared to give some ground in markets to become leaner, more efficient, more robust, and to meet competition effectively.

The foregoing components of the transition are set out in summary road map form in **Annex 7** which also relates them to the price adjustments column in Annex 6 to provide an abbreviated road map for change in the Indonesian oil products market. Note that, as in Annex 6, allowance is made for a succession of oil price adjustments. However this report recommends that, in the world market circumstances of late 2006, the GoI move gasoline and diesel prices to IMP levels in single steps, though at different times. The annex indicates in outline terms the principal GoI decision-taking, responsibility-center, organizational and monitoring steps that would be required to achieve an effective transition. These elements of the transition are not otherwise set out in the text.

3.6 COMPONENT IV: INSTITUTIONAL ARRANGEMENTS AND STRENGTHENING

The price adjustments, market opening and Pertamina restructuring that are recommended in this report have already been initiated by the GoI and the varying degrees of progress achieved in each area have been highlighted in the preceding text. However, the task ahead is a formidable one: Indonesians have become accustomed to many years of government oil price management; Pertamina's decades-long monopoly has never been seriously challenged and there are no doubt vested interests in its continuance; and the society and economy has benefited from competitive market conditions in other sectors, but not in fuels supply and there may be reluctance to accept that change in this area can similarly benefit the country.

To successfully accomplish the fundamental changes required under Components I to III, new institutional arrangements will have to be created and existing instruments of for regulatory implementation need strengthening.

A Ministerial Policy Implementation Group should be constituted to oversee price adjustments, market opening and Pertamina restructuring. Chaired by the Energy Minister, it will need economic, social and regional ministerial representation.

The Ministerial Group will be kept informed by and will provide implementation guidance to a Working Implementation Group at the Echelon 1 level or their senior alternates, chaired by the Director General for Oil and Gas and with the same broad departmental representation as the Ministerial Group.

Consideration needs to be given to consulting with various economic and social sectors through their trade and other associations, including non-governmental organizations involved in social and poverty reduction work. Working to predefined terms of reference these groups could provide useful feedback and advice as the transition proceeds.

BPH Migas is the GoI's principal instrument for policy and regulatory implementation. The indications are that BPH Migas is struggling to effectively discharge its mandate to

regulate the supply and distribution of oil fuels, allocate fuel to the national reserve, plan the use of oil and gas transportation facilities and deal with natural gas transmission and distribution matters which are an immediate priority. There is a reasonable concern that BPH Migas' capacity is insufficient for the challenge of managing the transition in the oil products sector. It will have to be strengthened in terms of human and financial resources. A core group of staff responsible for oil products issues and which already appears to deal with matters relating to the subsidy program and the selection of PSOs will have to be reinforced. These staff must gain a clear understanding of markets and market functioning. Based on the experience of obtaining data for Chapter 1 of this report, the relevant statistical systems appear to be deficient. It will be important to create comprehensive, up-to-date and reliable data flows to manage and monitor all three elements of the transition.

3.7 CONCLUSION

The conversion of the present Indonesian oil fuel pricing and subsidy system to the sustainable model recommended in Chapter 2 can be successfully achieved over a relatively short transition. If the policy objectives of the Law are to be similarly achieved, and much greater efficiencies reaped, the market must be opened and Pertamina's operations restructured, initially in parallel with the pricing changes but ultimately over a longer transition period, potentially cumulating to a decade.

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ANNEX 1

The Application of Various Pricing Policies and Mechanisms in Indonesia since 1999

Automotive Diesel Oil (ADO)

Date	Decree	Customer Type	Regime	Price (IDR/Liter)			Notes
				Retail	Industry	Others	
1-Feb-99	10/1999	Retail Industry Others	Fixed Price includes VAT 10% and fuel tax (PBBKB)	550			No price differentiation by customer category
1-Oct-00	135/2000	Retail Industry Others	Fixed Price includes VAT 10% and fuel tax (PBBKB)	600			No price differentiation by customer category
1-Apr-01	45/2001	Retail	Fixed Price include VAT 10% and fuel tax (PBBKB)	600			Price for land and sea transportation, PT.PLN, and small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		990 1150 1285		April 2001 May 2001 June 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1990 2300 2570	April 2001 May 2001 June 2001
16-Jun-01	73/2001	Retail	Fixed	900			Price for land and sea trasportation and small industry include tax and vehicle tax (PBBKB)
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1,250 1,190 955 1,000 945 900		July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			2,500 2,380 1,910 2,000 1,890 1,780	July 2001 August 2001 September 2001 October 2001 November 2001 December 2001

17-Jan-02	9/2002	Retail & Industry	75% of (MOPS + 5%) plus VAT with floor price 900 and ceiling price 1550; Floor & ceiling prices include fuel tax	1,150			January 2002
				1,150			March 2002
				1,250			April 2002
				1,400			May 2002
				1,400			June 2002
				1,350			July 2002
				1,325			August 2002
				1,360			September 2002
				1,440			October 2002
				1,550			November & December 2002
		Others: Mining industries	Price for mining industry = 100% of (MOPS + 5%) plus VAT; Set by Pertamina in the beginning of the month			1,510	January 2002
						1,580	March 2002
						1,700	April 2002
						1,900	May 2002
						1,900	June 2002
						1,790	July 2002
						1,760	August 2002
						1,810	September 2002
						1,920	October 2002
						2,120	November 2002
						2,060	December 2002
		Others	International Price, set by Pertamina, plus VAT				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
2-Jan-03	90/2002	Retail & Industry	(MOPS + 5%) + VAT with Floor: 1650, Ceiling: 2100; set by Pertamina; Price have included fuel tax (PBBKB)	1650			
					2100		March - April 2003
					2080		May 2003
					1820		June 2003
					1730		July 2003
					1720		August 2003
					1910		September 2003
					2000		October 2003
					1930		November 2003
					2050		December 2003
		Others	International Price; set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Mar-05	22/2005	Retail	Fixed; price include VAT and fuel tax (PBBKB)	2,100			Price for transportation in pump station

		Industry	Fixed; price include VAT		2,700		Price for ADO not sold in pump station
						2700	Price for ADO not sold in pump station, includes VAT, March 2005
						2700	April 2005
						4740	July 2005
						5480	August 2005
						5350	September 2005
		Others	International Price, set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Oct-05	55/2005	Retail	Initial price set by GOI = 4300, afterward will be adjusted following the economic price	4300			Price for small enterprise, transportation and general services in custody transfer point includes VAT and fuel tax (PBBKB) Economic price: MOPS + 15%
		Industry	Not regulated		5350		
		Others	International Price, set by Pertamina or other business entity				Price for foreign shipping vessels, and any shipping vessels headed for international destinations

