



Lessons Learned: Fossil Fuel Subsidies and Energy Sector Reform in the Philippines

GSI REPORT



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CATIF for the Global
Subsidies Initiative

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Due to the high quality of the draft, and the great deal of detail that could not be presented in the synthesis guidebook publication, it has since been edited and revised for full publication. The editorial support, input and guidance of Christopher Beaton and Laura Merrill of IISD-GSI are gratefully acknowledged in this process.

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Executive Summary

The Philippines has removed the majority of all consumer energy subsidies, successfully phasing out price subsidies in the late 1990s as a result of wider structural reform to deregulate both the downstream oil and electricity sectors, including the removal of the country's Oil Price Stabilization Fund and privatization of the National Power Corporation.

As a net energy importer, and with high energy prices throughout 2005–2014, the country has used targeted cash transfers to smooth reforms. The liberalization of fuel pricing has been democratically challenged on three separate occasions through major reviews and once on a constitutional basis. Despite these challenges, the Philippines has managed to reform fossil fuel subsidies, develop a national social safety net and invest in renewable energy. There is more to be done to address ongoing shortages of power and a significant portion of the population that still lacks access to electricity, but many lessons can be learned by other countries who are attempting to reform their energy subsidies.

Deregulating Energy Pricing: The Oil Price Stabilization Fund and electricity sector privatization

The Philippines once had an Oil Price Stabilization Fund—a mechanism that was intended to smooth international price volatility by taxing fuel when prices were low and subsidizing fuel with the saved revenues when prices were high. As in many countries, this mechanism proved more successful at subsidizing fuel than taxing it, resulting in net subsidies that required large bailouts. In 1996, the direct government subsidy to the Oil Price Stabilization Fund stood at PhP 15 billion (~USD 0.6 billion).¹

Deregulation and reform occurred in stages, moving from automatic pricing and transitional subsidies assisted by the stabilization fund (1996–1997) to market-based pricing in 1998. In 1997, in the face of the Asian financial crisis and the resulting depreciation of the Philippine peso, the deregulation law abolishing the oil subsidy fund was challenged. The Supreme Court ruled the law unconstitutional and anti-competitive, and a new law was enacted in 1998 to allow for liberalization and closure of the Fund.

The transition has not been without its challenges, including ongoing high regional energy prices, exacerbated by having to compete with neighbours who subsidize energy (Thailand, Indonesia, Malaysia, South Korea and Taiwan). There have also been political challenges. Opposition to deregulation resulted in three independent inquiries in 2005, 2008 and 2012. Each reviewed the cause and impacts of the high domestic price of energy—and options for managing it—but each time the inquiries ruled that the country should maintain market-based pricing and a deregulated regime, with no return to the Oil Price Stabilization Fund.

The story of electricity pricing is similar: in 2001, when electricity privatization was enacted, the total financial obligations of the National Power Corporation were more than PhP 900 billion (~USD17.6 billion), with about 65 per cent due to obligations from one-sided “take-or-pay” contracts with independent power producers. In both cases the major objectives of reform were to reduce the fiscal burden of energy subsidies, to introduce competition, increase private sector participation and ensure an efficient and reliable energy supply.

¹ All currency conversions are made based on the average exchange rate for the year linked to the data point in question, as reported by the Central Bank of the Philippines: www.bsp.gov.ph/dbank_reports/ExchangeRates_1.asp For conversions where data are not linked to one specific year, a 2012 exchange rate is used.



Managing the Impacts of Reform

The Philippines has managed this transition through the use of targeted cash transfers and other regulated subsidies aimed at low-income households, specific sectors and certain socially sensitive fuels.

For fuel, this has included:

- Before fully floating prices, there was a transition period where prices were adjusted monthly using an automatic pricing mechanism, especially for the three most socially sensitive products (liquefied petroleum gas [LPG], kerosene and regular gasoline).
- The fares of certain public transport operators—large, colourful buses known as “jeepneys” and motorized tricycle operators—are strictly regulated and typically not adjusted upwards with fuel price changes. A short-term cash transfer, the Public Transport Assistance Programme (*Pantawid Pasada*), was disbursed to jeepney and tricycle operators through debit and smart cards to help them cope with the costs of this.

For electricity, this has included:

- A lifeline rate, providing free electricity for marginalized and low-income users who consume 21 kilowatt hours (kWh) or less a month, funded through higher rates for other customers; and providing partially discounted electricity prices for users consuming beneath 100 kWh a month.
- A targeted subsidy providing discounted electricity prices to senior citizens.
- A one-off cash transfer (or *Pantawid Kuryente*, meaning “to enable to buy electricity”) aimed at marginalized electricity consumers (those with a monthly consumption of 100 kWh or less) to cushion the impact of rising electricity and fuel prices, funded from a value-added tax (VAT) levied on oil. In all, 6.8 million households benefited, and the cost to the government was around USD 82 million. However, transaction and disbursement costs, leakage and exclusion rates were all high.

Tangential to reforms in the energy sector, the Philippines has, since 2007, developed a major national government social protection scheme called the *Pantawid Pamilya Pilipino Program* (or 4Ps), aimed at providing bridge assistance to Filipino families. The 4Ps program has four parts: a Supplemental Feeding Program, a Food-for-Work Program, a Rice Subsidy Program and a Conditional Cash Transfer (CCT) Program. The maximum grant a household may receive annually through the CCT is PhP 15,000 (approximately USD 355 in 2012) disbursed via a Landbank cashcard or branch, as well as via Globe Remit (cellphone) and Philpost (the postal system). In June 2012, the program had just over three million registered households, reaching about three quarters of poor households in the country. The 4Ps program was initially financed by the government, with two loans from the Asian Development Bank and World Bank. In 2012 the national government has allotted a budget of PhP 39 billion (approximately USD 0.9 billion). Of that budget, 20 per cent goes toward implementation, monitoring, evaluation and administration, with 80 per cent of cash transfers reaching beneficiaries. The scheme has grown exponentially, though this has also brought challenges: some beneficiaries struggle to access the services upon which cash payments are conditional, due to supply side constraints in the provision of those services.

The Philippines’ long-term strategy for the electricity sector is also intended to play a role in helping manage the impacts of reform. The primary objective of the policy is to provide energy access for all. While this has resulted in large expansions in coal power—the lowest cost source of electricity, as



externalities like greenhouse gas emissions and local air pollution are not internalized into costs paid in the privatized market—a number of incentives have also been introduced to encourage investments in renewable forms of energy. Geothermal and hydro resources already account for a significant portion of power generation. The government has since targeted subsidies and policies toward expanding electricity networks and renewable forms of energy in the following ways:

- A major reform of VAT in 2005 to finance short-term income support to the poor and long-term infrastructure, health and education programs. VAT was raised to 12 per cent on gasoline, an excise tax added to gasoline, and a tax incentive created by setting VAT at 0 per cent for renewables.
- An expanded Rural Electrification Program aiming for 90 per cent household electrification by 2017. Extension of the grid and electrification is being developed through a mixture of measures including a universal service obligation on distribution utilities within franchise areas, a universal charge for electricity generated for customers in off-grid areas (“missionary electrification”), and opening of unconnected areas to qualified third parties for electrification services. Third parties have been active in promoting renewable energy sources such as solar, wind and mini-hydro, especially to off-grid areas. In 2010 the Energy Regulatory Commission also approved PhP 2.763 billion (~USD 61 million) per year for 2010 to 2013 for the Small Power Utilities Group operations to support missionary electrification efforts.
- Introduction of the Renewable Energy Act of 2008 which offered incentives for renewable energy projects, including income tax breaks (first seven years), duty-free imports for equipment (first 10 years), accelerated depreciation on equipment and a minimum percentage requirement. Furthermore, a 0 per cent VAT rate on the sale of power from renewable generation, tax exemption on carbon credits and further tax credits on the purchase of domestically produced renewable equipment.
- Introduction of an initial feed-in tariff (FIT) system for electricity produced from renewables. A target of 760 MW to be covered by FIT rates over three years (or around 5 per cent of the 2011 total installed capacity of the Philippines).
- Investment in domestically produced electric tricycles to reduce pollution with a grant from the Asian Development Bank and co-financing from the Clean Technology Fund, expected to deliver savings to operators (from the switch in fuel type), domestic jobs and reduced pollution.
- Financing the rehabilitation of hydropower facilities in 2012.
- A small universal charge on grid electricity to support the management of watersheds.

Throughout this period of reform (2000–2009) energy efficiency has been improving. Energy use per capita has been declining and GDP per unit of energy use has been increasing. At the same time, per capita electricity consumption has been increasing.

Specifically regarding higher prices, the government has taken the following steps:

- Monitoring prices of petroleum products in the country to ensure that the prices are “fair and reasonable.”
- Reducing the oil component in the power generation mix.
- Encouraging energy diversification toward domestic resources, renewables and other non-oil energy sources.
- Encouraging demand management and energy conservation programs, such as implementing time-of-use rates by electric utilities and use of energy-saving bulbs.



LESSONS LEARNED

The Global Subsidies Initiative views fossil fuel subsidy reform through a process that covers three areas: “getting the prices right,” “managing the impacts of reform” and “building support for reform.” The following lessons can be learned across each of these areas:

Getting the Prices Right

- Ad hoc management of an oil price stabilization fund can lead to significant deficits to the fund during periods of high world energy prices. Replenishing the fund through external borrowing or budgetary transfers can take a heavy toll on the national budget and the economy as a whole.
- During reform and the transition period to market prices, an automatic pricing mechanism can be used to help absorb price increases in excess of a threshold.
- The Philippines has maintained a flat rate of 12 per cent VAT on fossil fuels despite numerous pressures to reduce and remove this. The tax revenue has been a major source of revenue for the government, which argues that increased VAT collection was necessary to finance short-term income support for the poor and long-term programs on infrastructure, health and education. The burden of VAT is greater on those consuming more fuel, who tend to have higher incomes.
- The Philippines has also levied an increasing rate on larger residential consumers of electricity (above 650 kWh).

Managing the Impacts of Reform

- The Philippines has brought in some targeted subsidies and specific energy payments in order to enable reforms to be workable. Tangential to the process of fossil fuel subsidy reform, a national conditional cash transfer scheme has also been developed, providing an alternative and better-targeted tool than subsidies in order to assist the poor and vulnerable.

Building Support for Reform

- Throughout the period of price increases the Department of Energy communicated price changes and reasoning behind price changes.
- Prior to this, the importance of NGOs and watchdogs in challenging prices, companies and the government around the process of reform and pricing was useful.
- The process of reform has been opposed legally and through the government: on the grounds of the constitution and through three subsequent reviews (2005, 2008, and 2012), using democratic channels available to groups to challenge high oil prices. This has enabled a better understanding of high prices and enabled the government to review the existence of cartels, commitments to protect the poor, and—crucially—interactions between oil prices, foreign exchange rates, and companies. Successive reviews have recommended against the repeal of the deregulation law or the restoration of an oil price stabilization fund.

Moving Forward

The Philippines’ legal framework, regulation, and enforcement could be strengthened in order to enable competition and reduce perceived abuse of market power or collusion in a deregulated market with very high energy prices (second-highest electricity rates in Asia). There is still scope for fine-tuning the implementation of the downstream oil deregulation law. The monitoring and enforcement capabilities of the Department of Energy regarding quantity and quality standards can



be strengthened. Furthermore, even under a deregulated regime the Department of Energy can and should do more to actively exercise its regulatory authority to detect, prevent and prohibit anti-competitive behaviour. More could be done to further enhance the entry of new players, such as simplifying the administrative requirements of local governments, especially in some geographical pockets.

The problem of gasoline and diesel smuggling remains an issue. Oil smuggling occurs through the underdeclaration of the value or volume of shipments, misdeclaration of shipments (for example, gasoline as diesel that has zero excise tax), outright smuggling (without reporting to customs), offshore/high seas smuggling, and diverting tax-free fuel intended for international vessels and exclusive economic zones to the domestic market. Some suggest that smuggled oil has forced competitors in some geographical pockets to lower retail prices, yet smuggling still results in unfair competition for taxpaying retailers and leads to foregone tax revenue for the government. The higher number of market players under deregulation may have made enforcement more difficult. It remains to be verified if and how the quantity of smuggled oil or unreported fuel retail sales is reflected in official data on oil consumption.

Power losses represent about 12 per cent of electricity production. The system losses include technical losses. In electric cooperatives, pilfering can be a problem. The National Electrification Administration, which has supervision over the cooperatives, has ongoing programs on improving the efficiency of cooperatives on the distribution side. There are also existing caps on system losses that can be passed on to end-user rates. The Energy Regulation Commission with its shift (in phases) to performance-based rates can partly address this issue. There is a proposed benefit-sharing scheme between distribution utilities (DUs) and end-users to lower system losses.

Although by 2009 all *barangays* (the smallest administrative division or local government unit in the Philippines) were electrified, many households are not. The government, in its Expanded Rural Electrification Program, has shifted from barangay electrification to the electrification of sitios² and households, while harnessing private sector participation and foreign-assisted projects for rural electrification. As provided in the Electric Power Industry Reform Act, areas that are unviable to be serviced by the local distribution utilities shall be opened to other qualified third parties.

While the 4Ps program's conditional cash transfer program has developed, it has been suggested that the electricity lifeline subsidy rates (which have recently been extended to 2021) could be better targeted through the 4Ps program (where poorest households are targeted) rather than via cross-subsidization within the electricity sector. Cross-subsidization within distribution utilities (rather than support via universal charges on electricity or through tax) means that distribution utilities covering poor areas have a smaller income base, and are less able to deliver lifeline rates to the poor in those areas. Electricity consumption is not an accurate measure of poverty, in that many of the poor in the Philippines do not have access to electricity and therefore cannot benefit from lifeline rates. The barriers to electricity consumption for the poor are high connection charges, rather than rates, and the Philippines maintains a subsidy through a universal charge on grid electricity for ongoing missionary electrification programs through the Small Power Utilities Group. Government could focus further resources on enabling connection to grid electricity.

Regional differences in petroleum prices still exist, a fact that can be partly explained by distance and transport costs. Improving the general transport infrastructure, such as roads and ports, of the country would help to reduce transport costs.

² A *sitio* is a territorial enclave that forms part of a *barangay*.



With fares regulated for jeepneys, buses and taxis, the transport sector has to shoulder the cost of increasing fuel prices prior to approval of fare adjustments by the regulatory body; one suggestion from the 2012 review committee is an automatic, monthly, fare-setting mechanism that can respond to fuel price changes.

The Philippines has reformed fossil fuel subsidies, but also faces typhoons, floods and earthquakes. In the past, oil companies have postponed planned price increases in such cases. Further lessons will emerge as to how energy prices are managed and energy users assisted in the face of disasters.

Energy prices today are largely market-determined. Only a handful of fossil fuel subsidies exist within the Philippines, and those that consist of exemptions from existing tax subsidies may or may not be categorized as a subsidy, depending upon the definition being employed. The forms of intervention in the energy market that exist include:

- Incentives for exploration and development of coal, oil and natural gas resources.
- Small consumption subsidies for socially sensitive oil products such as diesel, bunker fuel, kerosene and LPG (used for cooking) that are exempt from excise taxes applied to other fuels. International price rises are fully passed through to consumers, but government foregoes the full collection of revenue on these products, although VAT (at 12 per cent) is applied on all fuels. LPG is also exempted from import duty.
- Provisions in the power sector restructuring law, such as the lifeline rates, a fixed charge for electricity generated in off-grid locations (the “universal charge for missionary electrification” or UCME) and assistance to electric cooperatives.

In 2011, the IMF reported no pre-tax subsidies in the Philippines (2011),³ while the IEA found subsidies of around USD 1.46 billion for oil (2011).⁴ As of the time of publication of this study, the IMF reports no pre-tax subsidies and the IEA reports no subsidies for fossil fuels in the Philippines.

³ The IMF uses a broad definition of subsidy that includes un-priced externalities, such as carbon prices and road tax. For this reason, its estimates are typically broken down into pre-tax subsidies (capturing financial transfers only) and post-tax subsidies (capturing tax exemptions, as well as any non-internalized externalities, based on a benchmark value of the average cost of externalities, including carbon costs and road taxes). The IMF estimates that the Philippines' post-tax subsidies for petroleum products, natural gas and coal in 2011 were equivalent to 4.26 per cent of government revenue.

⁴ IEA subsidy estimates are based on a price-gap method that takes into account any deviations between the national price and an estimated benchmark market price. This includes pre-tax subsidies, any exemptions from existing national tax rates, but does not take externalities into account.