Premium Gasoline

Date	Decree	Customer Type	Regime	Price (IDR/Liter)			Notes
				Retail	Industry	Others	
1-Feb-99	10/1999	Retail Industry Others	Fixed Price includes VAT 10% and fuel tax (PBBKB)	1000			No price differentiation by customer category
1-Oct-00	135/2000	Retail Industry Others	Fixed Price includes VAT 10% and fuel tax (PBBKB)	1150			No price differentiation by customer category
1-Apr-01	45/2001	Retail	Fixed Price includes VAT 10% and fuel tax (PBBKB)	1150			Price for land and sea transportation, PT.PLN, and small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1150		April - June 2001
		Others: Mining industries, foreign vessels; and ships headed to international	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1950 1970	April 2001 May 2001

		international destinations				2180	June 2001
16-Jun-01	73/2001	Retail	Fixed	1450			Price for land and sea transportation and small industry include tax and vehicle tax (PBBKB)
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1,450		July - December 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1,740 1,640 1,460 1,760 1,480 1,450	July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
17-Jan-02	9/2002	Retail & Industry	100% of (MOPS + 5%) plus VAT; with floor price 1450 and ceiling price 1750; Floor & ceiling prices include fuel tax		1,550 1,550 1,600 1,750 1,735 1,690 1,750		January 2002 March 2002 April 2002 May - July 2002 August 2002 September 2002 October - December 2002
		Others: Mining industries	Price for mining industry = 100% of (MOPS + 5%) plus VAT; set by Pertamina at the beginning of the month				
		Others	International Price, set by Pertamina, plus VAT				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
2-Jan-03	90/2002	Retail	(MOPS + 5%) + VAT; with Floor: 1650, Ceiling: 2100; set by Pertamina at the beginning of the month	1810			January - December 2003
		Industry			2100 1980 1810 1830 1930 2100 2030 2080		March - April 2003 May 2003 June 2003 July 2003 August 2003 September - October 2003 November 2003 December 2003
		Others	International Price; set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations

1-Mar-05	22/2005	Retail	Fixed	2,400			Premium retail price includes VAT and fuel tax (PBBKB)
		Industry	No price differentiation by customer category		2870		March - April 2005
					4060		July 2005
					4640		August 2005
					5160		September 2005
		Others	International Price, set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Oct-05	55/2005	Retail	Initial price set by GOI = 4500, afterward will be adjusted following the economic price	4500			Price for small enterprise, transportation and general services in custody transfer point includes VAT and fuel tax (PBBKB) Economic price: MOPS + 15%
		Industry	Not regulated		5160		
					5890		
					5150		
		Others	International Price, set by Pertamina or other business entity				Price for foreign shipping vessels, and any shipping vessels headed for international destinations

Kerosene

Date	Decree	Customer Type	Regime	Price (IDR/Liter)			Notes
				Retail	Industry	Others	
1-Feb-99	10/1999	Retail	Fixed Price includes VAT 10%	280			No price differentiation by customer category
		Industry					
		Others					
1-Oct-00	135/2000	Retail	Fixed Price includes VAT 10%	350			No price differentiation by customer category
		Industry					
		Others					
1-Apr-01	45/2001	Retail	Fixed Price include VAT 10%	350			Price for household small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1080 1165 1275		April 2001 May 2001 June 2001
		Others: Mining industries, foreign vessels; and ships	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			2150 2330	April 2001 May 2001

		and ships headed to international destinations				2550	June 2001
16-Jun-01	73/2001	Retail	Fixed Price include VAT	400			Price for household small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1,280 1,205 970 1,070 960 895		July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			2,560 2,410 1,940 2,140 1,920 1,790	July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
17-Jan-02	9/2002	Retail	Fixed Price include VAT	600			Price for household small industry
		Industry	75% of (MOPS + 5%) plus VAT; with floor price 900 and ceiling price 1650; Floor & ceiling prices include fuel tax		1,230 1,270 1,310 1,410 1,410 1,320 1,290 1,390 1,520 1,650 1,530		January 2002 March 2002 April 2002 May 2002 June 2002 July 2002 August 2002 September 2002 October 2002 November 2002 December 2002
		Others: Mining industries	Price for mining industry = 100% of (MOPS + 5%) plus VAT; set by Pertamina in the beginning of the month			1,640 1,690 1,740 1,890 1,900 1,750 1,720 1,840 2,030 2,220 2,030	January 2002 March 2002 April 2002 May 2002 June 2002 July 2002 August 2002 September 2002 October 2002 November 2002 December 2002
		Others	International Price, set by Pertamina, plus VAT				Price for foreign shipping vessels, and any shipping vessels headed for international destinations

2-Jan-03	90/2002	Retail	Fixed Price includes VAT	700			Price for household small industry
		Industry (other than household and small industry	(MOPS + 5%) + VAT; with Floor: 1800, Ceiling: 2200; set by Pertamina		1800	2200 1930 1800 1980 2040 1980 2160	March - April 2003 May 2003 June - August 2003 September 2003 October 2003 November 2003 December 2003
		Others	International Price; set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Mar-05	22/2005	Retail	Fixed; Price includes VAT	700			Price for household small industry includes VAT
		Industry (other than household and small industry	Fixed; Price includes VAT		2,200	2790	March - April 2005
						4940	July 2005
						5490	August 2005
						5600	September 2005
		Others	International Price, set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Oct-05	55/2005	Retail	Initial price set by GOI = 2000, afterwards will be adjusted following the economic price	2000			Price for household and small industry, in custody transfer point includes VAT Economic price: MOPS + 15%
		Industry	Not regulated			6400	October 2005
						6480	November - December 2005
		Others	International Price, set by Pertamina or other business entity				Price for foreign shipping vessels, and any shipping vessels headed for international destinations

Industrial Diesel Oil (IDO)

Date	Decree	Customer Type	Regime	Price (IDR/Liter)			Notes
				Retail	Industry	Others	
1-Feb-99	10/1999	Retail Industry Others	Fixed Price includes VAT 10%	500			No price differentiation by customer category
1-Oct-00	135/2000	Retail Industry Others	Fixed Price includes VAT 10%	550			No price differentiation by customer category

1-Apr-01	45/2001	Retail	Fixed Price include VAT 10%	550			Price for land and sea transportation, PT.PLN, and small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		970 1115 1250		April 2001 May 2001 June 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1940 2230 2500	April 2001 May 2001 June 2001
16-Jun-01	73/2001	Retail & Industry	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		1,215 1,155 930 975 920 865		No price differentiation by customer category July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			2,430 2,310 1,860 1,950 1,840 1,730	July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
17-Jan-02	9/2002	Retail & Industry	75% of (MOPS + 5%) plus VAT; with floor price 900 and ceiling price 1520;		1,110 1,120 1,240 1,390 1,320 1,300 1,340 1,420 1,520 1,510		January 2002 March 2002 April 2002 May - June 2002 July 2002 August 2002 September 2002 October 2002 November 2002 December 2002
		Others: Mining industries	Price for mining industry = 100% of (MOPS + 5%) plus VAT; set by Pertamina in the beginning of the month			1,480 1,500 1,670 1,860 1,870 1,760	January 2002 March 2002 April 2002 May 2002 June 2002 July 2002

						1,730	August 2002
						1,780	September 2002
						1,890	October 2002
						2,080	November 2002
						2,000	December 2002
		Others	International Price, set by Pertamina, plus VAT				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
2-Jan-03	90/2002	Retail	(MOPS + 5%) + VAT; with Floor: 1600, Ceiling: 2050; set by Pertamina; Price have included fuel tax (PBBKB)	1650			January - December 2003
		Industry			2050		March - April 2003
					2030		May 2003
					1790		June 2003
					1700		July 2003
					1710		August 2003
					1880		September 2003
					1950		October 2003
					1890		November 2003
					1990		December 2003
		Others	International Price; set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Mar-05	22/2005	Retail	Fixed; price includes VAT	2,300			Presidential decree does not separate consumer type.
		Industry	Same as retail			2660	March - April 2005
						4560	July 2005
						5240	August 2005
						5130	September 2005
		Others	International Price, set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Oct-05	55/2005	Retail & Industry	Not regulated				
						5780	Market selling price of PTMN, October 2005
						5940	Market selling price of PTMN, November 2005
						5180	Market selling price of PTMN, December 2005

Marine Fuel Oil (MFO)

Date	Decree	Customer Type	Regime	Price (IDR/Liter)			Notes
				Retail	Industry	Others	
1-Feb-99	10/1999	Retail Industry	Fixed Price includes VAT 10%	350			No price differentiation by customer category
1-Oct-00	135/2000	Retail Industry	Fixed Price includes VAT 10%	400			No price differentiation by customer category
1-Apr-01	45/2001	Retail	Fixed Price includes VAT 10%	400			Price for land and sea transportation, PT.PLN, and small industry
		Industry, other sector, fishery	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		770 825 945		April 2001 May 2001 June 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1540 1650 1890	April 2001 May 2001 June 2001
16-Jun-01	73/2001	Retail & Industry	50% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month		880 805 710 760 715 635		July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
		Others: Mining industries, foreign vessels; and ships headed to international destinations	100% of (MOPS + 5%) plus VAT; Set by Pertamina at the beginning of the month			1,760 1,610 1,420 1,520 1,430 1,270	July 2001 August 2001 September 2001 October 2001 November 2001 December 2001
17-Jan-02	9/2002	Retail & Industry	75% of (MOPS + 5%) plus VAT; with floor price 800 and ceiling price 1150		925 950 1,030 1,120 1,150 1,110 1,090 1,150 1,120		January 2002 March 2002 April 2002 May 2002 June 2002 July 2002 August 2002 September - November 2002 December 2002
		Others: Mining industries	Price for mining industry = 100% of (MOPS + 5%) plus VAT; set by Pertamina in the beginning of the month			1,230 1,280 1,390	January 2002 March 2002 April 2002

						1,500	May 2002
						1,550	June 2002
						1,480	July 2002
						1,450	August 2002
						1,540	September 2002
						1,630	October 2002
						1,650	November 2002
						1,490	December 2002
		Others	International Price, set by Pertamina, plus VAT				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
2-Jan-03	90/2002	Retail	(MOPS + 5%) + VAT; with Floor: 1150, Ceiling: 1600; set by Pertamina	1600			March - April 2003
				1580			May 2003
				1560			June - December 2003
		Industry			1600		March - April 2003
					1580		May 2003
					1560		June - July 2003
					1570		August 2003
					1600		September 2003
					1560		October - December 2003
		Others	International Price; set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Mar-05	22/2005	Retail	(MOPS + 5%) + VAT; with Floor: 1920, Ceiling: 2600; set by Pertamina	2,160			March 2005
				2,360			April - July 2005
				2,600			August - September 2005
		Industry			2300		Mar-05
					2360		April 2005
					2900		July 2005
					3150		August - September 2005
		Others	International Price, set by Pertamina				Price for foreign shipping vessels, and any shipping vessels headed for international destinations
1-Oct-05	55/2005	Retail & Industry	Not regulated				
						6300	Market selling price of PTMN, October 2005
						5900	Market selling price of PTMN, November - December 2005

Aviation Turbine Fuel (AvTur) for domestic consumption					
Date	**Decree**	**Customer Type**	**Regime**	**Average Annual Price (IDR/Liter) ***	**Notes**
1999	10/1999	Transportation	Market	600	
2000		Transportation	Market	1,060	
2001		Transportation	Market	1,960	
2002		Transportation	Market	2,090	
2003		Transportation	Market	3,542	
March 2005	22/2005	Transportation	Market	3,694	
Oct 2005	55/2005	Transportation	Market	6,332	

Aviation Gas (AvGas) for domestic consumption					
Date		**Customer Type**	**Regime**	**Average Annual Price (IDR/Liter) ***	**Notes**
1999	10/1999	Transportation	Market	600	
2000		Transportation	Market	1700	
2001		Transportation	Market	4910	
2002		Transportation	Market	4257	
2003		Transportation	Market	6391	
March 2005	22/2005	Transportation	Market	10,180	Includes VAT
Oct 2005	55/2005	Transportation	Market	16,204	Includes VAT

Note: Since Presidential Decree No.10/1999, Avtur and Avgas prices are unregulated and based on market mechanism
* Source of price data: Indonesia Energy Handbook 2005; for March and October 2005: Pertamina website

Annex 2

Fuel Subsidy Delivery Mechanism

PSO Mechanism

Since 2005, BPH Migas assigns companies (either through tender process or direct appointment) to implement the supply and distribution of subsidized fuels across the country. This assignment is called the Public Service Obligation (PSO). While undertaking this assignment, companies can import but are not allowed to export petroleum fuels to be distributed. BPH Migas monitors the implementation and submits reports to the Ministry of Energy and Mining Resources (MEMR) copied to the Ministry of Finance at least twice a year.

According to the Oil and Gas Law of 2001, domestic fuel supply and distribution throughout Indonesia is a government responsibility. According to Government Regulation No. 31/2003, Pertamina can be assigned by government to supply and distribute domestic fuels for which its compensation is decided by the government.

The government issued a Ministerial Decision assigning Pertamina for the supply and distribution of subsidized fuels throughout Indonesia between November 24, 2005 and December 31, 2005. BPH Migas took the view that no business entity other than Pertamina was ready to meet the criteria to implement the PSO. Therefore, the PSO for 2006 was assigned to Pertamina.

Mechanism of Quota Allocation

As figure A3.1 shows, BPH Migas proposes the following to Minister of Energy and Mineral Resources through the Director General of Oil and Gas (DGOG) for each fuel: plan for volume of consumption and sales for the coming year based on realization data and a growth factor. DGOG is responsible to do the research and evaluation in not more than 25 days after the proposal is received and also to prepare proposals for the basis (fixed) price and retail price of each petroleum product. These are presented to the MEMR which finalizes the national quota based on this proposal and must get approval from a committee of the DPR-RI (the House of Representatives). BPH Migas then proposes the quota for each province for each PSO implementer to MEMR. Upon approval from MEMR, BPH Migas appoints private business entities to implement the PSO. The approved national quota has to be reported to Minister of Finance (MOF) for the basis of estimating fuel subsidy in the state budget for the coming year.