Acronyms

| | |
|-----------------|--|
| 4Ps | <i>Pantawid Pamilya Pilipino Program</i> , national conditional cash transfer program |
| AFTA-CEPT | ASEAN Free Trade Area - Common Effective Preferential Tariff |
| ASEAN | Association of Southeast Asian Nations |
| <i>Barangay</i> | smallest administrative division or local government unit in the Philippines |
| BOI | Board of Investments |
| BOO | build-operate-own |
| BOT | build-operate-transfer |
| COPW | Consumer and Oil Price Watch |
| CVS | Compliance Verification System |
| DOE | Department of Energy |
| DOTC | Department of Transportation and Communications |
| DSWD | Department of Social Welfare and Development |
| DU | Distribution Utility |
| ECs | Electric Cooperatives |
| EPIRA | Electric Power Industry Reform Act |
| ERB | Energy Regulatory Board |
| ERC | Energy Regulatory Commission |
| FIT | Feed-in tariff |
| FPIA | Filipino Participation Incentive Allowance |
| GRAM | Generation rate adjustment mechanism |
| HECS | Household Energy Consumption Survey |
| IPPs | independent power producers |
| IRR | internal rates of return (IRR) |
| Jeepney | popular form of public transportation in the Philippines, usually made from surplus components |
| kTOE | kilotonnes of oil equivalent |
| LGUs | Local Government Units |
| LTFRB | Land Transportation Franchising and Regulatory Board |
| LTO | Land Transport Office |
| MFN | Most-Favoured Nation |
| MOPS | Mean of Platts Singapore |



| | |
|------------|--|
| MTOE | Million tonnes of oil equivalent |
| NEA | National Electrification Administration |
| NGCP | National Grid Corporation of the Philippines |
| NHTS-PR | National Household Targeting System for Poverty Reduction |
| NPC | National Power Corporation |
| SPUG | Small Power Utilities Group |
| NREB | National Renewable Energy Board |
| NSCB | National Statistical Coordination Board |
| NTRC | The National Tax Research Center (NTRC) |
| OPSF | Oil Price Stabilization Fund |
| OPPC Model | Oil Pump Price Calculation Model (OPPC Model) |
| PDU | Private Distribution Utility |
| PhP | Philippine Peso |
| PERCs | Philippine Energy Contracting Rounds (PERCs) |
| PNOC | Philippine National Oil Company |
| PSALM | Power Sector Assets and Liabilities Management Corporation |
| ROE | Return on Equity |
| RVAT | Reformed Value-Added Tax Law (RA No. 9337) |
| STSRO | Senate Tax Study and Research Office |
| UCME | Universal Charge for Missionary Electrification |
| WESM | Wholesale Electricity Spot Market |
| WTO | World Trade Organization |



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1.0 The Philippines' Energy Market

The Philippines is an archipelago of about 7,100 islands. Its major island groups are Luzon, Visayas and Mindanao. In 2010, it had a population of 92.3 million (National Statistical Coordination Board [NSCB], n.d.c) with a per capita income of USD 4,139.92 (PPP-adjusted, current international USD) (World Bank, n.d.) and an annual population growth rate of 1.9 per cent in 2010. Based on the 2009 Family Income and Expenditure Survey, there were 18.5 million families in the Philippines with average annual family income of PhP 206,000 (USD 4,324).⁵ In 2009, the annual per capita poverty threshold was PhP 16,841 (USD 354) and poverty incidence among families was 20.9 per cent corresponding to 3.856 million poor families. Poverty incidence among the population was 26.5 per cent, corresponding to 23.142 million poor in the population (NSCB, n.d.b).

The annual growth rates of real GDP are shown in the figure below. The economy contracted in 1998 during the Asian financial crisis. The growth of real GDP decelerated in 2008 and 2009 due to the increase in food and fuel prices in early 2008 and the subsequent world financial crisis.

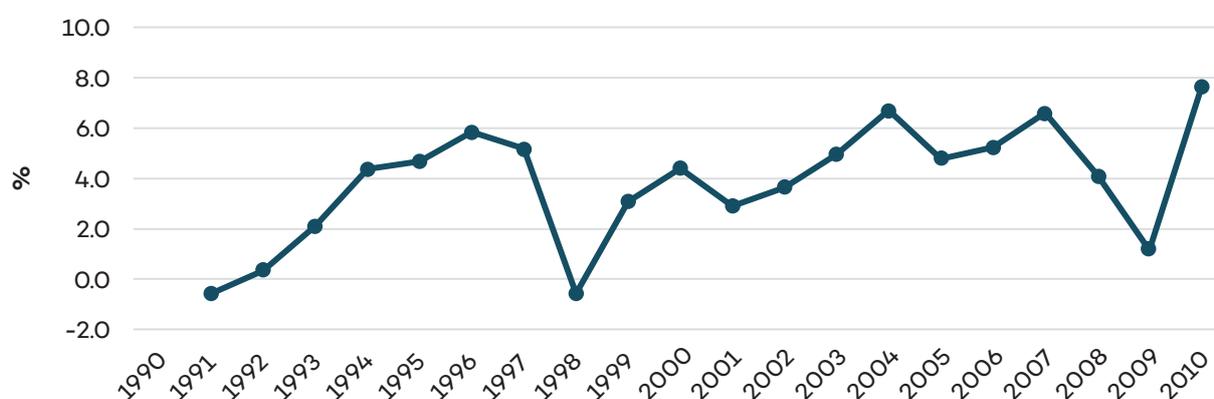


Figure 1. Annual growth of real GDP, 1991–2010

Source: National Statistical Coordination Board, n.d.

1.1 PRIMARY ENERGY SUPPLY

The primary energy supply for the years 2000–2009 is illustrated in Figure 2. The country has reduced its use of oil from 40 per cent of total primary energy supply in 2000 to 35 per cent in 2009. The Philippines also has modest domestic production of oil, which is mostly exported. The Philippines relies on imports for domestic requirements, which exposes the country to impacts from the volatility of oil prices in the world market.

⁵ All currency conversions are made based on the average exchange rate for the year linked to the data point in question, as reported by the Central Bank of the Philippines: www.bsp.gov.ph/dbank_reports/ExchangeRates_1.asp For conversions where data are not linked to one specific year, a 2012 exchange rate is used.

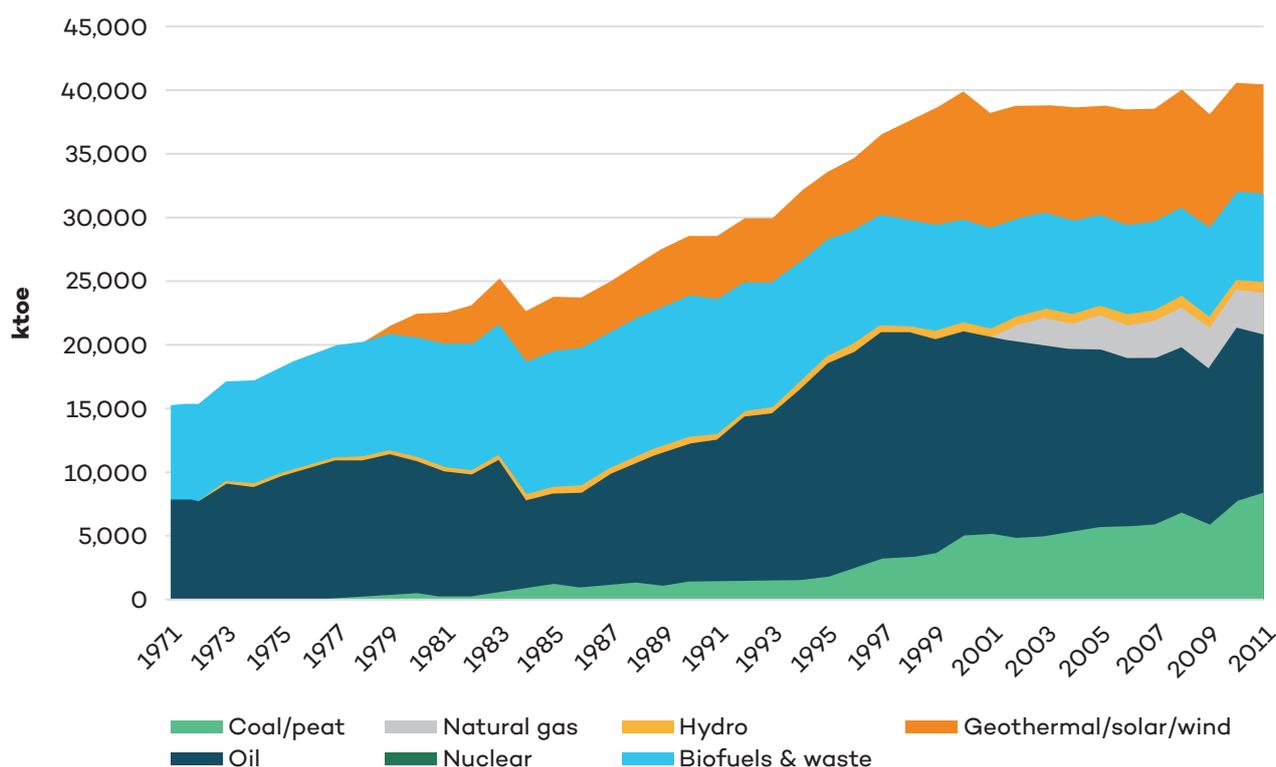


Figure 2. Total Primary Energy Supply, Philippines 1971–2011*

**Excluding electricity trade
Source: OECD/IEA, 2013c.*

1.2 TRADE IN ENERGY

During the past decade, annual total energy used has remained stable at about 40 MTOE. However, during this period production of domestic energy has been increasing, while imports of energy have been declining; thus the “self-sufficiency” ratio for energy has increased from about 50 per cent in 2000 to almost 60 per cent in 2009–2010. Imported energy, measured in oil equivalent, consists mostly of crude oil and other petroleum products and to a lesser extent coal.

Trade in specific primary energy products—crude oil and coal—are given in Table 1. The Philippines does not import or export natural gas. Though the Philippines imports most of its crude oil requirements, most of the domestic production of crude oil was exported for the years 2003 to 2008. The importing of crude oil has declined over the past decade. In contrast, imports of coal have remained relatively stable at around 4,000 kTOE, even with the increase in domestic production.

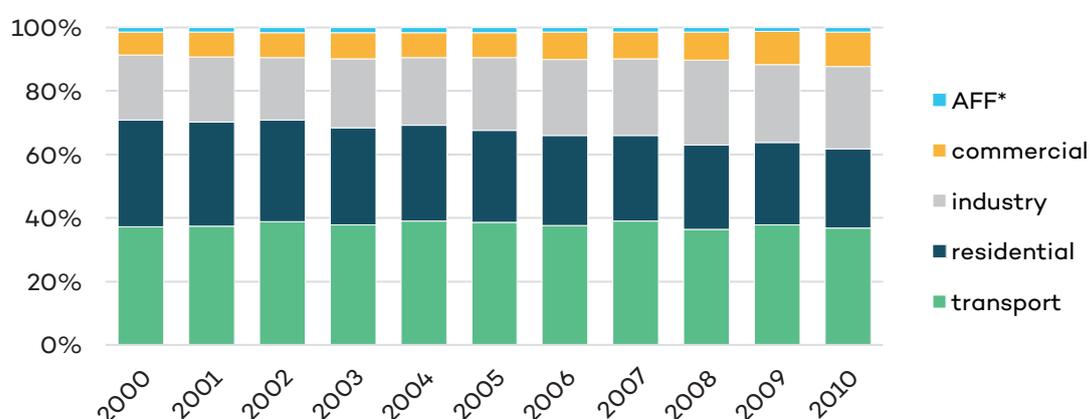
**Table 1. Trade in primary energy products (crude oil and coal) 2000–2009**

| Year | crude oil (kTOE) | | | coal (kTOE) | | |
|------|------------------|---------|---------|-------------|---------|---------|
| | Domestic | Exports | Imports | Domestic | Exports | Imports |
| 2000 | 55 | - | 15,033 | 715 | - | 3,824 |
| 2001 | 103 | (40) | 14,745 | 649 | - | 4,012 |
| 2002 | 708 | (440) | 12,419 | 802 | - | 3,644 |
| 2003 | 663 | (644) | 12,080 | 1,054 | - | 3,586 |
| 2004 | 601 | (583) | 9,667 | 1,309 | - | 3,681 |
| 2005 | 765 | (738) | 10,301 | 1,520 | - | 3,710 |
| 2006 | 702 | (678) | 10,354 | 1,243 | - | 4,073 |
| 2007 | 827 | (801) | 10,331 | 1,791 | (422) | 4,079 |
| 2008 | 715 | (653) | 9,283 | 1,905 | (472) | 4,791 |
| 2009 | 962 | (257) | 6,772 | 2,474 | (1,052) | 3,888 |

Source: APEC Energy Database, Energy Data and Modeling Centre (EDMC), Institute of Energy Economics, Japan, n.d.

1.3 FINAL ENERGY CONSUMPTION

The use of energy by sector is given in Figure 3. Transport accounts for almost 40 per cent of final energy consumption and mostly uses oil. Over the past decade, energy use by the industrial and commercial sectors has been trending upward, while total residential energy use has been declining, despite the increase in population and households.

**Figure 3. Total final energy consumption by sector (kTOE)**

Source: OECD/IEA, 2013a.

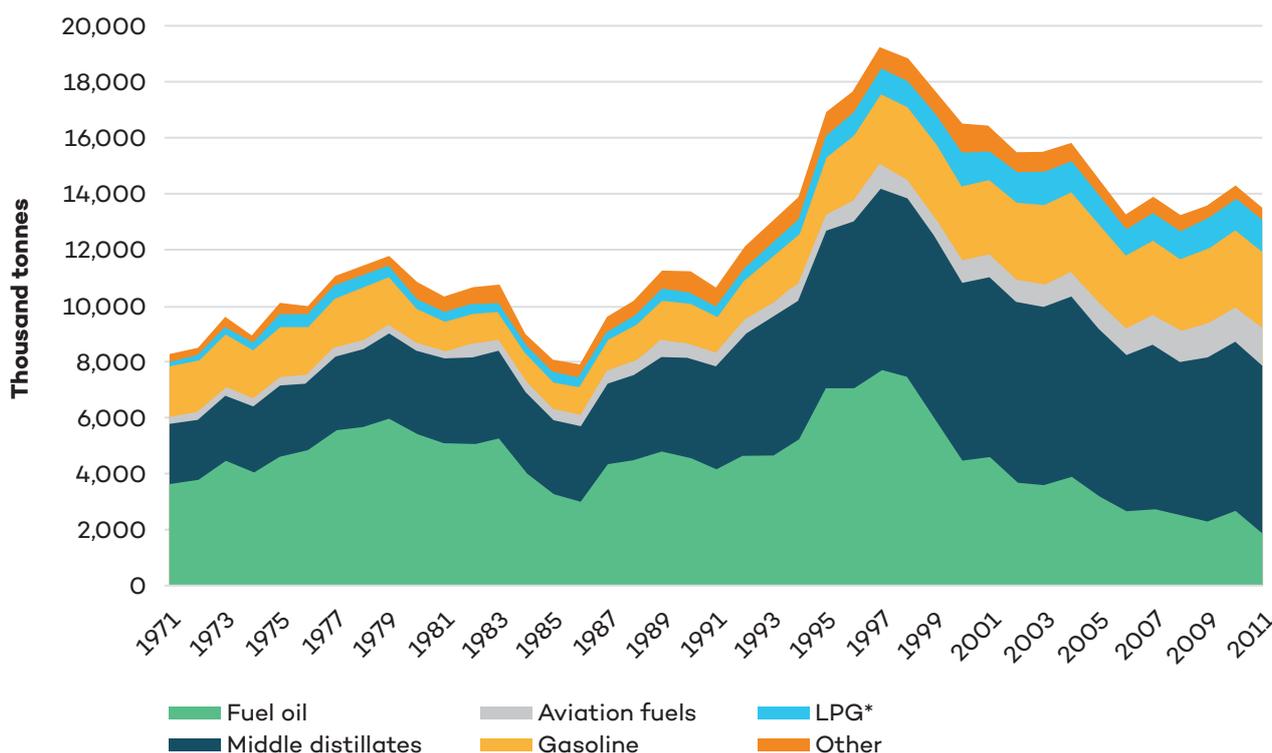


Figure 4. Consumption of oil products, Philippines*

Source: OECD/IEA, 2013c.

14 ENERGY EFFICIENCY

Energy efficiency in the Philippines improved from 2000 to 2009. Energy use per capita, with energy measured in oil equivalent, has been declining and GDP, measured in PPP-adjusted USD, per kg of oil equivalent has been increasing (Figures 5 and 6).

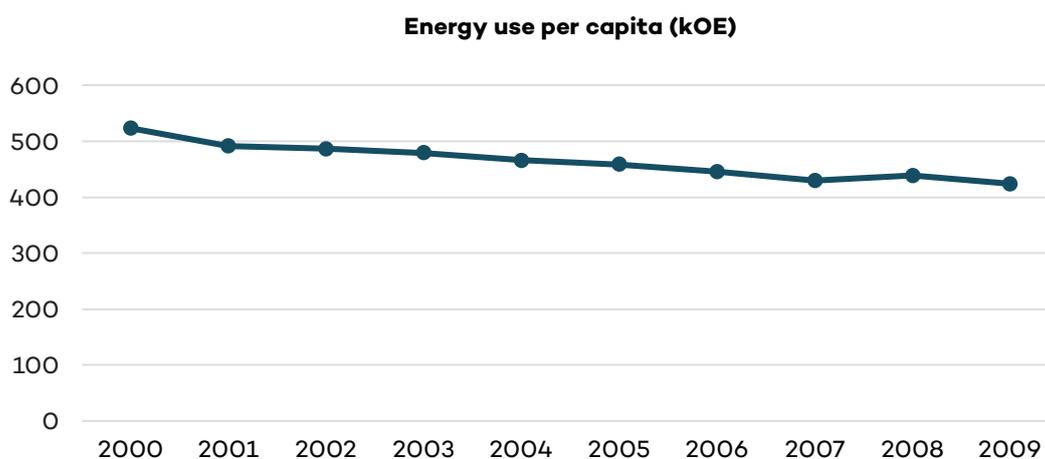


Figure 5. Energy use per capita (kOE)

Source: World Bank, 2014c.

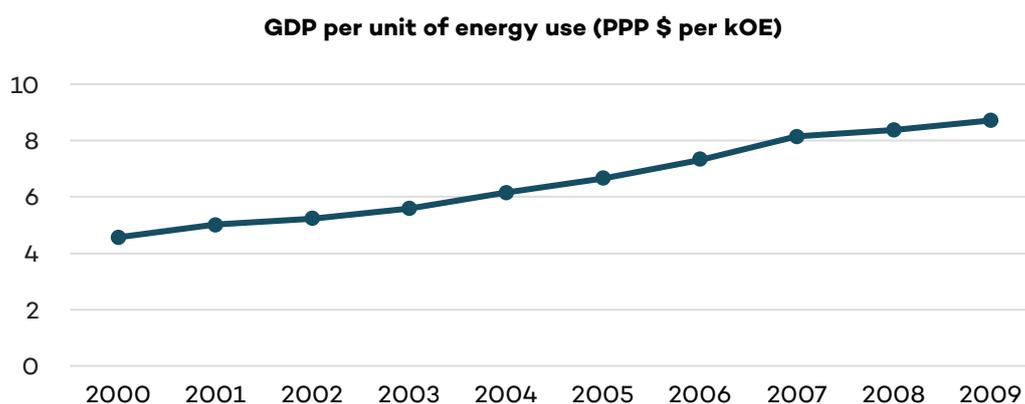


Figure 6. GDP per unit of energy use (PPP \$ per kOE)

Source: World Bank, 2014c.