Methodology of Fuel Subsidy Calculation in the State Budget: On 1 January 2006, Government of Indonesia shifted its petroleum product subsidy calculation method from the cost-and-fee method to the 'alpha method'.

Cost and fee method: Upto fiscal year 2005, the fuel subsidy was calculated by cost and fee method that only gave Pertamina a fee of 20 cents per liter of subsidized fuel supplied and distributed plus Pertamina's fuel production cost. Pertamina would submit its estimate of the funds

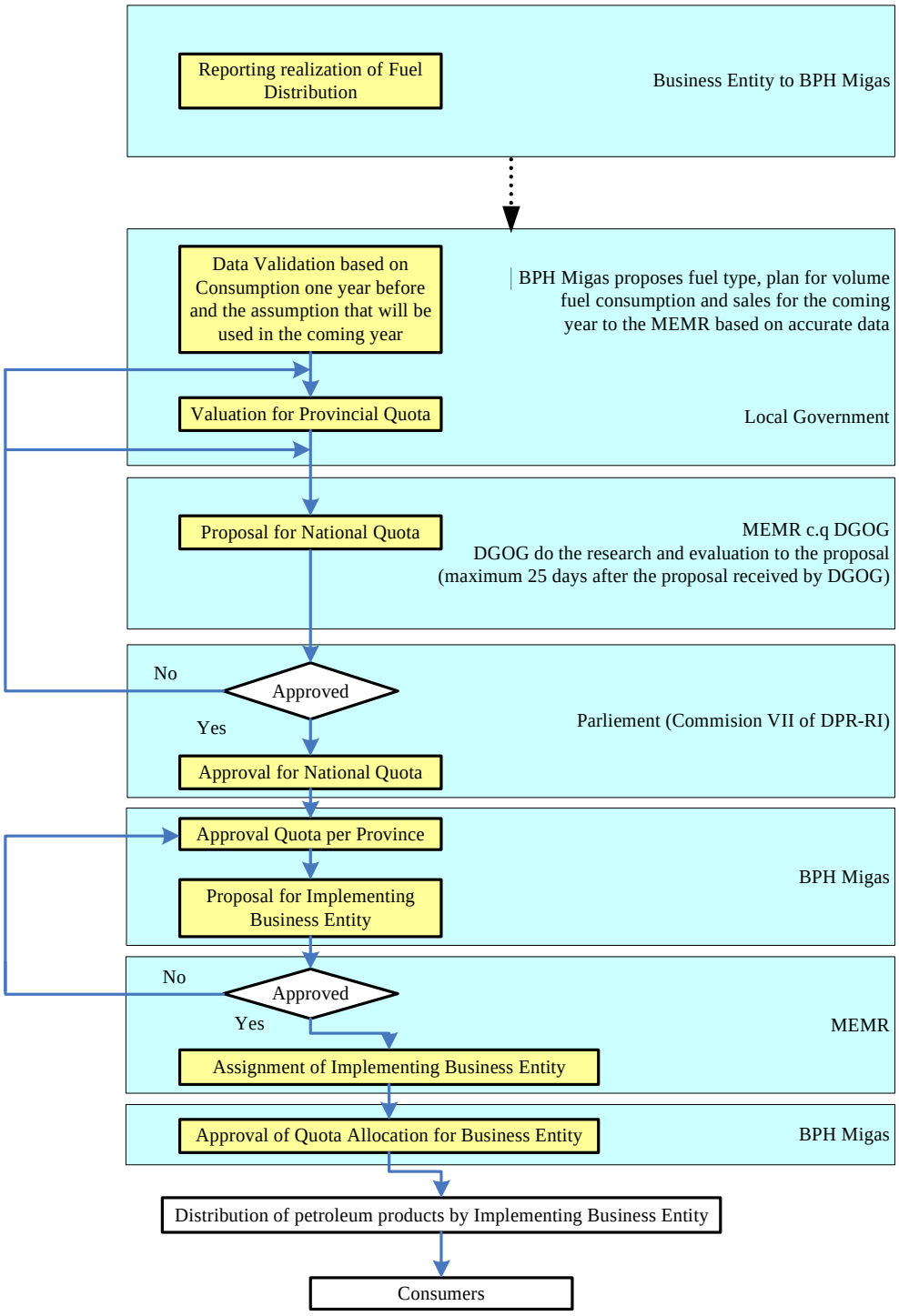
required for supplying subsidized fuels to GOI. At the end of the respective year, GOI would ask its audit agency (BPKP) to audit Pertamina regarding its duty to supply subsidized fuels throughout the country. The audit result would indicate the amount of cost and the amount of subsidy to be approved to carry out the task in the upcoming year. This method had significant difficulties caused by the long cost verification process. This normally meant that reimbursements for a given year would reach Pertamina upto two years after the year forcing Pertamina to pre-finance the PSO. In addition, the fee was too low to allow Pertamina to invest. Finally, the cost and fee method did not incentivize Pertamina to increase efficiency.

Alpha method: After the fuel price increase in October 2005, GOI decided to adopt the (MOPS+α) or 'alpha' method. With this method, Pertamina (as the PSO implementer) submits to the government a factor (α or alpha) to be added to the MOPS price of each fuel to cover the distribution cost plus Pertamina's margin. The amount of alpha is distinct for Pertamina's four distribution areas: area I is Sumatra, area II is Java and Bali, area III is Kalimantan, Sulawesi, Maluku, Papua, Irja Barat and area IV is West and East Nusa Tenggara.

Since Pertamina still constitutes more than 95 percent of the sector, the alpha values cannot yet be determined by a market mechanism. Therefore, these values are reached through negotiation between Pertamina and GoI. GOI approved alpha of 14.1 percent. Due to the protracted negotiations between Pertamina and BPH Migas, this decision on the value of alpha was made seven months after Pertamina was appointed as PSO implementer for 2006.

Figure A3.1

Schema to Approve Allocation of Petroleum Products



Annex 3

Lessons of international experience for Indonesia

Based on *Coping with Higher Oil Prices*
Robert Bacon and Masami Kojima, ESMAP (June 2006)

I. Non-market-based pricing mechanisms can lead to perverse outcomes

Where the burden of international prices has not been passed on to consumers, perverse impacts have appeared on government budgets, oil company profits, and even long-term sector viability. India, like Indonesia, tried various mechanisms for linking rising international prices with domestic prices but now supports price controls through budget outlays. China, where fuel prices are linked to international levels with a lag and there is no direct subsidization, government has at times delayed the flow-through of international price increases to domestic prices causing a heavy financial burden on domestic refiners. The government had to compensate refiners with massive lump-sum payments. In Argentina, the government has effectively forced private companies to transfer part of their upstream crude oil rent to downstream users of products who pay below-market domestic prices. As a result, Argentina is less attractive for exploration and development at a time of steady decline in domestic oil production. The Philippines, heavily constrained by a debt burden and unable to introduce fuel subsidies, has maintained its free-market pricing during the large price increases of 2004-2005 despite opposition. It has responded to these price increases through an extensive pursuit of energy efficiency and conservation: the country used an estimated 8 percent less energy in 2005 compared to 2004 even as the economy grew 5.1 percent in 2005.