1.5 LAND TRANSPORT

The number of registered motor vehicles 2002–2009 is illustrated in Figure 7. During this period there was an increase of almost 50 per cent in the number of registered motor vehicles. In the same period, the number of motorcycles and tricycles (as three-wheeled motorbikes are called in the Philippines) has doubled, and by 2009 accounted for almost half of registered motor vehicles. The increase in the number of motorcycles can be explained by an influx of lower-priced motorcycle units from China, financial products enabling affordable instalment purchase plans by lower- and middle-income consumers, and the increase in fuel prices, which led to downsizing and increase in the use of less fuel-consuming motorcycles.

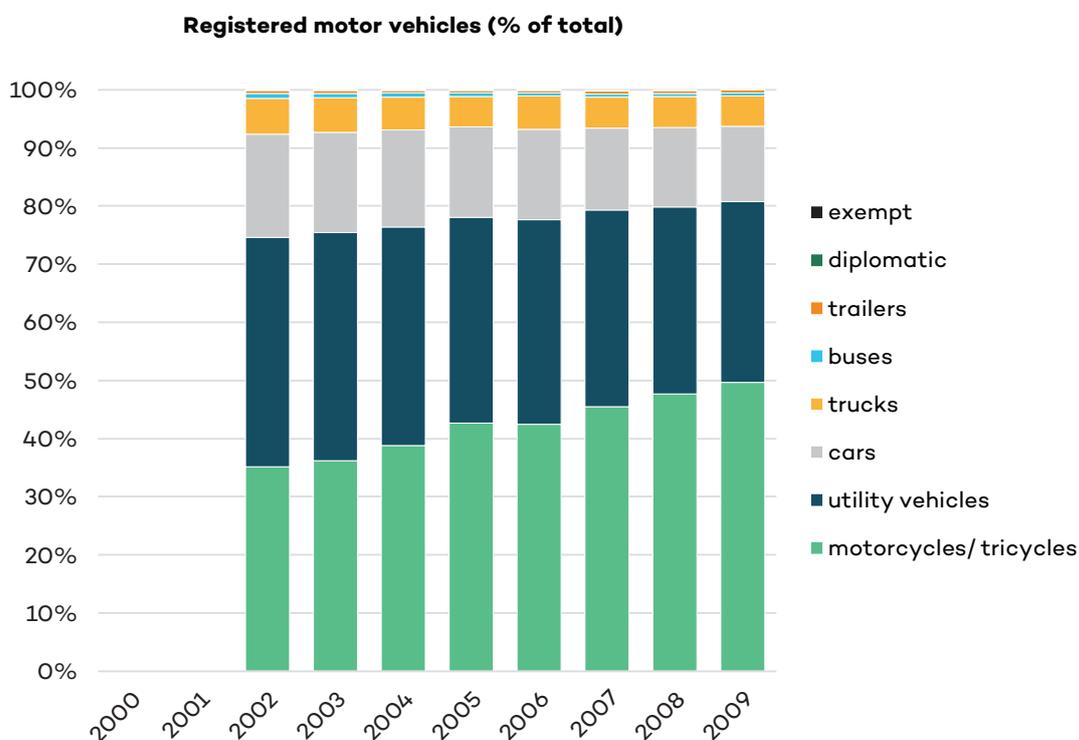


Figure 7. Registered motor vehicles (% of total)

Source: Author figure, based on NSCB, n.d.d.



1.6 ELECTRICITY SUPPLY AND CONSUMPTION

Electricity production increased by 52 per cent from 2000 to 2011, while per capita electricity consumption grew only by 18 per cent, from 504 kWh in 2000 to 593 kWh in 2009 (Figures 8 & 9). Compared to the other Southeast Asian countries, the per capita electricity consumption of the Philippines (2009) is lower than that of Brunei Darussalam, Singapore, Malaysia, Thailand and Vietnam and higher than that of Indonesia, Cambodia, Myanmar and Lao PDR (Asian Development Bank, 2012a).

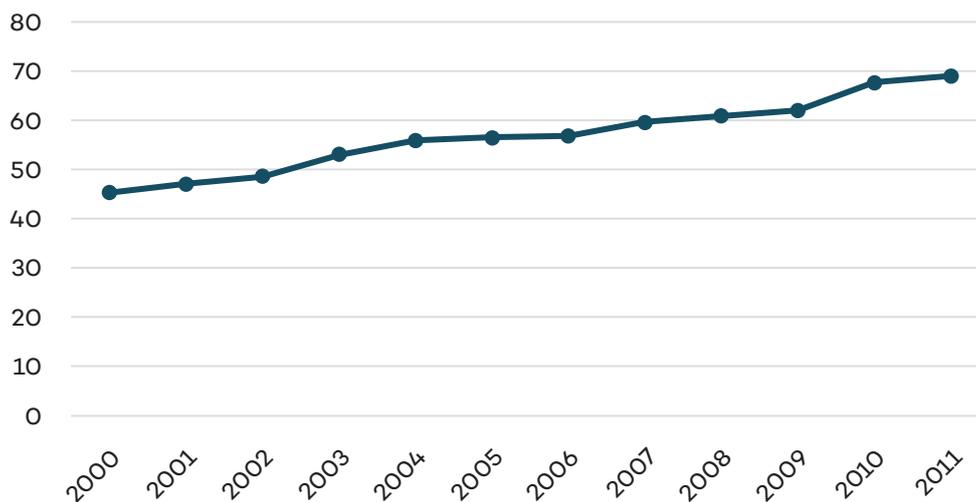


Figure 8. Electricity generation (TWh)

Source: Author figure, based on data from Department of Energy, n.d.c.

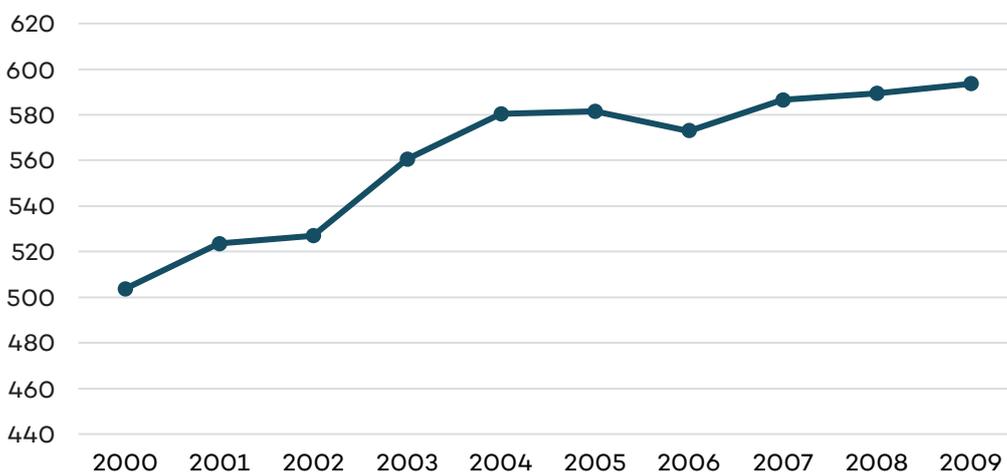


Figure 9. Electric Power Consumption (kWh per capita)

Source: Author figure, based on data from World Bank, 2014.



The breakdown of electricity generation by source/fuel use for the years 2000–2010 is illustrated in Figure 10. Power generation using natural gas started in 2000 with the commercial operations of the Malampaya natural gas fields. By 2010, natural gas accounted for almost 30 per cent of the country’s power generation and mostly displaced coal (except in 2010). The share of coal in power generation of 36 per cent in 2000 was reduced to 27 per cent by 2009. In 2010, fossil fuels (coal, natural gas and oil) accounted for 74 per cent of power generation. In 2010, 25 per cent of power generated used renewable resources, mainly geothermal and hydropower. Power generated from wind energy was contributed by the Bangui Wind Farm in Bangui, Ilocos Norte at the northwest tip of Luzon Island.

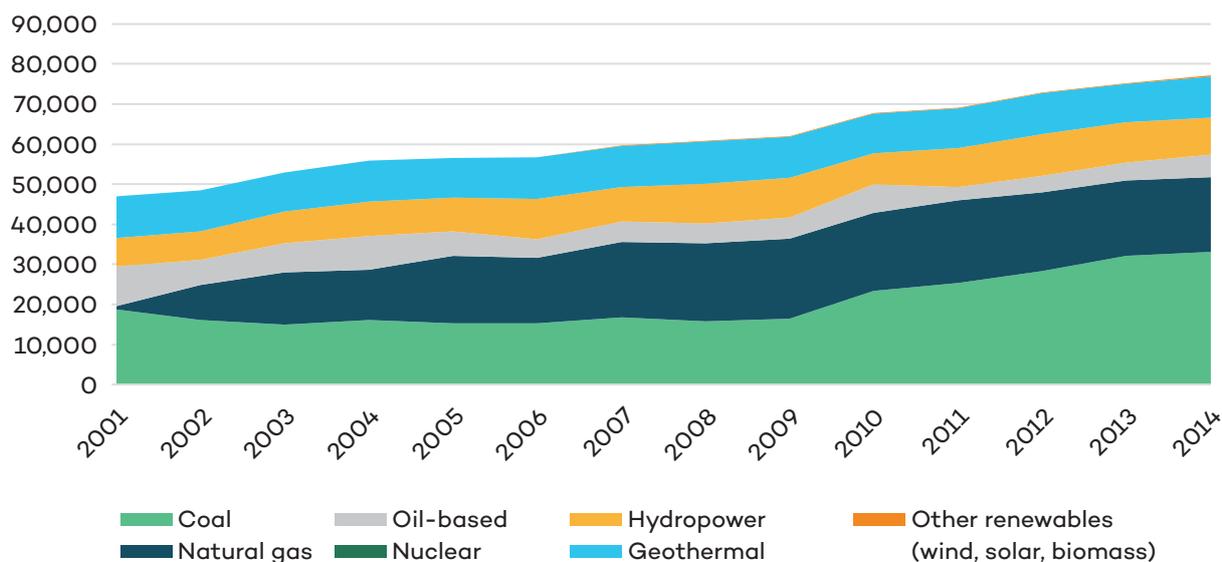


Figure 10. Power Generation by Source (gigawatt hours [GWh])

Source: 2014 Philippine Power Statistics, Department of Energy, 2014.

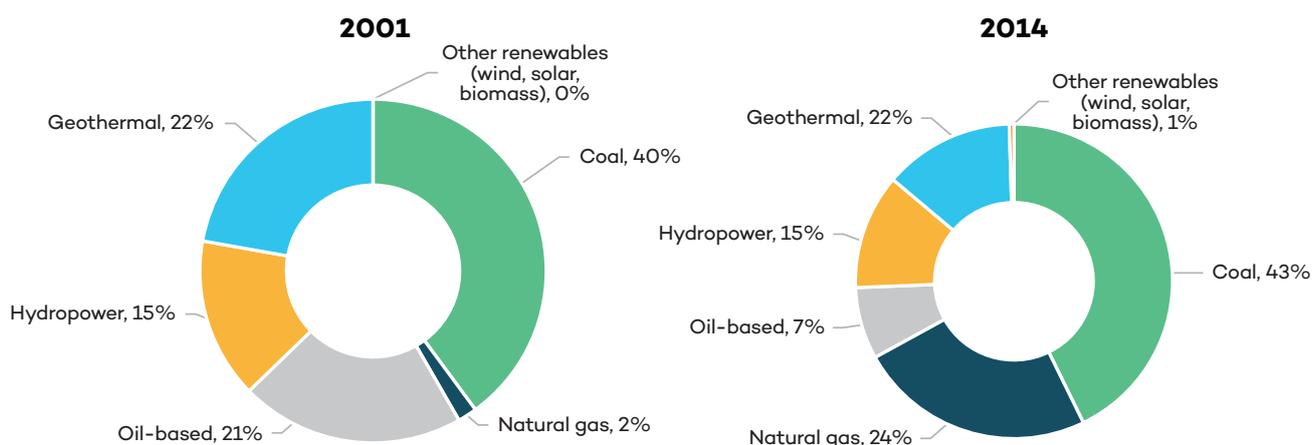


Figure 11. Installed Capacity by Source (Megawatts [MW])



Electricity consumption by sector for the period 2000–2010 is shown in Table 2. In 2010, residential use and industrial use each accounted for about 30 per cent of electricity consumption, while commercial use accounted for about 25 per cent. Power losses accounted for about 12 per cent of electricity consumption.

Table 2. Energy consumption by sector 2000–2010

| Electric energy consumption by sector (GWh) | | | | | | | |
|---|-------------|------------|------------|--------|--------------------|--------------|--------|
| Year | Residential | Commercial | Industrial | Others | Utilities/ own use | Power losses | Total |
| 2000 | 12,894 | 9,512 | 13,191 | 957 | 2,390 | 6,345 | 45,290 |
| 2001 | 13,547 | 10,098 | 14,452 | 1,042 | 2,196 | 5,713 | 47,049 |
| 2002 | 13,715 | 10,172 | 13,628 | 1,110 | 3,873 | 5,970 | 48,468 |
| 2003 | 15,357 | 11,106 | 15,188 | 1,069 | 3,410 | 6,810 | 52,940 |
| 2004 | 15,920 | 11,785 | 15,012 | 1,359 | 4,654 | 7,227 | 55,957 |
| 2005 | 16,031 | 12,245 | 15,705 | 1,177 | 4,591 | 6,817 | 56,568 |
| 2006 | 15,830 | 12,679 | 15,888 | 1,275 | 4,227 | 6,885 | 56,784 |
| 2007 | 16,376 | 13,470 | 16,522 | 1,641 | 3,994 | 7,608 | 59,612 |
| 2008 | 16,644 | 14,136 | 17,031 | 1,395 | 3,935 | 7,680 | 60,821 |
| 2009 | 17,504 | 14,756 | 17,084 | 1,523 | 3,524 | 7,542 | 61,934 |
| 2010 | 18,833 | 16,261 | 18,576 | 1,596 | 4,677 | 7,800 | 67,743 |

Source: Key Energy Statistics 2010, Department of Energy, n.d.a.

Electrification rates,⁶ as a percentage of potential *barangays*,⁷ are given in Table 3. The electrification rate, as measured by the percentage of *barangays* with electricity connection, is already quite high in the Philippines, at almost 100 per cent. This implies that all municipalities are fully electrified. However, household electrification is lower at 83.3 per cent in 2008 (Asian Development Bank, 2012a).⁸

Table 3. Electrification level (% of potential barangays)

| Year | Electrification level (% of potential barangays*) |
|------|---|
| 2000 | 80.1% |
| 2001 | 83.1% |
| 2002 | 87.1% |
| 2003 | 89.9% |
| 2004 | 92.4% |
| 2005 | 93.9% |
| 2006 | 95.1% |
| 2007 | 95.3% |
| 2008 | 97.5% |
| 2009 | 99.4% |
| 2010 | 99.9% |

Source: Based on 2005 Census of Population Source: Key Energy Statistics 2010, Department of Energy, n.d.c.

⁶ There is a debate whether the appropriate term is “electrification level” rather than electrification rate, with electrification level defined as the percentage of the population or households with electricity.

⁷ The political subdivisions in the Philippines are as follows. The Philippines is divided into regions, which are composed of provinces and non-component cities. The provinces are composed of municipalities and component cities. Municipalities are composed of *barangays*.

⁸ This household electrification level of 83.3 per cent in 2008 is lower than the 87.6 per cent indicated by the 2004 Household Energy Consumption Survey.



1.7 2011 HOUSEHOLD ENERGY CONSUMPTION SURVEY

The 2011 Household Energy Consumption Survey (HECS) was the fourth in a series of surveys conducted by the National Statistics Office (NSO) in collaboration with the Department of Energy (DOE). Earlier HECS surveys were conducted in 1989, 1995 and 2004. The HECS is a nationwide survey of households to gather data on household energy consumption, application and other relevant factors affecting energy consumption. Preliminary results from the 2011 survey were released in December 2013. The 2011 survey found that about 87 per cent of 21 million Philippine households used electricity from March to August 2011. Other types of energy used by households included fuel wood, LPG, charcoal, kerosene. The 2011 survey finds that electricity is mostly used for lighting purposes (74 per cent) but that kerosene is also used for lighting (30 per cent).

Table 4. Percentage of household by type of fuel used, Philippines: 2004 and 2011

| Type of Fuel | 2011 | 2004 |
|--|--------|--------|
| Total Number of Households (thousands) | 20,969 | 16,973 |
| Electricity (%) | 87.2 | 87.6 |
| LPG (%) | 41.2 | 52.1 |
| Kerosene (%) | 34.3 | 56.1 |
| Gasoline (%) | 23.6 | 11.7 |
| Diesel (%) | 4.9 | 3.3 |
| Fuelwood (%) | 54.2 | 55.1 |
| Charcoal (%) | 36.4 | 34.2 |
| Biomass residues (%) | 22.3 | 18.7 |
| Biogas (%) | * | 0.1 |

Notes: A household may report more than one type of fuel used. Households reporting the use of gasoline or diesel include those who used them for their vehicle. For the 2004 HECS, the reference period is from October 2003 to September 2004 (that is, 12 months prior to the survey). For 2011 HECS, the reference period is from March to August 2011 (that is, six months prior to the survey).

* Less than 0.1 per cent.

Source: National Statistics Office and Department of Energy, 2011.