India (a net oil importer) dismantled its government-administered pricing mechanism for gasoline and diesel in 2002 and allowed oil marketing companies to adjust prices based on import parity after consultation with the Ministry of Petroleum and Natural Gas (kerosene and LPG are heavily subsidized and have remained on frozen prices since April 2002 and November 2004, respectively). During 2002 and 2003, fuel prices were adjusted frequently. As oil prices began to rise in 2004, the new semi-automatic pricing mechanism was suspended. The government decided that incremental fuel costs would be shared among three groups of stakeholders: the government, oil and gas companies (including upstream companies) and consumers. In August 2004, the government put in place a revised pricing mechanism for gasoline and diesel whereby oil marketing companies would be permitted to adjust these product prices within a limited price band. However, against the backdrop of rapidly rising oil prices, this pricing mechanism was abandoned. The government now effectively controls pricing over about three-quarters of petroleum product consumption consisting of LPG, gasoline, kerosene, and diesel.

Argentina, a net oil exporter, has an oil sector which is almost entirely in the hands of the private sector and the government has no formal price-setting role. In 2003, the government brokered an agreement between domestic oil producers and domestic refiners under which producers would sell crude to refiners at US$ 28.50 a barrel, slightly higher than prevailing international prices. This was in effect a price stabilization scheme run and financed by the oil companies—if international

prices dipped below the agreed level, producers would recoup lost earnings when prices were above the agreed level. Ex-refinery prices were also kept constant. This arrangement effectively broke down in April 2004 as international prices had risen enough to make crude export more attractive and significantly reduce margins for importers of fuel products. Only vertically integrated firms were able to cross-subsidize the implicit loss on petroleum product sales with transfers from the upstream (which was still selling above cost). Petroleum product retailers increased diesel prices in April and July 2004. The government reacted forcefully to both increases by instituting taxes that reduced the incentives to export crude. In February 2005, the government offered import duty relief to companies that agreed not to raise the price of diesel above that prevailing on February 28, 2005. In March, 2005, Shell and Esso raised gasoline and diesel prices. The president called on consumers to boycott filling stations run by these companies causing activists to march on a few dozen of Shell's stations forcing them to close temporarily. The companies withdrew the gasoline price increases within a month. Esso dropped the diesel price increases to participate in the scheme for the tariff-free importation of diesel. As a result of these policies, Argentina has become much less attractive for exploration and development than other countries. Given the steady decline in domestic oil production, the longer-term impact of these government policies may well be to ensure that Argentina becomes a net oil importer sooner than if its oil sector were more market-based. A new state-owned company will participate in joint off-shore exploration activities with several other state-owned companies in the region.

The Philippines has been able to maintain a policy of free-market pricing even though this has proved unpopular. The heavy subsidies on petroleum product prices in the early 1990s became a large fiscal drain. After the Asian Financial Crisis, fuel prices have remained liberalized and there are no subsidies. Today, the government faces a severe fiscal squeeze with a large budget deficit and a large foreign debt (86.1 percent of government revenues in 2004 had to be spent on debt service). Therefore, fuel subsidies are not a viable option for the government. The frequent increases in fuel prices have led to substantial criticism of the government for not doing enough to stop rising fuel prices, and also of the companies which have been accused of unfair pricing. But the government has been able to continue free-market fuel pricing. In parallel, the government has used a wide range of measures to reduce oil consumption. Between January and November 2005, petroleum product consumption was 8 lower than the corresponding period in 2004 even though the economy grew 5.1 percent in 2005.

II. Transparency is critical for successful subsidy reductions

Transparency in the formulation and execution of subsidy reductions has been a key success factor. Indonesia's own experience attests to this. For the October 2005 price increase, Indonesia conducted an effective communication campaign, crackdown on smuggling, and a compensatory cash transfer scheme for the poor. The case of Ghana (February, 2005) shows how a government can identify the winners and losers from a fuel price increase (through a poverty and social impact assessment or PSIA), develop a strategy based on the PSIA, effectively communicate the strategy, and implement impact mitigation measures that the public can easily monitor. Both countries were able to increase fuel prices without widespread protest. The February 2006 experience of Malaysia, a net oil exporter, shows that a surprise price increase at a time when the national oil company is posting record profits can draw unprecedented ire.

Ghana: The Government of Ghana (GoG) faced an unsustainable fuel subsidy burden in 2004. GoG launched a poverty and social impact assessment (PSIA) for fuel guided by a steering committee of stakeholders from ministries, academia, and the national oil company. GoG used the PSIA findings to make its case for increasing fuel prices by 50 percent in February, 2005—stressing that the price subsidies benefited the better-off the most. The public relations campaign was launched by the minister of finance and continued by government officials. The Energy Ministry used newspaper advertisements to show that Ghana's fuel prices were the lowest in West Africa after Nigeria's. The mitigation measures were transparent and easily measured by society including an immediate elimination of fees at government-run primary and junior secondary schools and a program to improve public transport. While the trade unions remained opposed to the price increases, the public generally accepted them, and no large-scale demonstrations occurred.

Malaysia, as a net exporter of oil, had a much more difficult time despite its best efforts. The cost of Malaysia's fuel subsidies led to a concerted government effort in 2004 to win over public support for fuel subsidy reduction. A cabinet committee studied fuel consumption and ways to reduce fuel dependence. The government designated a minister in charge of public information who explained through newspaper articles how subsidies, designed to help the poor, also benefited the rich and were reducing government spending capacity for healthcare, education and transport. In 2005, fuel prices were increased in February, March, and July when rumors of an imminent price increase at the beginning of the month sparked panic resulting in long queues at filling stations. The government announced there would not be further increases for the rest of the year. Prices remained heavily subsidized—second lowest in the region after Indonesia. Possibly hoping to avoid the panic of July, 2005, the government made a surprise increase of fuel prices by as much as 23 percent on February 28, 2006. This price hike came against the backdrop of Petronas—the national oil company—being on track for another year of record earnings based on the high price of crude oil. The price hike led to a wave of public protests—the first significant anti-government demonstrations since the late 1990s. Petronas became a target as consumers asked why an oil-exporting country had to raise fuel prices at a time when Petronas was making record profits.

III. Price stabilization funds usually become another form of subsidy

Price stabilization funds need to be capitalized with large initial transfers—usually becoming another form of subsidy. Thailand's State Oil Fund has accumulated large debts which have necessitated the issuance of oil bonds as well as increasing oil fund levies even as world fuel prices have been declining since late 2005. The Philippines has chosen not to revive its unsuccessful oil fund (wound up before the Asian Financial Crisis—1996) despite popular pressure to revive it. Chile time-bound stabilization fund required an initial injection of capital that was possible only because of the strong budgetary position of the government and a higher-than-expected world price of copper.

Thailand (net oil importer) Fuel prices were liberalized in 1998 with the exception of LPG. To ease the price spike related to the Iraq war, the government re-introduced subsidies on fuels other than LPG in February 2003. These were phased out within two months—sooner than originally planned. As international fuel prices began to rise in 2004, the government re-introduced price ceilings on oil products for an initial period of two months (based on its earlier experience) with the expectation that this would cost the government a maximum of 5 billion baht (US$128 million). But the subsidy for gasoline had to be continued until October 2004 and the much larger subsidy for diesel until

July 2005. Between January 2004 and February 2005 (the month of elections), the price of diesel was frozen. By July 2005, the total cost of the subsidy amounted to 92 billion baht (US$ 2.2 billion) more than 90 percent of it on diesel. Subsidies have been provided through the State Oil Fund which has accumulated a large financing burden even though it delays repayments to oil companies. Much of this is financed by short-term bank loans, but in 2005 the government permitted the fund to issue oil bonds. But the fund has needed more support. When subsidies were removed in mid-2005, the government had to start increasing the oil fund levy on products (even as world prices started to decline) in order to recoup some of the debts of the oil fund.

Chile, a net oil importer with a deregulated downstream fuels market, has traditionally had a petroleum product price stabilization fund that consists of five separate sub-funds covering gasoline, kerosene, diesel, heavy fuel oil and LPG. Between January 1991 and December 2003, the fund had an average monthly balance of US$127 million. By December 2003, however, the fund was down to US$ 5.6 million and had been depleted by the time international oil prices were rising in 2004-05. The run-up to the December, 2005, coincided with the significant rise in international fuel prices. After announcing a US$ 63 million program to give direct subsidies to over 5 million people (including 1.4 million low-income households) in May 2005, the government announced a ceiling on diesel prices corresponding to US$55 per barrel of crude. For this, the government used ENAP, the state-owned oil company, which is the most important company in the downstream market. If prices rose to US$55-58 a barrel, ENAP would cover the extra costs from its own resources. If they rose to US$58-61, this would be covered by a hedge taken out by ENAP with JP Morgan. Beyond this level, prices would be allowed to rise. The cost of this program—US$ 38 million including the cost of the 10-month hedge)—would be funded by the government. When the price stabilization insurance expired in March, 2006, the government decided not to renew the scheme. A new time-bound stabilization fund for gasoline, kerosene, and diesel was established in September 2005 to achieve price ceilings to last until June 30, 2006. This fund (separate from the petroleum product stabilization fund) had an initial endowment from the rents of the high copper prices between January and August 2005. The new stabilization fund was used for the first time to provide subsidies at the end of March, 2006. In May, 2006, the government announced that a new fund similar to the existing fund (but with technical improvements) would be launched to cushion customers from volatile world oil prices.

The Philippines set up an Oil Price Stabilization Fund in the 1980s. The fund was wound up in 1996 leaving residual debts to oil companies of 5 billion pesos (US$90 million). Despite a diesel discount for transporters introduced in 2003, there have been several national strikes against price increases and calls for the revival of the Oil Price Stabilization Fund. In 2005, a government review committee concluded that price adjustments in the Philippines, made in small increments, had in fact lagged behind international price movements, that there was no evidence of price collusion, and that there was not much scope for squeezing the margins of oil companies further. The committee also advised against reviving the Oil Price Stabilization Fund and subsidizing fuel prices on the grounds that such a move would entail large public financing in times of rising oil prices—something the government could ill afford.

IV. Price subsidies can cause fuel shortages

Ironically, price subsidies can cause serious fuel shortages and, in some cases, increase the prices charged to some end-users to levels above what they would have paid in the absence of subsidies.

Large subsidies increase apparent demand—one potentially important contributing factor being out-smuggling or simply motorists crossing the border to refuel legally as in Argentina and Malaysia—and reduce supply at official prices at which suppliers typically do not make market-based profits. Even in those countries where government has pledged to reimburse suppliers fully for the subsidy, long delays in reimbursement are common (Morocco, Sri Lanka, and Senegal are examples). This effectively forces fuel suppliers to suffer financial losses. Where governments have not decided to reimburse and financial losses continue, supply could eventually fall.

Holding prices down at the expense of oil marketers has led to fuel shortages and rationing even in such formerly liberalized markets as Thailand. In India, the same problem led providers of subsidized LPG to stop taking on new customers for a period in 2005. Such fuel shortages have also been experienced in China. Fearing that sporadic rationing could threaten agriculture, the government of Argentina issued a resolution in December 2005 warning refiners not to ration the sale of diesel to contract-holding filling stations.

If demand outstrips supply, then black marketing emerges as a lucrative business. Consumers are forced to either queue for hours to get the limited supply of the subsidized fuel at the official price or pay much more to secure immediate purchase. Kazakhstan and Nigeria, both major oil exporters, have suffered from repeated shortages and product price spikes. The majority of the poor in developing countries live in rural areas. And it is the rural poor who inevitably pay higher, black-market prices. In these extreme cases, fuel price subsidies could even become anti-poor.

Annex 4

Potential Replacements for Direct Subsidization of Low-Income Kerosene Users

Potential replacements for direct subsidization of low-income kerosene consumers			
Measure	Applicability?	Experience?	Efficiency/effectiveness?
1.Cash transfers	Low-income kero users Initially "universal" Later "conditional"?	"Mixed" from '05 But that experience was valuable and should be turned to good account in future	Scope to "concentrate" subsidy, avoid leakages to the well-off, smuggling, adulteration
2. Basic Education	Low-incomes of all kinds, but they are likely all kero users?	Yes, free textbooks	Check with Education Ministry for "wish list"?
3. Basic Health	Same as #2 above	?	Check with Health Ministry as above
4. Agriculture Develop: Credit; seed; water; processing and storage; price management etc.	Same as #2 + some ADO consumers if a "need" is identified?	?	Check with Agriculture Ministry as above
Potential components of an "off-kerosene" program			
1. LPG	Wherever LPG service can be economically provided	Already in hand via Pertamina	For consumer could be competitive especially if assisted with capital cost?
2. Briquettes	Best for food service use (for households, issue of start-up and close-down)	Already in hand. Briquetting capacity currently fully used? Need to establish kero displacement potential	For consumer: roughly half cost of kerosene? Not universally available.
3. Natural gas distribution	At best, only in high density housing of largest cities and over long time period	Virtually none—PGN 56k total customers. Foreign experience where no space heating load is unfavourable--gas is best "distributed" as electricity	Competitive with gas at $8/MM BTU Seek data on PGN transmission and distribution costs to bring that back to a required wellhead price and compare with established wellhead prices for domestic/export markets.
4. Electricity?	Need electrification %	Have lifeline rates, but are these concessionary quantities large enough to substitute kero for typical family? Do they use electricity for cooking?	Electricity is likely the most effective way to "distribute" natural gas in equatorial region: needs strengthened transmission/distribution systems
5. Are there renewable energy alternatives to	Rural areas?	?	May well be cost efficient if externalities of fossil fuel are built into their pricing?