Based on the initial HEC 2011 results summarized in Table 4, it seems that the use of electricity by households has remained stable at 87 per cent (with an increase in households from 17 to 21 million). However, there has been a decrease in reported use of LPG, kerosene and fuel wood, with an increased use of biomass residues, charcoal, diesel and particularly gasoline. Fuel switching toward LPG was observed between 1990 and 1995 (NSO, n.d.a), and then again a doubling of use by households between 1995 and 2004 (NSO, n.d.b); however, the 2011 household survey shows a noticeable decline in the percentage of households using LPG. The percentage of households using charcoal, on the other hand, shows a slight increase in 2011 on 2004, although charcoal use was reported as declining between 1990 and 1995, and then again from 1995 to 2004.

In 2011 fuelwood is most commonly used by households for cooking at around 54 per cent, slightly down from 55 per cent in 2004 and previous years. Biomass residues (e.g., agricultural waste such as rice hulls) have increased as a source of fuel for cooking among households, from 16 per cent in 2004 to 20 per cent in 2011 (see Table 5).

**Table 5. Types of fuel used by households for cooking in the Philippines: 2004 and 2011**

| Type of Fuel | Percentage of households that used specific type of fuel for cooking | |
|--|--|--------|
| Total number of households (thousands) | 20,969 | 16,973 |
| Electricity | 17.5% | 13.8% |
| LPG | 40.5% | 52.0% |
| Kerosene | 2.1% | 8.6% |
| Fuelwood | 54.0% | 54.9% |
| Charcoal | 35.3% | 30.2% |
| Biomass residues | 20.1% | 16.1% |
| Biogas | * | - |
| Biomass residues (%) | 22.3 | 18.7 |
| Biogas (%) | * | 0.1 |

Notes: A household may report more than one type of fuel used. Excludes households whose electricity source is other than utilities and distribution companies. For the 2004 HECS, the reference period is from October 2003 to September 2004 (that is, 12 months prior to survey). For the 2011 HECS, the reference period is from March to August 2011 (that is, six months prior to survey).

* Less than 0.1 per cent.

Source: National Statistics Office and Department of Energy, 2011.

1.8 POLICY DIRECTIONS OF THE DEPARTMENT OF ENERGY

The overarching goal of the current Aquino administration with respect to its energy reform agenda is expressed in the slogan “Energy Access for More,” in line with the government’s objectives of poverty reduction, social equity and greater access by marginalized and disadvantaged sectors to public services (Department of Energy, n.d.c). The major pillars of the energy reform agenda are energy security, optimal energy pricing and a sustainable energy plan. In accordance with the principle of good governance espoused by the administration, transparency and accountability shall be the norms of conduct in the implementation of government programs and activities; open competition and due diligence shall characterize the energy contracting rounds; government procedures and processes shall be streamlined; and fiscal and non-fiscal incentives shall be enhanced for a more investment-friendly environment.

The major activities of the Department of Energy are (Department of Budget and Management, n.d.):

- Supervision of energy resource exploration, development and utilization, specifically in relation to oil, natural gas, coal and geothermal.
- Market development and supervision of downstream oil industry deregulation, natural gas industries, renewable energy sector and alternative fuels for transport.
- Supervision and implementation of the electric power industry reforms.
- Supervision and implementation of the rural electrification program.
- Promotion and implementation of national energy efficiency and conservation programs.

The DOE promotes the exploration and development of domestic energy resources for petroleum, coal and geothermal by granting service contracts for areas on offer through an open and competitive bidding process, namely the Philippine Energy Contracting Rounds (PERCs). The feasibility of using liquid natural gas (LNG) in Mindanao, possibly imported from Brunei, is being explored. For the transport sector, the DOE is promoting the use of compressed natural gas (CNG) by buses along the Batangas-Manila route, the use of auto-LPG by taxis, and the use of electric vehicles, particularly e-trikes.



2.0 An Overview of Energy Pricing in the Philippines

This section presents an overview of energy pricing in the Philippines, particularly in relation to fossil fuel subsidies. Fossil fuels used as primary energy sources in the Philippines are coal, crude oil and natural gas; petroleum products such as gasoline, diesel, kerosene and LPG (liquefied petroleum gas) and electricity are used as secondary energy sources. Fossil fuels are most used for transport and power generation. The energy markets in the Philippines are generally deregulated with international trade liberalized. Landmark legislations are the Downstream Oil Industry Deregulation Act of 1998 (Republic Act 8479) and the Electric Power Industry Reform Act of 2001 (EPIRA) (Republic of The Philippines, 2001).

The Philippines is a net importer of energy, including coal, crude oil and other petroleum products. In its current state of development and production from domestic resources, it does not have much income from “natural wealth” from energy resources, unlike other Southeast Asian countries such as Brunei, Indonesia and Malaysia.⁹ Also, the economic performance of the Philippines relative to the other Asian economies over the last three decades has been poor. Hence, the country has limited financial resources to sustain large subsidy programs in the energy sector, either targeted, for the general population, or for social assistance to the poorest sectors of the population. Currently, the Philippines does not have large direct fossil fuel consumption subsidies, instead conferring subsidies for certain fuels via the preferential application of excise taxes and import duties.

2.1 PRIMARY ENERGY SOURCES: COAL, CRUDE OIL AND NATURAL GAS

The Philippines is a net importer of coal and crude oil, with domestic prices set at world market prices.

- **Coal:** Major coal users are power generating plants, the cement industry and other process industries. There are coal deposits in various parts of the country, with the largest deposit in Semirara Island, Antique, being mined by Semirara Mining Corporation¹⁰ and accounting for over 90 per cent of local coal production (Department of Energy, n.d.c) or more than half of the country’s total annual coal requirements, estimated at 12 million tonnes (Velasco, 2012).
- **Oil and gas:** Domestic crude oil production in 2010 was 12 per cent of the country’s consumption and is low, going mostly to the export market. As of June 2011, there were six producers: Nido, Matinloc, North Matinloc, Galoc, Cadlao and West Linapacan fields. A significant domestic source of primary energy is the Malampaya gas field that provides natural gas to fuel three combined cycle gas turbine (CCGT) power plants with a combined dependable capacity of 2,770 MW, or about 25 per cent of Luzon’s dependable capacity. In 2011, daily production was about 6,000 barrels of crude oil, 14,000 barrels of condensate and 70,000 barrels of oil equivalent of natural gas (Sunley, Caner, Krever, & Luca, 2012).

⁹ During the 1998–2010 period, mining and quarrying, including both metallic and nonmetallic minerals, contributed on average only 1 per cent of GDP (Virola, 2012).

¹⁰ Semirara’s mine annual production volume is 7 million tonnes. The company’s major markets are its power plant subsidiary at Calaca, Batangas and the power plant in Cebu of Global Business Power Corporation. In 2011, the company exported 3.5 million tonnes; due to increasing demand in the domestic market, the company plans to trim down its exports in 2012 to 2 million tonnes. Once the expansion of its Calaca powerplant starts commercial operations, expected around 2014, the company may stop exporting coal.



In line with the country's policy of promoting the development, production and utilization of the country's domestic energy resources, the Department of Energy has granted several coal operating contracts (COCs) and small-scale coal mining permits and incentives to petroleum service contractors. As provided by the Oil Exploration and Development Act of 1972, the government may directly or indirectly, through service contracts, explore for and produce domestic petroleum. In a service contract, the service contractor provides the service and technology for which the contractor is paid a service fee, while the government, to which all petroleum produced shall belong, provides the financing. If the government cannot provide the financing, then the proceeds of the sale of the petroleum produced shall be the source of funds for payment of the service fee and the operating expenses due the contractor. Table 6 lists the incentives given to petroleum and coal service contractors.

Table 6. Incentives given to petroleum and coal service contractors

| Incentives | Oil and Natural Gas | Coal |
|--|---------------------|------|
| Service fee of up to 40% of net production | ✓ | |
| Cost recovery by service contractor | | |
| Cost reimbursement of up to 70% gross production with carry-forward of unrecovered costs | ✓ | |
| Recovery of operating expenses not exceeding 90% of the gross income after deducting all operating expenses | | ✓ |
| FPIA (Filipino Participation Incentive Allowance) grants of up to 7.5% of the gross proceeds for service contract with minimum Filipino company participation of 15% | ✓ | |
| Exemption from all taxes except income tax | ✓ | ✓ |
| Corporate Income Tax (CIT) obligation paid out of government's share | ✓ | |
| Tax exemptions on imports | | |
| Exemption from all taxes and duties for importation of materials and equipment, not manufactured domestically, for petroleum operations | ✓ | |
| Exemption from payment of tariff duties and compensating tax on importation of machinery/equipment/spare parts/materials required for coal operations | | ✓ |
| Repatriation of investments and profits (more relevant during the martial law years when there were financial controls) | ✓ | |
| Free market determination of crude oil prices, i.e., prices realized in a transaction between independent persons dealing at arms length | ✓ | |
| Special income tax of 8% of gross Philippine income for subcontractors | ✓ | |
| Incentives for foreign personnel | | |
| Special income tax of 15% of Philippine income for foreign employees of service contractors and subcontractors | ✓ | |
| Allow entry of alien technical personnel | | ✓ |
| The right of ingress to and egress from the Coal Operating Contract (COC) area | | ✓ |

Sources: DOE, 1972b, 1976, 1977.



The taxation structure for coal, crude oil and natural gas is given in Table 7. There is no explicit royalty on petroleum and coal service contracts. The royalty equivalent is similar to production sharing wherein the government and the contractor share the gross proceeds less operating expenses, subject to an annual limit. For petroleum, net proceeds are shared 60/40 in favour of the government. With operating expenses limited to 70 per cent of gross proceeds and 60/40 sharing of net proceeds in favour of the government, the implicit royalty that can be considered as mineral payments to the government would be at most 18 per cent of gross income, assuming no foreign participation, and 13.5 per cent of gross income, if the project qualifies for the maximum FPIA. As a percentage of gross income, the implicit royalty for coal is lower than those for crude oil and natural gas.

Table 7. Taxation structure for coal, oil and natural gas

| | Coal | Crude Oil | Natural Gas |
|------------------------------------|---|---|---|
| Royalties (equivalent or implicit) | 30% of gross revenues less allowable expenses, or a minimum of 3% of gross revenue ^a | 18% of gross income, assuming no foreign participation; 13.5% of gross income, if project qualifies for maximum FPIA | 18% of gross income, assuming no foreign participation; 13.5% of gross income, if project qualifies for maximum FPIA |
| Excise tax | PhP10/tonne ^c | 3% | No excise tax on domestic natural gas ^b |
| Tariff (on imports) ^d | 3% (MFN rate); 0% (AFTA-CEPT rate starting 01 January 2010; and ASEAN-Australia-New Zealand Free Trade Area and ASEAN-China Free Trade Area) | 0% | 0% |

^a Source: Semirara Mining Corporation, n.d.

^b Source: Republic of the Philippines, 2005: locally extracted natural gas and liquefied natural gas are not subject to the mineral excise tax.

^c Source: Republic of the Philippines, 1997.

^d Sources: Philippine Tariff Commission, 2001; 2004; 2005; 2009. MFN rates are the Most-Favoured Nation rates. AFTA-CEPT rates are the ASEAN Free Trade Area-Common Effective Preferential Tariff Scheme rates. The AFTA-CEPT Scheme is the Common Effective Preferential Tariff Scheme for the ASEAN Free Trade Area. It is implemented in the Philippines through Executive Order No 850 (2009). Most of the refined petroleum products are imported from Singapore that are subject to a 0 per cent tariff rate. To correct the "tariff distortion" wherein crude oil and refined petroleum products imported from ASEAN countries are levied 0 per cent tariff rates while those products imported from non-ASEAN countries are levied a 3 per cent tariff rate, EO 890 issued on June 10, 2010 eliminates the tariffs on crude oil, refined petroleum products and asphalt.

2.2 SECONDARY ENERGY: PETROLEUM PRODUCTS

The downstream oil industry has been deregulated and hence the price of petroleum products, gasoline, diesel, kerosene and LPG (liquefied petroleum gas) reflects changes in the world price of oil. Since domestic primary energy production is modest relative to the country's requirements, the Philippines is particularly vulnerable to changes in world oil prices.

Industry players are driven by both profitability and market share, especially for large oil companies. In addition to competition in pricing, oil firms compete to attract customers through strategic location of retail stations; branding; provision of facilities and services such as restrooms, convenience stores and quick-service restaurants; product quality; and customer-loyalty programs such as company fleet cards and company credit cards. Price competition is stronger in petroleum products at minimum quality and performance standards, such as ordinary unleaded gasoline, which can be considered more homogeneous and interchangeable. Product differentiation, which allows for a greater degree of variation in prices across oil company brands, exists with the higher-end premium



gasoline products, such as high-octane gasoline, with performance-enhancing characteristics above minimum standards.

Usually, gasoline stations adjust their prices weekly, usually at the start of the week (Monday, Tuesday) and sometimes the DOE requests that oil companies increase prices on a staggered basis and over a longer period of several weeks instead of a one-time large adjustment. When there are major calamities, such as typhoons and floods, the oil companies usually postpone planned price increases, with such postponements announced through the media (newspapers, TV and radio).

The price adjustments reflect trends in the international oil market and foreign exchange movements. The price adjustments, when driven by factors affecting the global oil market, are not necessarily proportionally uniform across petroleum products. Hence, for example, it is possible to have decreases in the prices of diesel and kerosene, and increases in the prices of regular and unleaded gasoline.

A price leader, often one of the larger oil companies, usually initiates the price adjustment. When the international price of refined petroleum products is low, then the new players/independents can offer lower prices that the local refiners are forced to match. On the other hand, if the international price of refined petroleum products is high, some independents have to increase their pump prices to recover costs and sometimes then initiate a price increase. Within a day or two, the other players follow the price change, though not necessarily of the same magnitude.

The DOE is given prior notice and the oil companies announce the price adjustment through the media—newspapers, television and radio—usually within 12 hours before the price adjustments take effect. Especially during periods of large upward domestic price adjustments, the DOE, besieged by the media, is very visible in the morning radio stations and evening TV stations, explaining why prices are going up or down. The DOE has taken an active role in informing and explaining changes in domestic oil prices to the public through its website and during periods of volatile prices, through the mass media.

Generally, the oil companies do not practice uniform pricing across the country. There can be geographical variation in prices, partly due to differences in transportation costs to supply the different areas. Hence, gasoline prices in the mountain city of Baguio are higher than those in Rosario, La Union at the base of the zigzag roads going up to Baguio. Gasoline prices in the Visayas can be different from those in Luzon. Even within Metro Manila, gasoline prices of the same brand can differ across cities. Within geographical pockets, there is a tendency toward uniform pricing due to competition with oil companies matching the prices of the price leader. The price leader is usually a large oil company, Petron or Shell, but it is also possible to have an independent player as a price leader. The 2005 Independent Review Committee reports that prices tend to be lower in areas where there are more players.

2.2.1 Taxation of Petroleum Products

The value-added tax (VAT) was introduced in the Philippines in 1988 to simplify tax administration and make the taxation system more equitable.



In 2005, the Reformed Value-Added Tax (RVAT) Law (RA No. 9337) expanded coverage of the VAT and lifted the VAT exemption on petroleum products provided by the 1988 law. The RVAT Law of 2005 lifted the VAT exemption for the following energy-related goods and services:

1. Domestic transport of passenger by air and sea
2. Generation, transmission and distribution of electricity
3. Coal and natural gas
4. Petroleum products and their raw materials
5. Electric cooperatives.

Subsequently, the National Grid Corporation of the Philippines and electric cooperatives registered with the Cooperative Development Authority and were granted exemption from VAT in 2008 and 2009, respectively.¹¹ Under the 2005 RVAT Law, “(7) the sale of power or fuel generated through renewable source of energy such as, but not limited to, biomass, solar, wind, hydropower, geothermal, ocean energy, and other emerging energy sources using technologies such as fuel cells and hydrogen cells” was made subject to 0 per cent VAT.

The thrust of the RVAT Law is then to enhance the effectiveness of the VAT system by making it broad-based with limited exemptions. The 0 per cent VAT on renewable energy is a tax incentive to encourage its development.

The RVAT Law also includes provisions for “mitigating measures” to lessen or minimize its impact on consumers, among which with relevance to energy consumers are the following:

1. The reduction of excise taxes on kerosene, LPG, diesel and bunker fuel oil to PhP 0.00 per litre.
2. The removal of the franchise tax on power distribution and domestic airlines.
3. The removal of the common carriers tax on domestic shipping.

Hence, the RVAT Law removed the excise taxes on so-called “socially sensitive” products. Kerosene is used for lighting purposes in rural areas; LPG widely used for cooking; diesel for public transport; and fuel oil for power generation.

To partially compensate for the increase in prices of petroleum products due to the imposition of the VAT, the government also adjusted import duties. To take effect at the same time as the RVAT Law is Executive Order 440 reducing the rates of the import duties on crude petroleum oils and refined petroleum products¹² from 5 per cent to 3 per cent, and for LPG to 0 per cent. Thus, for widely used LPG, the impact of the VAT on its price will be partially offset by zero excise tax and zero import duty.

Due to rising and unsustainable fiscal deficits, the VAT rate was increased from 10 per cent to 12 per cent in 2006. Effective from January 2010, import duties on petroleum oils were also reduced to zero under the AFTA-CEPT Scheme.¹³ Most of the refined petroleum products are imported from Singapore that are subject to 0 per cent tariff rate. To correct the “tariff distortion” wherein crude oil and refined petroleum products imported from ASEAN countries are levied zero tariff rates while those products imported from non-ASEAN countries are levied a 3 per cent tariff rate, EO 890 issued on June 10, 2010 eliminates the tariffs on crude oil, refined petroleum products and asphalt. Table 8 summarizes the existing excise tax, VAT and import duty structure for petroleum products.

¹¹VAT exemptions were granted by RA No. 9511 (2008) for the National Grid Corporation of the Philippines and RA No. 9520 for the electric cooperatives.

¹²The Downstream Oil Industry Deregulation Act of 1998 requires that a single and uniform tariff duty shall be imposed and collected both on imported crude oil and imported refined petroleum products.

¹³The AFTA-CEPT Scheme is the Common Effective Preferential Tariff Scheme for the ASEAN Free Trade Area. It is implemented in the Philippines through Executive Order No 850 (2009).

**Table 8. Summary of excise tax, VAT and import duty structures for petroleum products**

| | Excise tax, PhP/liter ^a | VAT | Import Duty |
|---------------------------|------------------------------------|-----|-------------|
| Leaded premium gasoline | 5.35 | 12% | 0% |
| Unleaded premium gasoline | 4.35 | 12% | 0% |
| Regular gasoline | 4.35 | 12% | 0% |
| Diesel | 0 | 12% | 0% |
| Bunker fuel | 0 | 12% | 0% |
| Kerosene | 0 | 12% | 0% |
| LPG | 0 | 12% | 0% |

Source: Republic of the Philippines, 1997; Philippine Tariff Commission, 2010.

2.2.2 Mitigation Measure: *Pantawid Pasada*

Jeepneys are the most popular means of public transport in the Philippines and have become a symbol of Filipino culture due to their flamboyant decoration and sometimes loud music. Jeepneys were originally made from surplus World War II US military jeeps, but are now usually manufactured using surplus Japanese diesel engines. Jeepney operators are required to hold franchise licences, and their routes are fixed and fares regulated. Depending on its size, a jeepney can carry between 14 to 30 passengers. Jeepneys use diesel fuel but do not have designated loading and unloading zones. The practice of stopping anywhere along the route to pick up and unload passengers can impede the flow of traffic. Jeepneys have been phased out along some major routes that are served by public utility buses. In addition to generating significant air pollution, jeepneys are low in fuel-efficiency and safety features.

In May 2011, in response to rising fuel prices due to the Middle East and North African sociopolitical situation and the clamour of the public transport sector for assistance, the Philippine government, with the Department of Energy (DOE) as the lead implementing agency, launched the Public Transport Assistance Program (PTAP)—*Pantawid Pasada*.¹⁴ The program is a temporary measure aimed at providing targeted relief and cushioning the impact of high fuel prices on the public transport sector. Since jeepney fares are regulated by the LTFRB, there is no automatic pricing mechanism for jeepney fares to adjust to changes in fuel prices. In the interim between fare adjustments that have to be petitioned by associations of jeepney operators and drivers, changes in fuel prices have to be absorbed by the jeepney drivers. There were two assistance programs under the PTAP: assistance to public utility jeepney drivers, with the DOE as the plan coordinator and implementer; and assistance to tricycle drivers, with the Department of Interior and Local Governments (DILG) as the plan coordinator and implementer.

The budget for the two programs was PhP 450 million (~USD 10.4 million), with PhP 300 million (~USD 6.9 million) for assistance to public utility jeepney drivers and PhP 150 million (~USD 3.5 million) for assistance to drivers of tricycles. The source of funding was the government's revenue from the Malampaya gas field, deposited in a special account with the national government.¹⁵ The PTAP assistance to tricycle drivers was supposed to be jointly implemented with the local governments using methods that could differ from those for jeepney drivers and subject to local government units' (LGUs') counterpart funding in the form of additional cash assistance or manpower commitment. Given the diversity of assistance under the tricycle drivers program, subsequent discussion will focus on the *Pantawid Pasada* for jeepney drivers.

¹⁴In Filipino, *pantawid* means “for use in crossing” and *pasada* refers to “plying trips by a public utility vehicle (usually of land transport vehicles such as jeepneys, tricycles, buses)”. Therefore, *Pantawid Pasada* means “to enable to ply trips”.

¹⁵Over the 2002–May 2011 period during its commercial operation, the Malampaya deep water gas-to-power project has contributed PhP200.4 billion or about USD 4.6 billion as “royalty share” to government revenue (Official Gazette of the Republic of the Philippines, 2011). In 2012, the government's revenue from the Malampaya operations was USD 1.1 billion (Department of Finance, 2013).



Beneficiaries under the *Pantawid Pasada* for jeepney drivers were only legitimate franchise holders with valid and updated Land Transportation Office (LTO) registrations. The Department of Transportation and Communications (DOTC) directed the Land Transportation Franchising and Regulatory Board (LTFRB) to furnish the DOE with a list of legitimate public utility jeepney franchise holders and the LTO to submit a list of vehicles registered as public utility jeepneys.¹⁶ Disbursement of the assistance is through the use of debit cards or smart cards.¹⁷ Legally, the cards are owned by the government and are effective until May 2016. The debit cards hold information on the franchise number, vehicle plate number and route identification. The debit card is valid for use as long as the vehicle plate numbers in the card and vehicle are identical. Hence, if a jeepney unit is shared by two or more drivers, as can occur, then the monetary assistance is shared among the drivers.

For the initial round of the *Pantawid Pasada*, starting May 2011 to November 2011, each debit card was given a one-time load of PhP 1,050 (~USD 24), with loads to be utilized within a six-month period. The debit card can also record historical data of load consumption. The debit card is restricted to the purchase of diesel at gasoline stations with point of sale (POS) facilities and “*Pantawid Pasada* Card Accepted Here” signage. The debit cards are also required for public utility jeepneys to access existing discounts of PhP 1.00 to PhP 1.50 (USD 0.02 to 0.03) per litre of diesel given by oil companies.¹⁸

In February 2012, even though the President announced a reloading of the *Pantawid Pasada* cards with a load of PhP 1,200 (~USD 28), there was still an excess of PhP 200 million (~USD 4.7 million) left in the original funding for the program. Only around 100,000 cards (of the 300,000 target) were issued to jeepney and tricycle drivers in 2011. The lower-than-expected coverage was partly due to the exclusion of those jeepneys that did not hold legitimate operating franchise licences.

In practice, the *Pantawid Pasada* program benefited those jeepney drivers who shoulder the fuel cost in the “boundary system” (i.e., where jeepney drivers pay a fixed daily rental amount for the use of the jeepney to the jeepney owner/operator).¹⁹ Passengers would have benefited if the program had also enabled a delay in increases in regulated fares. It is likely that the fare adjustment process was little affected by the *Pantawid Pasada* program. However, monetary assistance may have tempered unrest among the jeepney drivers.

The one-time assistance of PhP 1,050 or PhP 1,200 is about a day or at most two days of diesel costs for the jeepney driver.²⁰ Since money is fungible, this amount could have acted as direct income assistance to a targeted group and the program did not distort the relative price of diesel. With average net (take-home) income of PhP 300-800 (~USD 7-19) a day for a jeepney driver, the assistance of PhP 1,050, though seemingly small, might still have been welcomed.²¹ Some jeepney drivers’ associations said that the amount given by the *Pantawid Pasada* program was too small to be of substantial help. The 2012 independent review committee formed by the DOE to look at oil pricing in the country recommended the deregulation of jeepney fares through, for example, a monthly automatic price adjustment mechanism.

¹⁶It is estimated that the actual number of jeepneys in the Philippines is about 250,000 (ADB, 2012).

¹⁷As a goodwill measure, the oil companies shouldered the cost of production of the smart cards.

¹⁸Under a voluntary program, oil companies through selected gasoline stations give discounts of PhP 1.00 to PhP 1.50 per litre of diesel to jeepneys. The gasoline stations and their location are posted in the DOE website.

¹⁹The *Pantawid Pasada* program did not include bus operators, who get bulk discounts for their fuel and who pay the fuel cost for the bus operations.

²⁰A jeepney unit consumes about 30 litres of diesel a day.

²¹In economic parlance, the marginal utility of the PhP 1,050 assistance can be quite high for the jeepney drivers.



It must be noted that jeepney drivers already enjoy an implicit subsidy through the exemption of diesel from the excise tax. That is, suppose we conservatively assume that

- There are 200,000 jeepneys in the country.
- Each jeepney consumes 25 litres of diesel per day.
- Each jeepney plies its route 300 days a year.
- The foregone excise tax rate on diesel is PhP 3.35 a litre (USD 0.07.9) a rate lower than the excise tax rate for unleaded gasoline.

Given these assumptions, a crude low estimate of the foregone annual tax revenue due to the exemption of diesel from excise taxes is PhP 5.0 billion (~USD 119 million), or an implicit subsidy of PhP 25,125 (USD 565) per jeepney.

This is much higher than the PhP 15,000 (USD 355 at 2012 exchange rates) maximum amount a poor household can receive a year under the government's conditional cash transfer (CCT) program. Moreover, a household beneficiary can only remain under the CCT program for five years, while a jeepney driver can enjoy the excise tax exemption as long as the law on the exemption holds, which is likely to be longer than five years. The jeepney drivers can argue that the subsidy is passed onto their passengers who are mostly from the lower- and middle-income classes; without the subsidy, jeepney fares would be higher.

There is also a need for the government to examine the transportation system, including both infrastructure and traffic management, to lower transportation costs to move people and goods from one point to another in the country. In urban areas, traffic congestion is a major problem that leads to high travel costs in terms of time, fuel wasted and resulting losses in productivity and health damage associated with air pollution. There could also be greater efficiency in transport across different regions of the country. A common complaint is the high transportation and distribution costs that impede the flow of goods within the country.

2.3 SECONDARY ENERGY: ELECTRICITY

The Electric Power Industry Reform Act of 2001 (EPIRA) (Republic of the Philippines, 2001) enacted a restructuring of the power sector of the Philippines. The restructuring is aimed at ensuring competitively priced electricity and the efficient and reliable supply of electricity to end-users by encouraging competition, efficiency and participation of private capital in the industry. Some important features of restructuring include the unbundling of generation, transmission, distribution and retail supply; the privatization of the National Power Corporation (NPC) through the sale of its generation and transmission assets; the elimination of cross-subsidies across customer classes (residential, commercial, and industrial); greater competition in generation and the establishment of the wholesale spot electricity market; the regulation of transmission services and distribution where there are captive customers; and shifting of the regulatory regime for distribution utilities (DUs) from return-on-rate base regulation to performance-based regulation. The full implementation of open access and retail competition was expected by the end of 2013.

Generation and supply are deregulated. To ensure open access and system reliability, transmission and distribution (which retain features of a natural monopoly) are regulated by the Energy Regulatory Commission. To prevent monopolistic practices, the EPIRA provides explicit caps on the volume of electricity that a distribution utility can buy from an affiliated company that is engaged in power generation. Also, a company or related group may not own, operate or control more than 30 per cent of the installed capacity of a grid or 25 per cent of the national installed generating capacity.



In exchange for the national government absorbing USD 200 million of NPC liabilities upon the enactment of the law, the EPIRA mandates NPC to reduce its rates for residential consumers by 30 centavos (around 0.7 of a USD cent) per kWh.²² The law also provides subsidized lifeline rates for marginalized electricity consumers, to be financed within the distribution utility (hence, this can be considered a remaining cross subsidy). The NPC, even after the privatization of its assets, shall continue its missionary function of providing electricity to non-viable areas in the country.

The business sector in the Philippines asserts that a major problem affecting the competitiveness of Philippine industries in the world market is high electricity prices, which have often been cited as a deterrent to foreign direct investment in the country. A study conducted by the International Energy Consultants (IEC) and commissioned by Meralco (the largest privately-owned distribution utility covering the National Capital Region and surrounding areas) found that at the beginning of 2012, the Philippines had the second-highest electricity rates in Asia, and the ninth highest out of 44 international markets (Visconti, 2012; Chanco, 2012).

The IEC study offers the following reasons for the higher relative rates:

1. Other governments subsidize energy. Thailand, Indonesia, Malaysia, South Korea and Taiwan have lower tariffs because of government subsidies, which can take the form of fixing tariffs, selling fuel at below-market rates, and the government shouldering business losses.
2. Fuel costs are high. Over 40 per cent of generation uses coal and oil, which are mostly imported. The prices of domestic sources such as natural gas are tied to international prices.
3. The archipelagic geography of the country makes transmission more expensive. Also, there are economies of scale in having a larger grid.
4. A high dependence on hydro (around 20 per cent) requires a higher reserve margin.
5. The weighted average cost of capital in the Philippines is higher, and loan terms are shorter.
6. There is a cross subsidy in transmission costs, with the higher cost of transmission to consumers in the Visayas subsidized by consumers in the Luzon grid.

The IEC study also recommends that power rates could be lowered by increasing competition in generation through the building of more power plants. A problem that deters entry of new generation players is the lack of access to long-term, large-scale purchase power agreements with creditworthy offtakers. The uncertainties arising from the introduction of retail competition and open access can contribute to the hesitancy of distribution utilities to enter into long-term bilateral contracts with generators.²³ There are also management problems in some of the electric cooperatives (ECs). More importantly, there are about 140 distribution utilities (DUs) in the country,²⁴ some with very small markets, and a generator might have to negotiate bilateral contracts with several distribution utilities. To access financing, potential generators have to have some assurance of being able to sell their output with a revenue stream to cover their investments.

2.3.1 Electricity Pricing

Table 9 illustrates the structure of electricity pricing, reflecting the unbundling of rate components appearing in the monthly bills of end-users. Unless otherwise noted, rate components are based on kWh consumption for the month.

²²As more NPC generation assets are privatized, then the 30 centavo per kWh reduction will be applied to lesser kWh residential consumption since more power will be sourced from non-NPC generation plants.

²³In the Singapore electricity market, the bilateral contracts for power supply are between the generators and affiliated retail supply companies.

²⁴Of the some 140 distribution utilities, about 20 are privately owned and the rest are electric cooperatives or owned by the local government unit.

**Table 9. Structure of electricity pricing in the Philippines**

| Import Duty | Import Duty |
|-------------------------------------|---|
| Generation | |
| Generation charge | Payment to generating companies: NPC, private generators, Wholesale Electricity Spot Market (WESM); the final charge will depend on the generating mix procured by the DU; a DU can have bilateral contracts with generating companies; the generation charge is adjusted monthly. |
| Power Act reduction | PhP 0.30 (0.7 USD cents) per kWh reduction in the electric bill of residential consumers for power purchased from NPC; a provision of the EPIRA (in exchange for the national government absorbing some NPC liabilities at the effectivity of the EPIRA). |
| Transmission | |
| Transmission charge, non-VAT | Payment to the National Grid Corporation of the Philippines, the concessionaire with a 25-year contract to operate the transmission system, with the government retaining legal ownership of the assets; NGCP acts as the system operator; the transmission charge, including the cost of ancillary services, is adjusted annually. |
| System loss charge | Payment for recovery of cost of power loss due to technical and non-technical system loss of the DU; subject to caps set by the ERC (8.5% of total electricity purchased for private DUs; 14% for ECs). |
| Distribution | |
| Distribution charge | Payment for distribution costs. |
| Metering charge | Fixed metering monthly charge plus a metering charge per kWh. |
| Supply charge | Fixed supply monthly charge plus a supply charge per kWh. |
| Subsidies | The following subsidies are financed within a distribution utility. |
| Lifeline rate subsidy | The lifeline rate is the subsidized rate given to marginalized or low-income captive market end-users. For Meralco, the subsidy is given to residential consumers consuming 100 kWh or less a month. |
| Senior citizen subsidy | The Expanded Senior Citizens Act of 2010 (RA 9994) mandates the granting of utility (electricity and water) discounts to senior citizens. |
| Cross subsidy | A reduction in the bill of subsidized customer classes: residential, small industrial, government hospitals and streetlight services; an upward adjustment in the bill of subsidizing customer class; to be phased out under the EPIRA Law. |
| Government taxes | |
| Local franchise tax | Payment to the local government by private utility companies; range: 0.05% to 0.75% of gross revenues. |
| Energy tax on residential customers | Levied on consumption above 650 kWh a month, at PhP 0.10 (0.2 USD cents) per kWh for next 350 kWh, PhP 0.20 (0.5 USD cents) per kWh for next 500 kWh, and PhP 0.35 (0.8 USD cents) per kWh for excess. |
| Value-added tax | 12% rate on generation and distribution charges, including system loss charges; generation using renewable energy is VAT-exempt. |
| Universal charges | Universal charges are non-bypassable charges for mandated purposes and collected from all end-users on a monthly basis by the distribution utilities. |
| Missionary electrification | To cover the costs of providing basic electricity services by the Small Power Utilities Group (SPUG) of the NPC in unviable areas with the ultimate aim of making these operations economically viable. |
| Environmental fund | PhP 0.0025 (0.005 USD cents) per kWh charge to be used for the rehabilitation and management of watershed areas by NPC. |



| | |
|----------------------------------|--|
| NPC stranded debts | PhP 0.00 per kWh; subject to annual true-up filings; a restructuring cost. |
| NPC stranded contract costs | PhP 0.1938 (0.5 USD cents) per kWh; subject to annual true-up filings; a restructuring cost. |
| Equalization taxes and royalties | Not currently collected. |
| DU's stranded contract costs | Not currently collected; a restructuring cost. |

2.3.2 Lifeline Rate Subsidy

The 2001 EPIRA stated that the lifeline rate subsidy was to be implemented for a period of 10 years. In June 2011, the Republic Act 10150 extended the lifeline rate subsidy scheme for another 10 years. The threshold levels and lifeline rate discounts for the different distribution utilities are to be determined by ERC. The lifeline rate structure for Meralco is shown below.

Table 10. Lifeline rate structure for Meralco

| kWh Consumption (a month) | Discount Rate |
|---------------------------|---------------|
| 0–20 | 100% |
| 21–50 | 50% |
| 51–70 | 35% |
| 71–100 | 20% |

A discount rate is applied to the sum of the generation, transmission, system loss, distribution, supply and metering charge components of the residential bills. The PhP 5.00 (~USD 0.12) fixed metering charge of residential customers consuming within 20 kWh is not subject to the lifeline discount. In 2011, Meralco had 4.547 million residential customers, of whom about two million (or 45 per cent) had average monthly consumption of 100 kWh or below and therefore enjoyed the lifeline rate discounts. The average residential monthly consumption in the Meralco franchise area is 180 kWh. More than 300,000 residential customers were consuming up to and including 20 kWh a month and receiving the lifeline discount of 100 per cent. In March 2011, the cost of the lifeline rate scheme to the subsidizing customers in the Meralco franchise area was PhP 0.1463 (0.3 USD cents) per kWh.