kerosene? For lighting? Yes. For cooking? Don't know			
6. Allocate (ration) kerosene within global subsidy quota	Requires "mechanisms" (coupon books, smart cards) to fairly allocate to low-income users without access to 1/2/3/4/5 above	Need information	Might be worth spending significantly on "mechanisms" to effectively concentrate subsidized supply in the right hands, therefore controlling three sources of subsidy leakage (adulteration, smuggling, well-off)?
Potential mitigating measures if ADO prices are moved to IMP and if it is considered that "hardship" results			
1.Reduce cost of some diesel-users' consumables e.g. large tires, by cutting taxes	Aim at "sensitive" users such as commercial transport, buses	?	Would need to ensure that didn't "give away" in tax concessions all the "savings" in subsidy elimination
2. Commit to using % of ADO subsidy saving on infrastructure targeted at transport cost savings (road widening, bottlenecks, bridges)	Mainly in congested urban, inter-urban areas (Java) where bulk of ADO is used?	?	A comprehensive cost/benefit analysis would likely show infrastructure spending as being much superior to fuel-subsidization
Potential "universal" mitigating measures			
1. Develop and publish a well-conceived plan ("roadmap") for pricing	National—the public, officials, SOEs would then know "what to expect"	?	? small cash cost
2. Supplement #1 with a clever PR program highlighting way in which the Plan would deal with issues of smuggling, adulteration, poor targeting, budgetary uncertainties, costs and ways that "savings would be used for "investment" in the future rather than present consumption?	National	There seems to have been favourable experience elsewhere (checking)	? small cash cost

3. Create the conditions for an all-round more competitive Indonesian energy market—all sources, all regions	By attracting domestic and foreign investment, entrepreneurship and technology, could make better use of resources, increase supply, decrease relative prices, improve service offerings and force out efficiencies in SOEs	Has worked well in developed countries with poorer resources and smaller markets than Indonesia offers	Would not present a budgetary "cost"

Annex 5

Potential for Rapid Switching from Kerosene to LPG and Coal Briquettes

If a large increase in the price of kerosene is implemented, LPG would be the preferred cooking fuel in better-off urban households. LPG is cleaner and more convenient to handle in the household compared to kerosene (which releases soot) and coal briquettes (which release smoke). Despite these characteristics, it is unlikely that lower-income households will be able to switch to LPG. Within the short to medium term, coal briquettes may be the key potential alternative to replace kerosene on a large scale in lower-income households until Indonesia is able to find cleaner and more convenient cooking fuels alternatives.

A significant barrier for low-income households is that LPG has relatively high switching costs. An LPG stove costs about IDR 200,000 and a 12.5-kg cylinder has a street price that reaches IDR 275,000 per unit[37]. LPG also requires lumpy cash outlays for cylinder refills. By contrast, coal briquette stove prices range between IDR 100,000 and IDR 150,000 per unit. Unlike LPG, kerosene and coal briquettes can be purchased in any quantity which is more convenient for low-income households. But, the availability of coal briquettes is a major barrier.

Today, the use of coal briquettes for cooking remains negligible in Indonesian households mainly because coal briquettes are not readily available in the market. Unless this situation is changed, firewood would be the only *readily available* cooking fuel alternative for most low-income—mainly rural—households if a large increase in the price of kerosene takes place.

Price comparisons of LPG and coal briquettes with kerosene

If the price of kerosene (currently at IDR 2,000/liter) rises to IDR 2,500 per liter, LPG would become a cheaper alternative for higher-income households with switching costs included. And some coal briquettes are already cheaper than kerosene—if they are available!

LPG The price of LPG is not regulated by GoI but LPG is subsidized. Pertamina—the sole domestic supplier of LPG—does not have the liberty to frequently change the domestic LPG prices following the trends in the international market. Pertamina increased the domestic LPG price to IDR 3,000 per kg in March, 2004, and then to IDR 4,250 per kg in December, 2004, where it has remained since (the international price of LPG was IDR 5,575 per kg on average during January-June, 2006).

At the current domestic LPG price (and with kerosene at IDR 2,000 per liter), a household in the top income decile would have to spend some 40 percent more per month (including amortized stove and cylinder costs) to get the same amount of cooking energy from LPG as it currently gets

[37] Small cylinders (such as the 3kg cylinders in the ongoing GoI/Pertamina pilot program) are cheaper to purchase and cost less to re-fill. They are also easier to handle and distribute. These are likely to be accepted by middle- and high-income families.

from kerosene[38]. A lowest-income *urban* household would have to spend 70 percent more than today. If the price of kerosene rises to IDR 2,500 per liter, generating the equivalent energy from LPG would become cheaper for the highest income decile even with the amortized cost of stove and cylinder included.

Coal briquettes are of two kinds: lower quality non-carbonized ones (which release more smoke) and higher quality carbonized ones (which are easier to ignite and also produce less smoke). Non-carbonized coal briquette prices are observed to be between IDR 700 and IDR 1,300 per kg depending on the quality of the product. Carbonized briquette prices range from IDR 1,200 to IDR 1,500 per kg.

At the kerosene price of IDR 2,000 per liter, non-carbonized coal briquettes priced below IDR 1,000 per kg are a cheaper alternative to kerosene *even with the amortized cost of the stove included*. At IDR 1,500 per kg and stove efficiency of 30 percent, carbonized coal briquettes are not cheaper than kerosene today (they are even less economical than LPG).

It is expected that, with a large increase in the kerosene price, very few higher-income families would switch to coal briquettes because of the inconvenience of using the fuel. Therefore, subsidizing coal briquettes would be automatically more targeted to lower-income households.

Domestic supplies of LPG and coal briquettes are highly insufficient

In 2004, domestic LPG sales were around 1.2 million tons (70 percent for household consumption). Of the 3,500 tons of LPG supplied by Pertamina per day to fulfill domestic demand, 800 tons have to be procured by Pertamina at international market prices from other domestic refineries or from imports. The result is that LPG is not profit-making business for Pertamina.

LPG remains limited as a cooking fuel in Indonesia. LPG is currently used by about 19 percent of Java/Bali households and about 10 percent of households outside Java/Bali. About 12 percent of households in Java/Bali use only LPG for cooking (7.5 percent outside Java/Bali).

Coal briquettes are currently only available in Java and southern Sumatra[39]. Presently, there are 16 coal briquette plants with an annual capacity of 228,700 tons per year. The actual total production in 2004, however, was merely 25,000 tons—mostly produced by PT Bukit Asam, the state-owned coal company.

If LPG and coal briquettes are to become alternatives to kerosene, the production of both these alternative fuels would have to be ramped up significantly. If 20 percent of the 2005 kerosene consumption (11.4 million kiloliters) had to be substituted to LPG, the current domestic LPG supply would need to double—necessitating imports. If the estimated kerosene consumption of the poor and near-poor (2.5 million kiloliters) was to be substituted with coal briquettes, domestic production

[38] Generally, coal briquette stoves have efficiency rates of 28-40 percent, kerosene stoves 35-45 percent, and LPG stoves 50-65 percent.