Other distribution utilities can have different threshold levels and lifeline rates. Private distribution utilities (PDUs) have higher-income customer bases compared to the electric cooperatives (ECs). Because the lifeline rate subsidy scheme is cross-subsidized within the distribution utility, the PDUs generally have higher threshold levels and larger discount rates. At a monthly consumption of 1 kWh to 20 kWh, the PDUs have discount rates of either 100 per cent or 50 per cent, declining to a range of 5 per cent to 50 per cent for monthly consumption of 50 kWh, and only about half of the PDUs give discounts beyond 70 kWh.

The ECs with lower-income customer bases generally have discount rates ranging from 10 per cent to 60 per cent for monthly consumption of 1 kWh to 5 kWh. This contrasts with rates of either 50 per cent or 100 per cent for PDUs, and very few ECs give discounts beyond 40-kWh monthly consumption. The “poorest” ECs do not give discounts beyond 20 kWh monthly consumption. Under the existing lifeline rate subsidy scheme, the poor in DUs with a higher-income customer base benefit more than the poor in ECs with a lower-income customer base. This indicates that the financing scheme (the cross-subsidization within a DU) should be examined and assessed in view of whether the outcome is desirable for the government—this outcome has been expected, at least by some economists in the academe, even prior to the implementation of the EPIRA.



The ineffectiveness of the lifeline rate subsidy scheme in helping the poor due to its high leakage rate was already noted in an earlier consumer impact assessment of the then-proposed power restructuring bill (Department of Energy, 2012c). If the lifeline rate scheme continues, then there is a need to review the threshold levels below which lifeline rates apply. To minimize leakage of the subsidy to the non-poor and to control the cost of the subsidy shouldered by non-lifeline electricity consumers, the threshold levels must be set low enough that they cover only basic electricity needs of the poor. Threshold levels may be set using information from the Household Energy Consumption Survey undertaken by the National Statistics Office (NSO) in coordination with the DOE.

As mentioned earlier, another weakness of the lifeline rate subsidy scheme is its financing using cross-subsidies within a distribution utility, in contrast to financing using universal charges paid by all grid-electricity consumers or through national government financing paid for by general taxation. As it stands, distribution utilities with higher proportions of the poor in their area are less capable of offering higher lifeline discount rates since they have a smaller higher-income base to shoulder the subsidy. In a hearing at the House of Representatives in 2011, the DOE Secretary Jose Rene Almendras recommended that the existing subsidy mechanism for lifeline rate be modified by removing the burden from the non-lifeline customers within the same distribution utility (“Solons push,” 2011). Specifically, he proposed that the lifeline rate subsidy scheme be incorporated in the *Pantawid Pamilyang Pilipino* Program (4Ps), the government’s conditional cash transfer program. In the *Pantawid Pamilyang Pilipino* Program, the poorest households in the municipalities are identified through the National Household Targeting System for Poverty Reduction. This proposal can address two problems in the existing lifeline subsidy scheme: the high leakage rate because electricity consumption is a weak indicator of poverty, and the disadvantage to distribution utilities with a high proportion of lifeline consumers who have to pass on the cost of the subsidy scheme to a smaller base of non-lifeline consumers. Theoretically, because of the mobility of consumers across local government areas, redistribution programs are best financed by the national government. Alternative financing schemes will require amendments to the EPIRA since the EPIRA mandates that the lifeline rate subsidy scheme be financed within the distribution utilities.

Moreover, the lifeline rate subsidy scheme should be reviewed relative to its objectives. Presumably, the objective of the subsidy scheme is to ensure that the poor have access to electricity services and consume some minimum level of electricity, for example, for lighting and other basic needs identified or set by the regulatory body. Ideally, subsidy schemes should minimize price distortions and operate as income supplements or transfers. The poorest of the poor are unlikely to be connected to grid electricity and therefore cannot benefit from the lifeline rate subsidy scheme. Findings from the field also indicate that high connection charges are a bigger barrier than electricity rates to electricity consumption for the poor.

The government should then focus more resources on facilitating connection to grid electricity (from major grids or mini-grids) rather than lowering rates for those who are already connected. For areas in which it is not economically viable to be served on-grid electricity, the government can pursue its missionary electrification programs and explore renewable energy strategies. By 2009, 100 per cent of barangays within the coverage areas of electric cooperatives had been electrified (National Electrification Administration, 2010). The government has then shifted to sitio²⁵ and household electrification in its extended rural electrification program. In some *barangays*, the use of off-grid small generating sets and solar home systems has been beset by problems of sustainability (systems no longer operational) and limited time of use. The NEA has then embarked on a line enhancement program to construct electric distribution systems to these barangays for connection to the grid.

²⁵A *sitio* is a territorial enclave that forms part of a *barangay*. By year-end 2009, 69 per cent of all sitios within the coverage areas of electric cooperatives has been energized. NEA is targeting an energization level of 90 per cent by 2016 involving 22,749 sitios, and 100 per cent on-grid electrification by 2020. The estimated cost of electrification per sitio is PhP 1 million (~USD 23.6 million).



2.3.3 Senior Citizen Subsidy

The Expanded Senior Citizens Act of 2010 (Republic Act 9994) mandates the granting of a minimum 5 per cent discount on water and electricity for households with senior citizens. A senior citizen refers to any resident citizen of the Philippines aged 60 years or over. Other provisions of the act pertain to the granting of 20 per cent senior citizens discount and VAT exemption on purchases of goods and services, income tax exemption, free health services in government facilities, educational privileges and express lane privileges, among others.

The conditions for the discount on water and electricity include: the meter be registered in the name of the senior citizen; monthly consumption does not exceed 100 kWh for electricity and 30 cubic metres for water; and the privilege is granted per household, regardless of the number of senior citizen residents. Furthermore, RA 9994 mandates the granting of a 50 per cent discount on all electricity, water and telephone consumption for DSWD-accredited senior citizens centres, residential care institutions and group homes that are government-run or operated by non-stock, non-profit domestic corporations taking care of the abandoned, the neglected, the unattached or the homeless. The discounts are applied net of the lifeline discount and are funded through a subsidy to be paid by customers within the distribution utility who do not receive the senior citizen discount or lifeline rate. Under the ERC guidelines, government taxes and universal charges are not subject to the discount.

2.3.4 A Subsidy Project: *Pantawid Kuryente* Project

The *Pantawid Kuryente*²⁶ Project, initiated in June 2008, granted a one-time cash subsidy of PhP 500 (~USD 11) to so-called “marginalized” electricity consumers, residential electricity consumers with consumption of 100 kWh or less of electricity (excluding zero consumption) for the billing period ending May 2008. The one-time cash transfer was an immediate response of the government to rising electricity prices. The objective was to cushion the impact of rising prices of electricity, fuel and other basic commodities on poor households, especially the “poorest of the poor.” The size of the transfer was equivalent to 1 per cent of average annual household income of poor households, or 0.7 per cent of the poverty threshold. The Department of Social Welfare and Development (DSWD), the Private Electric Power Operators Association (PEPOA) and National Electrification Administration (NEA with jurisdiction over electric cooperatives) implemented the program in areas covered by 119 electric cooperatives (ECs) and private investor-owned utilities (PIOUs).

About 6.8 million households benefitted nationwide, and the final budgetary cost to the government was PhP 3.4 billion (~USD 76 million). The project was funded through an allocation from the collection of value-added taxes on oil,²⁷ with initial funding of PhP 2 billion (~USD 45 million) intended for four million households. The leakage rate (i.e., the proportion of the subsidy going to the non-poor) was high, at 72 per cent, as was the exclusion rate (i.e., the proportion of the poor not getting the subsidy), at 43 per cent. These results indicate the ineffectiveness of the project at reaching the target population and suggest that electricity consumption was not a good identifier of the poor (Manasan, 2009).

In the Meralco franchise areas, including Metro Manila, where the project was first implemented in early June 2008, anecdotal evidence indicates that the transaction cost to beneficiaries to obtain the PhP 500 cash subsidy was high, unless we assume that the opportunity cost of time of the beneficiaries is zero or very small. To claim the subsidy, the beneficiaries had to queue at branches of the Land Bank within the Meralco franchise areas, where they had to present their May 2008 bill.

²⁶ In Filipino, *pantawid* means “for use in crossing” and *kuryente* means “electricity.” *Pantawid Kuryente* thus means “to enable to buy electricity.”

²⁷ Hence, the project was also referred to as “Katas ng VAT: *Pantawid Kuryente*,” with “katas ng VAT” meaning “juice of or benefit from the value-added tax.” The project then was implemented to counter the demand of some sectors for the reduction of the 12 per cent VAT rate on electricity.



The queuing at certain collection centres took hours or at most half a day. However, since only the bill had to be presented to collect the PhP 500 in cash,²⁸ an informal market developed at some collection centres wherein some persons advance the cash for a small fee and then these persons would take care of collecting the PhP 500.

As was done outside Metro Manila, where the disbursement was later implemented, the government could alternatively just have ordered the distribution utilities to credit in the next billing period the PhP 500 cash subsidy, since the distribution utilities can identify through their billing records, which are mostly computerized, the households that consume 100 kWh or less a month. Unlike in Metro Manila wherein the subsidy was handed in cash, distribution utilities outside Metro Manila credited the amount to the consumer's account. This could also have been a correction in the disbursement mechanism after the government had seen the problems encountered in the earlier disbursement in the Meralco franchise area. The final cost to the government of PhP 3.4 billion (~USD 76 million) was also 70 per cent higher than the original estimate because of its weak use of information systems embedded in the distribution utilities and underestimation of the number of beneficiary households.

2.3.5 Promoting Electric Tricycles: Electric Tricycle (E-Trike) Project

The tricycle, a motorcycle with a sidecar on a third wheel, is a Filipino transport vehicle, adaptable to both urban and rural settings. The tricycle can drop off passengers at their exact addresses and fits narrow streets. Tricycles are thus used on narrower roads where jeepneys and buses do not operate. When compared on a per-kilometre basis, tricycle fares are higher than jeepney fares, with jeepneys plying approved routes only. There are approximately 3.5 million tricycles with conventional combustion engines, usually in the range of 50cc to 125cc, operating in the Philippines (Asian Development Bank [ADB], 2012b).

To reduce air pollution caused by vehicular emission, especially in urban areas, the DOE promotes the development and use of electric vehicles as an alternative mode of transport. In 2012, the DOE launched the Electric Tricycle (E-Trike) Project that involves the adoption and shift to 100,000 electric tricycles in the country, initially in key cities, provinces and tourist areas. There was an earlier pilot project (launched in April 2011, financed by a USD 110,000 grant from the ADB to the City of Mandaluyong) which covered 20 units of locally made e-trikes equipped with lithium ion batteries.

Under the first phase of the project from 2012 to 2013, 20,000 e-trikes were to be distributed to operators in Metro Manila, Boracay, Puerto Princesa, Cabanatuan City and Davao City. The project was to be implemented by local government units (LGUs) through a rent-to-own program, with funding to be provided by a USD 300 million loan facility from the ADB, co-financing by the Clean Technology Fund (CTF) through a USD 105 million loan and counterpart funding of the Philippine government of USD 99 million. Total project cost would then be USD 504 million. The LGUs may adapt the design of the e-trikes to their localities. Participating LGUs will be evaluated on their credit-worthiness by the state-owned Land Bank, the receiving agent for the payments.

²⁸It is not clear if an identification requirement – the matching of the identity of the claimant and name in the bill – was strictly enforced. Anecdotal evidence indicated it was not.



The project runs from 2012 to 2016. The benefits of the project, as enumerated by the DOE, are:

- 1. Increased daily net take-home income of tricycle drivers** due to savings in fuel and reduced maintenance costs. Compared with gasoline-fed tricycles that are driven by internal combustion engines, e-trikes are driven by motors that require less maintenance.
- 2. Economic benefits from fuel savings or avoided costs on the importation of fuel.** To travel 100 kilometres, a conventional tricycle needs 5 to 7 litres of gasoline, costing 250 to 400 pesos. An e-trike needs 3 to 5 kWh of electricity, costing around 40 to 60 pesos. These fuel savings can help pay for the rent of the e-trike.
- 3. Positive impact on the environment and health** through the reduction of noise and air pollution. Using up to 75 per cent of their energy to power the vehicle, electric vehicles are more efficient than most internal combustion engines that use up only about 20 per cent of their energy to power the vehicle (ADB, 2012b). The e-trike produces no noise and zero tailpipe emissions. They can be charged during off-peak electricity hours. Lithium ion batteries instead of lead-acid batteries will be used and will be provided through a battery-leasing mechanism with a minimum 3-year or more warranty on batteries. The leasing mechanism is designed to shift the risks of a faulty battery to the battery manufacturer.
- 4. Creation of additional domestic jobs** through the domestic assembly and fabrication of electric tricycles and other related services. The locally designed and produced e-trikes are expected to sell in the USD 4,000 to USD 5,000 range.

Some civil society groups that prefer renewable energy projects have objected to the e-trike project (“Groups protest,” 2012). Initially, the DOE was planning for ADB funding of a USD 500 million solar project involving residential rooftop solar panels with a projected capacity of 100 MW. According to the DOE, since then, the installed solar capacity target has been lowered to 50 MW and there has been increased interest in private sector participation in solar energy. The civil society groups see the e-trike project as a “fund diversion” from renewable energy projects, done without the proper consultations with civil society and NGOs. Another concern is the fact that the generation of electricity uses fossil fuels. Some civil society groups also suspect the government of using the project for political patronage in preparation for the 2013 elections. The foreign currency loans will be re-lent to the LGUs to finance the rent-to-own scheme, and the LGUs will thereafter collect the rental payments to be remitted back to the national government.

There have also been pilot projects for electric jeepneys (e-jeepneys) in the Philippines. The first green route for e-jeepneys started operations in Makati, where the premier financial district of the country is located, in 2009 (“Bulacan E-Trike to get,” 2010). As of 2012, there were about 600 e-jeepneys providing shuttle services in urban areas in the country.



3.0 Reforms in the Energy Sector in the Philippines

The Philippines has undertaken major reforms in the downstream oil industry and the electricity sector. The downstream oil industry is now deregulated, and the electricity sector has been undergoing restructuring, transforming the sector such that generation and supply are competitive and transmission and distribution with captive consumers are regulated. The reforms have also been undertaken during a period wherein the country embarked on trade liberalization. Currently tariffs are generally low,²⁹ except for some “politically” sensitive agricultural products such as rice.

The major impetus for reform programs in the downstream oil industry and the electricity sector has been the need to improve efficiency in the sectors by introducing competitive pricing and address the problem of unsustainable losses incurred by the national government in the operation of the Oil Price Stabilization Fund and the National Power Corporation through the privatization of government assets. Therefore, the deregulation of the downstream oil industry and the restructuring of the power industry are primarily efficiency-enhancing programs. Though there are some equity or income redistribution considerations in the power sector restructuring law (such as the inclusion of the lifeline rates, missionary electrification and assistance to electric cooperatives that serve poorer communities) the provisions are supposed to be transitional to help disadvantaged groups adjust during the restructuring process. The major thrust of the national government scheme for social protection is the conditional cash transfer (CCT) program called *Pantawid Pamilya Pilipino* Program,³⁰ also known as the “4Ps.”

3.1 REFORM IN THE DOWNSTREAM OIL INDUSTRY

3.1.1 Before the Deregulation of the Downstream Oil Industry

The downstream oil industry covers the importing, exporting, shipping, transporting, processing, refining, storing, distributing, marketing and selling of crude oil, gasoline, diesel, liquefied petroleum gas, kerosene and other petroleum products (Republic Act 8479). Before the oil crisis in the early 1970s, the structure of the downstream oil industry in the Philippines was generally competitive with industry players setting their own prices without prior government approval. There were four refiners: Bataan Refining, Filoil, Caltex and Shell; and six marketing companies: Esso, Filoil, Caltex, Getty, Mobil and Shell (Lee, 2000).

In response to the start of the oil crisis, the government created the Oil Industry Commission and price regulation was introduced. In 1973, the government formed the Philippine National Oil Company (PNOC) by acquiring Esso and Filoil. By 1985, the industry had just three companies: Caltex, which acquired Mobil; Shell, which acquired Getty; and PNOC. There were 4,860 gasoline stations in 1972 (Lee, 2000).

The Oil Price Stabilization Fund (OPSF) was an early attempt to stabilize domestic prices of petroleum products. It was created by Presidential Decree 1956 (PD 1956) issued by then-President Marcos (during the martial law regime) on October 15, 1984. The establishment of the OPSF and its price stabilizing mechanism occurred in response to the rising world prices of oil and the peso devaluation.

²⁹With the exception of certain articles which can be imported duty free, ordinary import dues range from 0 per cent to 30 per cent under the Most Favoured Nation (MFN) treatment applicable to imports coming from non-ASEAN members, and from 0 per cent to 5 per cent under the Common Effective Preferential Tariff (CEPT) Scheme applicable to goods originating from ASEAN members and included in the CEPT Scheme (National Tax Research Center. n.d.).

³⁰*Pantawid Pamilya Pilipino* roughly translates to “to provide bridge assistance to the Filipino family.”



During the 1983–1985 period, toward the end of the martial law regime, the Philippines experienced an external debt-related foreign exchange crisis and real GDP declined by 15 per cent (Bautista, 2003). As a result, GDP growth in the Philippines in the 1980s slowed and lagged behind other developing countries in Southeast Asia. The crisis was due to the large accumulated external debt resulting from the government’s response to external shocks beginning with the 1973-1974 oil crisis. Foreign borrowings had been used to finance current account deficits and an expansionary macroeconomic policy. The Philippine peso was devalued three times: in June 1983 by 7.8 per cent to PhP 11.00 per USD; in October 1983 to PhP 14.00 per USD; and in June 1984 to PhP 18.00 per USD. The exchange rate regime reverted to a managed float in October 1984.