[39] Even so, the wide distribution of coal briquettes (as an alternative to higher-priced kerosene) is not expected to pose a major problem. Distributors of petroleum products and LPG express interest in distributing coal briquettes across Indonesia.

of coal briquettes would have to rise nearly 200 times from its 2004 level of 25,000 tons per year to 4.8 million tons per year.

Annex 6

Indonesia Fuel Pricing—Four Parallel Tracks on a Road Map to Reach the Target Regime of International Pricing + Targeted Subsidies

(1) **Price Adjustments**	(2) **Fuel Subsidies→Targeted**	(3) **Mobilize Civil Society**	(4) **Adjust for Secondary Effects**
GoI, consult, consider	Decide how much of "savings" to retain="budget"	Publicize costs, adverse effects of current regime	Consult, identify
Decide on size and frequency	Design subsidy transfer programs	Work diligently with Pertamina, other SOEs, consumer groups (industry, transport, NGOs) to build support	Quantify
	Secure budget authorization(s)		Take all steps needed to allow cost flow-through to regulated prices of all affected goods and services
	Initiate pilot programs in variety of regions	Publicize launch of pilot programs	
First milestone: preparatory steps successfully completed, ready to make first price adjustment			
Initiate first adjustment	Universalize subsidy transfer programs; 1st cash payout	Start public data flow, consumer hotline etc	Regulators allow flow-through of efficient costs
Monitor ex-post (continuing)	Trouble-shooting, effectiveness monitoring and mid-course adjustments to subsidy transfer programs	Report publicly on first price adjustment	Regulators monitor and report on (continuing)
Second adjustment[40]		Report publicly on subsidy transfer, "success stories"	Flow-through of efficient costs resulting from second adjsmnt
Third adjustment	Continue	Continue, targeting spectrum of consumer groups, regions	Continue, allowing reasonable flow-through to minimize inflationary effects
Fourth adjustment (end of first year??)	Continue	Continue	Continue
Second milestone: first cycle (first year?) adjustments made, review experience. Further mid-course adjustments? (Third milestone would following second cycle of adjustments and so on)			
Second cycle of adjustments, same absolute amount	Continue targeted subsidies, make them "richer", more concentrated?	Continue PR program	Continue

[40] Note that allowance is made for a succession of oil price adjustments. However this report recommends that, in the world market circumstances of late 2006, the GoI move gasoline and diesel prices to IMP levels in one step. There would therefore be no second, third, fourth etc adjustment. The steps under columns 2,3 and 4 would be followed, but only in respect of the single price adjustment step and associated subsidy transfers.

Annex 7

An Outline Road Map for Indonesia Fuel Pricing, Market Restructuring, Pertamina Adjustments to Achieve Competitive Oil Products Market Functioning at International Price Levels

Highest level of government: Indicates firm intention of market opening, any necessary Pertamina adjustments and associated approximate time periods **Highest sector-policy level:** Constitute Ministerial policy implementation group. Chair: Energy Minister **Highest sector-specific officials' level:** Constitute working implementation group. Chair: Oil and Gas D-G (Consider) **Industry/consumer/trade association** consultative group on policy implementation		
Price adjustments (refer Annex 6)	**Market restructuring** Responsibility center: D-G Oil & Gas	**Pertamina adjustments** Responsibility center: CEO's office
Complete all preparatory activity to Milestone-1	Licence/confirm licences of 5 (?) market entrants, grant PSO status for pilot volumes of subsidized product	Contract with other PSOs to supply market entrants with pilot volumes on an MFN purchase basis and to provide storage and transportation for negotiated fee for volumes licensees plan to import Retains "supplier of last resort" status re remote areas and appropriate compensation
First price adjustment	**End of year 1? First sales by new entrants of subsidized product partly moved through Pertamina facilities on fee-for-service basis**	
Price adjustment + subsidy processes continue per Annex 3.1	Negotiation by market entrants with Pertamina for further MFN volumes to be moved, with imports, through progressively-enlarging access to storage and transportation facilities (e.g. long-term contract; lease; JV; purchase; or ETU) Coordinated with release by Pertamina of retailers who so wish from contracted obligations. Recourse on complaints basis by any party to D-G, BPH Migas for arbitration decision (or to KPPU?)	
First price adjustment + n[41]	**End of year 2? First sales by new entrants of subsidized product through Pertamina facilities accessed on long-term basis and then through "released" re-branded retail outlets**	
Continue	BPH Migas reviews experience of market opening in relation to competition, quality, service, security of supply etc, reports to Working Grp.	Advises Working Grp of effects on its operations, cash position, profitability etc. of market opening so far.
	Results from both inquiries satisfactory to Working Grp? Proceed to next step.	Results satisfactory….? Proceed…
Continue	Invite and consider applications for further licenses (preference for qualified Indonesian businesses?)	Prepares balanced "packages" of properties available for bidding for l-t contract, lease, JV or sale to existing and new market entrants
Price adjustments complete, target regime in place	PSO in terms of subsidy flow through no longer relevant	PSO not relevant
	End of year 3/4? First sales after completion of price adjustments, no PSO, drawing on	

[41] Note that allowance is made for a succession of oil price adjustments. However this report recommends that, in the world market circumstances of late 2006, the GoI move gasoline and diesel prices to IMP levels in one step. There would therefore be no second, third, fourth etc adjustment

Only remaining activity under this heading is targeted mainly CCT subsidies to a shrinking group of low-income kerosene consumers. Program is efficiently managed, effective. Budgetary cost has become entirely tolerable. "Off-kerosene" program (LPG, biomass) is working well)	**long-term storage and transportation arrangements and with continuing "release" of dealer-owned retail outlets by Pertamina to new entrants who now include Indonesian investors**	
	Government, Pertamina, new entrants, negotiate arrangements that will assure adequate supply at reasonable prices to remote areas on an industry basis, releasing Pertamina from "supplier of last resort" responsibility. This can only be done when new entrants have significant market share—>25% ? 50%?	
	End of year 7? Pertamina, new entrants now competing on level playing field Workable competition develops over the balance of the transition decade.	
	New entrants sufficiently confident of developments that commit to major capex on products handling, possibly refining, alone, in combination, possibly including Pertamina (cf China) New entrants' volumes increase as % of market	Pertamina confident, better financed as a result of efficiencies, divestitures, reasonable margins, can undertake major capital improvements to refining and other remaining facilities. Pertamina volumes shrink as % of market
	BPH Migas reviews, reports on market opening with special regard to competition. If "positive", GoI drops price-management, falls back to ex-post monitoring of market behaviours. Caution: unlikely that a "positive" competition finding will be made with Pertamina >50% of main products market.	Pertamina (and competitors) now released from any GoI regulation of market behaviours (but not from regulation re: health, safety, environment, quality, measurement, stockpiling etc). Large flow of market and corporate data to GoI and the public
	End of year 10? New system "in equilibrium condition". No need for GoI to provide direction to market or to Pertamina. Bar lowered for new entrants. Competitive market established. Consumer benefits being fully realized. Pertamina smaller, stronger, self-confident. Significant capital spending by all parties creates thoroughly modern downstream industry.	