The OPSF absorbed the difference between the fixed selling price and the cost incurred by oil companies in importing crude oil. Hence, changes in the world price of crude oil and the foreign exchange were not immediately reflected in domestic prices. Also, there was cross-product subsidization, with diesel cross-subsidized by gasoline, thus encouraging greater diesel consumption. Price adjustments required prior public hearings so oil companies experienced delays in margin recoveries. The existence of a regulated regime discouraged new investments and therefore reduced competition.

Under a “revolutionary government” regime after martial law ended with the removal from office in February 1986 of President Marcos, President Corazon Aquino amended the operation of the OPSF in February 1987 through Executive Order No. 137 (EO 137). Recognizing that declines in crude oil prices should be passed on to the consumers, EO 137 added the following source of funding: any peso cost differentials in case the actual peso costs paid by oil companies in the importation of crude oil and petroleum products is less than the peso costs fixed by the Board of Energy.

In the same year, May 1987, President Corazon Aquino created the Energy Regulatory Board (ERB) through Executive Order 172. The ERB took over the functions of the Oil Industry Commission and was tasked to “fix and regulate” the prices of petroleum products upon proper notice and hearing. Under the ERB, prices were then fixed by the state and players were assured of full recovery of cost plus an acceptable rate of return. Domestic price adjustments occurred once or twice a year with the OPSF absorbing world oil price and peso fluctuations.

Administered by the Ministry of Energy, the OPSF served as a buffer fund that paid for the difference to the oil companies when the world market price was higher than the set domestic price, and replenished when the world market price was lower than the set domestic price. During periods of rising oil prices in the world market and increases in the peso exchange rate, domestic prices of petroleum products were below levels that would have resulted under market-driven price determination and oil firms then have to be reimbursed for the cost increases. The ERB did bi-monthly reviews, using the actual cost of crude purchases of the oil companies for the preceding two months, to determine charges against or withdrawals from the OPSF, or contributions or credits to the OPSF, as the case may be. The OPSF was also used for cross-subsidization among petroleum products. Gasoline and jet fuel subsidized diesel, kerosene, bunker fuel and LPG.

The OPSF was depleted during the large spikes in crude oil prices during the Iraqi invasion of Kuwait in 1990. From early 1995, the OPSF was chronically short of cash and the budget-constrained government could no longer afford to subsidize the fund. Compounding the problem were political considerations that accompanied domestic price adjustments. Price increases were hindered by the May 1995 elections and the national rice shortage in October 1995. During an 18-month period, there were only two price increases—August 1994 and February 1996—and the price adjustments were not sufficient to make up the shortfall of the OPSF; the government-owned Philippine National Oil Company (PNOC) paid PhP 10 billion (USD 381 million, 1996 dollars) to bail out the OPSF.



The OPSF was a major contributor to the government deficit and public debt, having received PhP 17.6 billion (USD 671 million, 1996 dollars) in subsidies from 1990 to 1997 (Beltran, 2011). In addition, the OPSF was a cause of friction between the government and the three big oil companies (Petron, Shell and Caltex), partly due to the time and other resources required to deal with the regulatory bodies.

3.1.2 The Deregulation of the Downstream Oil Industry

The Downstream Oil Industry Deregulation Act of 1996

A precursor to the more encompassing 1998 deregulation law, the Downstream Oil Industry Deregulation Act of 1996 (Republic Act [RA] 8180) was signed by President Ramos in March 1996. The downstream oil industry was the last of the sectors to be deregulated under a program of opening up the Philippine economy to market forces undertaken by the government of President Ramos. Other sectors liberalized earlier were banking, aviation, shipping, mining and telecommunications.

Some salient provisions of the oil deregulation law were:

1. Import liberalization for crude oil and petroleum products and liberalized entry of foreign direct investments in the downstream oil industry. The law states that any person or entity may import or purchase any quantity of crude oil and petroleum products from a foreign or domestic source, lease or own and operate refineries and other downstream oil facilities, and market such crude oil and petroleum products.
2. Reportorial and other compliance requirements. For monitoring purposes, persons or entities engaged in activities covered by the liberalization of the downstream oil industry must give prior notice of such activities to the DOE and report to the DOE exportations and importations made. All importations shall comply with the Basel Convention governing the trade of hazardous and toxic waste across borders. Furthermore, the notice to the DOE does not grant exemption from securing certificates of quality, health, safety and environmental clearance from the appropriate government agencies.
3. Preferential tariff. The law stated that tariffs would initially be levied at a tariff rate of 3 per cent on imported crude oil, fuel oil and LPG; and 7 per cent on other imported refined petroleum products. From January 1, 2004, the law set out that the tariff rate on imported crude oil and refined petroleum products should be the same.
4. Minimum inventory requirement. For security of supply, the DOE shall require refiners and importers to maintain a minimum inventory requirement of 10 per cent of their respective annual sales volume, or 40 days' supply, whichever is lower.
5. Promotion of fair trade practices, including the prevention of cartels and monopolies. A prohibited act under the 1996 deregulation law is predatory pricing, which the law defines as "selling or offering to sell any product at a price unreasonably below the industry average cost as to attract customers to the detriment of competitors."

During the six-month transition phase to full deregulation, an ERB-approved automatic pricing mechanism, providing for monthly adjustments, was put in place with an OPSF subsidy of PhP 1 billion (~USD 38.1 million, 1996 dollars). Any price increase beyond PhP 0.50 (1.9 USD cents) per litre was to be charged against the OPSF. Upon full deregulation, any outstanding claim against the OPSF was to be transferred to the national government.



In 1997, the Asian financial crisis started and the depreciation of the Philippine peso from PhP 28 per USD to PhP 40 per USD raised the peso prices of imported crude oil, which were reflected in higher pump prices. Some lawmakers, who saw the rising pump prices as a failure of RA 8180 (the deregulation law), filed a suit with the Supreme Court seeking repeal of RA 8180 on the grounds that it was unconstitutional. On November 5, 1997, the Supreme Court struck down RA 8180, finding the following provisions as barriers to entry and encouraging anti-competitive behaviour, and therefore violating the constitutional prohibition against monopolies and combinations in restraint of trade:

1. The 4 per cent tariff differential between crude oil and refined products;
2. The minimum inventory requirement; and
3. The predatory pricing definition.

The 4 per cent tariff differential between crude oil and refined products and the minimum inventory requirement were deemed by the Supreme Court to favour the major oil companies—Petron, Shell and Caltex—who had existing refining and storage facilities. Without the tariff differential, some potential market entrants may choose to import refined petroleum products rather than invest in building refineries and storage facilities at a prohibitive cost. The Supreme Court deemed the validity of the ban on predatory pricing to be interlocked with the barriers imposed by the 1996 deregulation law on the entry of new players.

The provisions the Supreme Court found anti-competitive were remedied, and a revised deregulation law, Republic Act 8479 (RA 8479), was quickly passed by the legislature the following year. The preferential tariff provision was changed by the 1998 deregulation law to equal tariff treatment of imported crude oil and refined petroleum products at a tariff rate of 3 per cent, subject to automatic adjustments to comply with WTO (World Trade Organization) and ASEAN (Association of Southeast Asian Nations) Free Trade Area commitments. This provision removes the bias between local refining of crude oil and importing refined petroleum products. It also allows for the tariff to be lowered at the discretion of the President of the Philippines.

The minimum inventory requirement was removed in the 1998 deregulation law, which merely requires importers, refiners and marketers to submit monthly reports to the DOE of their actual importations, local purchases, sales, consumption and inventory on a product basis. The definition of predatory pricing was modified by the 1998 deregulation law to: “selling or offering to sell any oil product at a price below the seller’s or offeror’s average variable cost for the purpose of destroying competition, eliminating a competitor or discouraging a potential competitor from entering the market” with the further qualification that “pricing below average variable cost in order to match the lower price of the competitor and not for the purpose of destroying competition shall not be deemed predatory pricing” (Republic of the Philippines, 1998, p.4).

3.1.3 The Downstream Oil Industry Deregulation Act of 1998

On February 10, 1998, the Downstream Oil Industry Deregulation Act of 1998 (RA 8479) was signed, also by President Ramos. The declared policy is “to liberalize and deregulate the downstream oil industry in order to ensure a truly competitive market under a regime of fair prices, adequate and continuous supply of environmentally-clean and high-quality petroleum products” (RA 8479).

The deregulation involved the shift to competitive pricing of petroleum products, encouraging competition and private investments in the sector, including foreign direct investments, and removing the cross-product subsidizing of diesel by premium gasoline. The deregulation meant the lifting of government control on oil prices, and the removal of restrictions on the establishment and operation



of facilities and the import and export of crude oil and petroleum products. The law has provisions on the granting of Board of Investments (BOI) incentives to new investments, the promotion of fair trade practices including the prohibition of cartelization and predatory pricing, and assigning the major monitoring function to the DOE.

The deregulation of the downstream oil industry was done in two phases. The first phase was the transition phase wherein oil importation was liberalized and the automatic pricing mechanism was implemented. The automatic pricing mechanism set the posted wholesale prices of petroleum products using a market-oriented formula, with adjustments not needing notices or hearings. The second phase, to start five months after the law came into effect, was the full deregulation phase wherein oil price setting was abolished.

3.1.4 The Closure of the Oil Price Stabilization Fund (OPSF)

With the effect of the 1998 deregulation law, all outstanding claims against the OPSF were transferred to the national government. When the downstream oil industry was deregulated in 1998 and the OPSF abolished, the government was left with PhP 2.6 billion (~USD 64 million) in claims by the “Big Three” oil companies: Petron (PhP 1.1 billion [~27 million]), Pilipinas Shell (PhP 1.0 billion [~USD 24 million]) and Caltex (PhP 491.8 million [~USD 12 million]). The government settled the claims the following year, August 1999, through tax credits issued to the oil companies. The settlement of the remaining claims of the oil companies against the defunct OPSF thereafter improved the government’s fiscal position since taxes from oil companies were thereafter remitted directly to national coffers instead of being offset by tax credits.

3.1.5 Opposition to Downstream Oil Industry Deregulation

There have been persistent calls for review of the downstream oil industry deregulation in the face of rising oil prices in the world market. The contention of progressive groups in the Philippines is that the oil deregulation law, the 12 per cent value-added tax on petroleum, and the profiteering of oil firms cause high prices at the pump.

The oil industry is a sensitive sector in the Philippines because of the impact of oil prices on the prices of essential commodities and services, including transportation. On the one hand, through promoting competition, the oil industry deregulation pushes down the domestic prices of petroleum products. On the other, some have claimed that the deregulated market has not been properly policed, with charges of cartel-like behaviour among oil industry players: that, “Shell, Caltex and Petron and the new oil players used the rising prices of crude oil in the world market as a convenient excuse to hike their prices,” overpricing of diesel and gasoline for more profits (Escanlar, 2005). Others argue that competition will not do enough to address the problem of high prices, since high oil prices can be a global phenomenon.

3.1.6 Independent Reviews of the Downstream Oil Industry Deregulation: 2005, 2008 and 2012

Since deregulation there have been a number of reviews of the downstream oil industry. The reviews undertaken in 2005 and 2012 have sometimes been seen as moves to appease transport groups and other consumer groups complaining about rising oil prices.³¹ These groups have expressed the view that rising oil prices in the country indicate a failure of the deregulation law, which should therefore be repealed. If true, this would imply that deregulation has failed to introduce sufficient competition in the market. For some, though, the perceived failure of deregulation is anchored on the premise that deregulation should bring about lower local oil prices.

³¹In 2008, an independent review of the “reasonableness” of the prices of Petron and Shell was done for the DOE jointly by SGV, a local accounting firm, and the University of Asia and the Pacific. The results of the 2008 review are not discussed in depth in this report.



Some counter that the deregulation law aims instead for competitive and fair pricing, and not necessarily low oil prices. Some of those who favour the downstream oil deregulation law assert that whether the country has a “regulated” regime (as before 1998) or a deregulated regime, local oil prices have to rise because global oil prices are rising and the Philippines is highly dependent on imported oil.

2005: Independent Committee Review of the Downstream Oil Industry Deregulation Act of 1998³²

In 2005, an independent committee to review the downstream oil industry deregulation law was formed by the DOE. The committee focused on determining

1. If the main cause of the oil price increases was the deregulation of the downstream oil industry.
2. If there are measures or alternatives available to lower prices.
3. If it would be better for the country to repeal the deregulation law.

Some of the Review’s major findings are given below.

- 1. On prices:** Theoretical deregulated prices, based on assumed shares in the cost components (crude oil/product cost, taxes and duties, refinery and marketing costs and profit margin markup, dealer costs and profit margin), are higher than the actual pump prices of gasoline, diesel, kerosene and LPG. Charges of collusion arise because gasoline stations charge similar prices and adjust their prices almost simultaneously within the same day. Prices tend to be identical across gasoline stations because of competition and the homogeneity of the products with minimum quality and performance standards.³³ There is no evidence of cartels.
- 2. On price adjustments:** Local oil companies do not adjust their prices as fast as the Mean of Platts Singapore (MOPS), the benchmark for refined petroleum products. Oil firms also consider the possible reactions of consumers to price changes, especially price increases. Oil firms then tend to increase prices in small frequent increments. During periods of declining world oil prices, there is also a time lag in reducing local oil prices to recapture past losses.

The report also notes that increases in local pump prices of unleaded gasoline and diesel over the 1998–2005 period, that is, relative to prices at the start of the deregulation, are less than the corresponding changes in the MOPS and Dubai crude. The review committee attributes the smaller price change in local pump prices to greater competition from the new industry players. The changes are summarized in Table 11.

Table 11. Changes in price 1998–2005

| | Percentage change in price (March 1998–April 2005) | |
|-------------------|--|-------------------|
| | Local pump prices | MOPS-based prices |
| Unleaded gasoline | 168% | 393% |
| Diesel | 236% | 498% |

³²Unless otherwise stated, the review itself (Independent Review Committee, 2005) is the primary source of information reported in this sub-section, including in Table 11.

³³There can be price variation if there is some product differentiation such as with higher-end premium gasoline products, Blaze for Petron and V-Power for Shell, with performance-enhancing features above minimum standards.



- 3. Returns to oil companies:** Under the regulated regime, oil companies were guaranteed a fixed rate of return: 8 per cent of the base rate. Over the period reviewed (1998–2004), under the deregulated regime, the oil majors (Petron and Shell) were making money but less than the 91-day Philippines T-bill rate. Based on the financial statements of Pilipinas Shell and Petron, their return on equity (ROE) averaged 3.0 per cent and 3.69 per cent, respectively, which is below the average T-bill rate of 6.97 per cent. In 2004, data from the Philippine Securities and Exchange Commission show that some of the larger firms in the Philippines have high ROE in the range of 20 per cent to 40 per cent. Some of the newer oil players who are importers of refined petroleum products, including Total and PTT, showed a loss in their financial statements under the deregulated regime. From 1998 to 2004, Total and PTT Thailand showed losses of about PhP 2 billion (~USD 35.6 million, 2004 dollars) and PhP 4 billion (~USD 71.3 million, 2004 dollars), respectively.
- 4. Oil subsidy:** The OPSF would be difficult to implement when there are many players in the industry. There is the risk of “hit-and-run” players who enter the market assured of withdrawals from the OPSF during periods of high and rising oil prices, and exit during low and declining oil prices, thus not contributing to the OPSF. The OPSF would be easier to implement if there are a few players willing to stay in business and contribute to the fund when needed.

In addition to the distortion in relative prices and the negative effects on fuel conservation and efficient use, the government faces financial constraints in supporting the operations of an OPSF. Estimates of the review committee for 2005 were:

- a. If diesel were pegged at PhP 18.70 per litre (the price when the Land Transportation Franchising and Regulatory Board [LTFRB] granted fare increases in May 2004) the annual subsidy would have been PhP 18 billion (~USD 327 million) by the end of April 2005, given the actual average pump prices of diesel and the actual volume sold in retail stations for the said period.³⁴
- b. If the government shouldered the PhP 1 per litre discount for diesel given by oil companies for the first four months of 2005, the subsidy would have been about PhP 1.5 billion (~USD 27.2 million) for the transport sector.³⁵

The review committee did not recommend re-establishing an OPSF. It stated: “. . . the committee recognizes the need to alleviate the poorest sectors of society and some social action needs to be made. [...] However, this is a function of another branch of government and not the DOE’s.”³⁶

- 5. Competition:** Deregulation facilitated the entry of more players in the downstream oil industry, and competition brought prices lower in the sense that the theoretical deregulated prices, based on assumed shares of the cost components (oil company take, other costs such as duties and taxes, crude cost, etc.) are much higher than the actual pump prices of gasoline, diesel, kerosene and LPG.

³⁴The estimated subsidy cost of PhP 18 billion could be an underestimate, since the consumption volume used to estimate this figure is the actual volume sold at current prices. If prices were subsidized, it is likely that consumers would purchase higher volumes of fuel, increasing the total costs of subsidization.

³⁵This translates to an annual subsidy of PhP 4.5 billion (~USD 111.7 million).

³⁶A similar view has been expressed in the discussion of admission of poorer students to the University of the Philippines (Diliman). Some faculty members want to see a greater proportion of students from lower-income classes in the university. These students usually come from the public educational system that is of poor quality and the students therefore do not perform well in the college admission tests. The issue is to what extent the university should engage in affirmative action without compromising the quality of university education. One faculty member commented that the university is not the Department of Social Welfare and Development.



- 6. Enforcement:** A problem in the downstream sector is poor enforcement of industry standards on facilities and product quality, including substandard service stations and outlets, smuggled products in the market, and unsafe LPG practices (tampering of cylinders, underfilling, fake cylinders and seals, etc.). The committee concluded that there was a need to enhance the capability of the DOE to enforce regulations on standards, safety and fair trade.

The 2005 Independent Review Committee concluded that the increases in the local prices of petroleum products were not due to the failure of the deregulation law but because of rising prices of oil in the world market and foreign exchange movements. The committee did not recommend the reestablishment of an oil price stabilization fund to lower consumer oil prices or the repeal of the 1998 downstream oil industry deregulation law.

2008: Independent Oil Price Review³⁷

In 2008, an independent review of the “reasonableness” of the prices of Petron and Shell was done for the DOE jointly by Sycip, Gorres & Velaya (SGV), a local accounting firm, and the University of Asia and the Pacific (UA&P). The findings of this review committee were similar to those of the 2005 review committee. The findings were: local prices did not increase as fast as world oil prices; the margins of oil companies have probably decreased since deregulation; ROE figures for Petron and Shell appeared reasonable compared to benchmark interest rates; and the stock price of Petron did not reflect extraordinary profits by the company.

2012: Independent Oil Price Review³⁸

In 2012, the DOE again formed another independent review committee in response to the public clamour for greater transparency in the pricing of fuel and charges of excessive profits by oil companies amid rising prices of gasoline and diesel prices. The 2012 review committee was tasked “... to determine if oil companies accumulated excessive profits and if they were guilty of unfair pricing to the detriment of the public.” The review committee did the analysis using three approaches:

1. **Regression analysis** was used to determine the extent to which local pump prices of unleaded gasoline 93-octane and diesel in Metro Manila tracked world oil prices. The movement of local prices was also compared to those of Thailand.³⁹
2. **Project finance modelling** was used to determine the rates of return of oil companies belonging to the Philippine Institute of Petroleum⁴⁰ who provided financial information to the review committee. The rates of return for the oil companies were then compared to government bond rates and the rates of return in other industries.
3. **An Excel-based predictive model** named Oil Pump Price Calculation Model (OPPC Model) was developed to calculate gasoline and diesel prices using MOPS and information on various fees and taxes on oil products. An indicator of “unreasonable prices” would be when actual prices are higher than those predicted by the OPPC Model.

³⁷Unless otherwise stated, the review itself (SGV & UA&P, 2008) is the primary source of information reported in this sub-section.

³⁸Unless otherwise stated, the review itself (Independent Oil Price Review Committee, 2012) is the primary source of information reported in this sub-section.

³⁹The comparison is complicated by the presence of large fuel subsidies in Thailand.

⁴⁰Members of the Philippine Institute of Petroleum are Chevron (Philippines), Liquegas Philippines, Petron, PTT Philippines, Pilipinas Shell Petroleum and Total (Philippines).



The major findings of the 2012 review committee are summarized below.

1. Under the deregulated regime, there is greater responsiveness of local pump prices (represented by Metro Manila prices) to world oil prices (represented by MOPS) and the ratio of local pump prices to world oil prices is lower and less volatile. These are desirable outcomes and support the continuation of the deregulated regime.
2. With respect to adjustments of local prices to changes in the world price of oil, generally the responses of local pump prices have been symmetrical between periods of world oil price increases and decreases. However, for the recent period July 2010 to June 2012, there is statistical evidence that oil firms changed local prices by slightly less during episodes of world price decreases compared to episodes of world price increases, controlling for the magnitude of change in world prices. The DOE may further examine this finding on asymmetric response.
3. Distance is an important factor in explaining differences in regional pump prices. To lower transport and handling costs, the government should invest in infrastructure that can lower logistical costs, such as roads, bridges, ports and traffic improvements.
4. Pump prices are lower in areas where there are more retail stations. The DOE then should explore ways to facilitate entry of new players, such as funding common terminal depots, particularly in areas deemed to have weak competition.
5. There are problems on the enforcement of quantity and quality standards in some areas. Part of the problem can be possibly due to smuggling of refined oil products that escape the stricter quality controls of established local oil firms. Regular calibration of dispensing pumps must also be done. These problems have to be addressed by the DOE and the Department of Finance through the Bureau of Customs and the Bureau of Internal Revenue. The role of local government units, such as municipal and city governments, in monitoring and enforcement of quality and quantity standards for oil products must also be clarified.
6. Based on the comparison of the return on equity (ROE) and internal rates of return (IRR) of oil companies with those of other industries and with risk-free government securities, the 2012 review committee found that the oil companies' profits are reasonable. For the three major oil companies, the estimated average ROE at 13 per cent during the deregulated period 1998–2011 was lower than the average ROE at 23.3 per cent during the 1994–1996 period, before deregulation.
7. Using the OPPC model to predict retail prices of gasoline and diesel, the 2012 review committee found no evidence of overpricing of PhP 8 (USD 0.18) per for diesel and PhP 16 (USD 0.37) per litre for unleaded gasoline, as claimed by some consumer groups.
8. During both the pre-deregulation and the deregulation periods, the oil companies' gross margins for diesel were consistently lower compared to unleaded gasoline.⁴¹

⁴¹The 2012 review committee interpreted this finding as indicating "oil companies are cross-subsidizing diesel from their higher gasoline margins to sustain their operations." However, economic theory does not seem to say that firms must equalize profit margins across various products for profit maximization. When markets are segmented, as is the case when there is lack of substitutability between diesel used by public transport vehicles and unleaded gasoline that tends to be used by higher-income private car owners, the oil companies may be facing different demand curves for diesel and unleaded gasoline. In fact, we observe large multiproduct firms, such as car companies and food companies, having different profit margins across product lines. Even in supermarkets, it is not expected that profit margins will be equal across grocery items. Along the same lines of reasoning, in the problem of choosing projects given a budget constraint, it is not necessary that the chosen projects have equal cost-benefit ratios but what is to be maximized is the net present value.



In summary, the 2012 review committee supports the continuation of the deregulation of the downstream oil industry. Other recommendations of the committee are as follows.

1. **The government should resist subsidizing fuel consumption** for reasons of transparency in pricing, fiscal responsibility, and subsidies crowding out resources that would otherwise be spent on better alternative uses such as infrastructure, education and health.
2. **The government should consider the deregulation of the land transport sector** since, under the current regime, fares do not automatically adjust to changes in fuel prices and the public transport sector absorbs the full impact of fuel price increases prior to changes in regulated fares. A suggestion is an automatic, monthly, fare-setting mechanism that can respond to fuel price changes.
3. **The monitoring and enforcement functions and capabilities of the DOE should be strengthened.** Furthermore, the DOE should further study ways to introduce and foster competition in the downstream oil industry. An example of where the government can step in is providing infrastructure facilities such as common terminal depots to encourage entrants to areas where competition is weak.

3.1.7 What, If Not Deregulation?

The major proposals of the critics of the oil industry deregulation are the restoration of the OPSF and the nationalization of the downstream oil industry. Some other variants of the reform proposals put forward by cause-oriented groups include a centralized procurement system of imported oil and mechanisms for regulating pump prices.

Proposal to Restore the OPSF

With the upward trend (and volatility) of the world price of oil and the price spikes in 2008, some transport and consumer groups have proposed the reestablishment of the OPSF. Their view is that an oil price stabilization fund, with government control over petroleum prices, would lower the prices they face when the world price of oil is rising. Under the deregulated regime, the government does not set the prices of petroleum products; however, the Department of Energy (DOE) actively monitors domestic oil price movements to ensure that price adjustments are “reasonable and consistent” with the movement of oil prices in the world market.*

The current president, President Benigno Aquino Jr., has expressed his opposition to the proposal because of the large amount of government funds, estimated at USD 2 billion, to operate the fund (Alonzo, 2011). The National Tax Research Center (NTRC), commenting at the request of the Senate Tax Study and Research Office (STSRO), rejected the proposal of re-establishing the OPSF, giving the following reasons: the effect of the subsidy scheme on the public sector deficit; the government’s fiscal position would have been worse today if the OPSF was not abolished by the deregulation law; the increase in domestic oil prices is not due to the deregulation law not working but rather due to increases in the world market price of oil and foreign exchange movements, and because the Philippines is a net energy importer it feels the effects on domestic prices immediately; the OPSF would introduce price distortions that would encourage inefficient use of fuel; other problems, such as leakage rates, of fossil fuel subsidy schemes; and the need to explore other social assistance schemes to help the poor.

*Before the deregulation of the downstream oil industry, the Energy Regulatory Board (ERB) as the regulatory body had the task of setting prices of petroleum products. With the deregulation, the ERB was left with the function of fixing electricity rates for the National Power Corporation and the distribution utilities. With the passage of the Electricity Power Industry Restructuring Act (EPIRA) in 2001, the ERB was replaced by the Energy Regulatory Commission (ERC) as the regulatory body for the power sector.



Critics of the proposal see restoring the OPSF as meddling with market forces. The proposal to restore the OPSF has been described as a demand to “repeal the law of supply and demand” (Magno, 2011). Arguments against the proposal are:

- The Philippines is dependent on imported fossil fuels whose prices are set in the world market and affected by supply and demand conditions and political factors in the producing countries. There is difficulty in predicting future prices of oil and, with the volatility of oil prices, the price behaviour of oil in world markets leads to problems in setting the “appropriate prices” under a regime of price controls and ensuring that, over the longer term, the stabilization fund is not in deficit, especially when the long-term trend of oil prices is rising.
- The experience from the previous Oil Price Stabilization Fund is that it worked as a mechanism granting across-the-board subsidies, with the general population as beneficiaries, for petroleum products. The financing of the OPSF had led to an increase in government debt and fiscal management problems. Moreover, economic inefficiencies were induced since prices set lower than market-determined prices encouraged greater use of petroleum products, and the issuance and payment of the government debt diverted money away from economic investments by both the private and public sectors, including infrastructure, health and educational investments and other more targeted social safety net programs, to finance fuel consumption.
- The major practical deterrent to restoring the OPSF is the lack of government funds to sustain the OPSF, especially when oil prices are rising and volatile.

A critique of the proposal restoring the OPSF has been succinctly expressed by Raul Fabella (2011), a noted Filipino economist:

The OPSF means to address two market failures: (1) the social cost of the price volatility of the fuel price and (2) the abuse of market power by oil companies, or both. The micro-theoretic argument for price stabilization is compelling: Set the pump price of fuel according to the long-run average price of petroleum, accumulate reserves when the current petroleum price is less than the long-run average, decumulate reserves when the current price is higher than the long-run average and the expected balance of the reserve equals the seed fund made available initially. When the conditions are right, the OPSF erases pump price volatility stemming from global petroleum price fluctuations around the mean. It is the closest you come to value for nothing! In reality, the proper implementation of OPSF requires some very difficult conditions. First, the government has to know the long-run average which involves accurate forecasting of petroleum prices. If this is too low, the OPSF becomes a general pump price subsidy as the fund goes in the red. The government also has to know when there is a regime shift (a rise, say, in the long-run average) and to adjust pump price accordingly. Most crucially, government must have the mettle to stare down political pressure when it is time to raise the pump price. Given irresolute governance, the OPSF balance quickly goes into the red and becomes a permanent fiscal burden. This is what happened.



Proposal to Nationalize the Oil Industry

An argument raised mostly by leftist groups for the renationalization of the oil industry is that the government could buy oil from other governments at a discount. Objections to this argument are that in the world market, buying and selling of oil is mostly done by private companies at market-determined prices; and even if a government-to-government transaction at a discounted price can be carried out, this would likely be at quantities small enough not to distort world market prices, and the exporting government is likely to extract some other form of concession from the importing government.

Suppose that there is abuse of market power, such as cartelization or some other forms of anti-competitive behaviour, in the downstream oil industry. The larger question is whether nationalization of the oil industry will remedy the problem of anti-competitive behaviour, a market failure. Given the poor record of the government in operating firms, such as in the case of the National Power Corporation (NPC), the tedious government procurement procedures, and the potential political influences in firm operations such as hiring and procurement, it is highly unlikely that the government can more efficiently operate a nationalized oil industry. As Fabella (2011) noted, “That government failure costs society more than market failure is forgotten.” A less costly way to address the problem of abuse of market power is better regulatory framework and enforcement.

Related to the proposal for the nationalization of the downstream oil industry is the setting up of a centralized procurement system of imported oil, supposedly operated by the government. The Philippines has experience with a centralized procurement system in the case of rice imports through the National Food Authority (NFA). The NFA has a dismal record in rice imports—there has been talk of overpricing of rice imports to finance elections, wastes due to improper storage, benefits going mainly to large traders, etc., and the NFA operations has required large government subsidies. For more than a decade, reform of the NFA separating its regulatory function from its rice importing function has been on the government agenda but never implemented.

Proposal to Reduce Taxes on Petroleum Products

Especially when there are spikes in the world price of oil, resistance has come from quarters such as jeepney operators and some in the industrial sector, to reduce, at least temporarily, tariff and other taxes such as the value-added tax (VAT) on petroleum products. The transport sector is immediately affected by increases in gasoline and diesel prices. Public transport fares are regulated and have to be approved by the Land Transportation Franchising and Regulatory Board (LTFRB). This means that the higher fuel prices have to be initially absorbed by transport operators. The labour unions also raise the issue because transportation costs to and from work, whether by public conveyance or private vehicles, go up. Production sectors, from fishermen who use gasoline or diesel to get to their fishing grounds, to manufacturers and retailers who have to face higher transportation margins and distribution costs, are also negatively impacted.

The Philippine government has resisted the demand for the reduction of taxes to lower the domestic prices of gasoline and diesel. The pressure on the government was particularly strong during the 2008 oil price increase in the world market. The tax revenue from oil has been a major source of revenue for the Philippine government. In 2008, the government got



a windfall collection from the VAT levied on oil products. Hence, a proposal was to shift from an ad valorem value-added tax on petroleum products to a specific tax, thus fixing the tax rate irrespective of oil price changes. Another proposal was to reduce VAT rates on oil products and increase the rates for other products, thus distorting the universality of the VAT system.

The government has taken the position of minimizing distortions in the current VAT system at a 12 per cent rate on all products, with very few exemptions such as 0 per cent VAT for generation charges for power using renewables and zero-rating for some agricultural products. The government argued that the increased VAT tax collection was necessary to finance short-term income support for the poor and long-term programs toward infrastructure, health and education. Also, the burden of the VAT is greater on those who consume more fuel and tend to have higher incomes. Reducing the VAT rate is likely to benefit the wealthier more than the poor.

Long-Term Alternatives to Regulated Pricing

For the long-term approach to address the perceived permanent trend in the increase of oil prices, the government has taken the following steps:

- Monitoring prices of petroleum products in the country to ensure that the prices are “fair and reasonable.”
- Reducing the oil component in the power generation mix.
- Encouraging energy diversification toward domestic resources, renewables and other non-oil energy sources.
- Encouraging demand management and energy conservation programs, such as implementing time-of-use rates by electric utilities* and use of energy-saving bulbs.

Since the downstream oil markets are deregulated, the government cannot impose prices or price caps on petroleum products. For gasoline and diesel, the Department of Energy, as part of its function of monitoring the pricing of gasoline and diesel, calculates what prices would have been under the pricing formula previously used by the defunct Energy Regulatory Board. The DOE estimated prices are benchmarked to the Mean of Platts Singapore (MOPS) prices and estimation is done on a weekly basis. Basically, the DOE estimates the peso landed cost of bringing in finished oil products to the domestic market using a price build-up formula. Given the limitations on access to MOPS data due to confidentiality agreements, three other alternative formulas suggested by other groups are posted in the DOE website. The DOE also posts oil price monitoring information on its website, such as the behaviour of world oil prices and foreign exchange, retail prices for fuel products—gasoline, diesel, kerosene, LPG and auto-LPG—for Metro Manila, Luzon, Visayas and Mindanao, and prior notices of price adjustments by oil companies.

Previously, a non-governmental consumer advocacy group—Gov’t Watch, formerly named Consumer and Oil Price Watch (COPW)—would publicly announce through media, including printed advertisements, estimates of price increases based on changes in world prices of oil. This practice of public pressure aimed to discourage oil companies from making “unreasonably” high price adjustments and to keep price increases within some limits.

*Fewer electricity end users than expected have taken advantage of time-of-use rates.



3.1.8 Current State of the Philippine Downstream Oil Industry

It can be inferred that the downstream oil industry deregulation has succeeded in attracting new players to the industry. The downstream industry is dominated by two major oil companies, both engaged in refining and marketing: Petron, a spin-off of PNOC and 40 per cent state-owned; and Pilipinas Shell Petroleum Corporation. Caltex Philippines (Chevron) converted its refinery into an import terminal in 2003 and now operates as a marketing and distributing company. Domestic production of crude oil is modest and mostly exported, while the crude oil requirements of local refiners are mostly imported.

New players have entered the gasoline retail business—importers of refined products, some of whom can be labelled as small independents.⁴² In 2004, the new players accounted for 13.3 per cent of the total petroleum products market, with the original big oil companies still dominating with the following shares: 37.8 per cent for Petron, 33.0 per cent for Shell and 15.9 per cent for Caltex (Department of Energy, 2005). The new players have gained greater market share of the LPG sector, accounting for 43.1 per cent of the market in 2004, and the big oil firms having reduced shares: 26.5 per cent for Petron, 22.8 per cent for Shell and 7.6 per cent for Caltex (Department of Energy, 2005). Some of the new entrants since the deregulation in 1998 are subsidiaries of multinational companies. Examples include Total; Liquigaz, a subsidiary of SHV Netherlands; and PTT, a subsidiary of Petroleum Authority of Thailand PTT. Some entrants such as Flying V, Seoil, Unioil and Pryce Gases are local companies. Generally, the bigger oil companies—Petron, Shell and Caltex—and Total set higher pump prices, with the other new players and independents pricing slightly below those of the majors.

The Department of Energy reports as of 2014 there were 15 companies supplying demand for oil products. Of these, Petron held 35.4% market share; Shell 25.5% market share; Chevron 8.1% market share; and other players a combined 27.4% market share; with a small number of end users who import their requirements directly making up the final 3.7% of market share (Department of Energy, 2014).

3.1.9 Conclusions

The deregulation of the downstream oil industry that started in 1998 was initiated in line with the government's program to open up the economy to market forces. However, it was the burden of the then-existing Oil Price Stabilization Fund on the fiscal budget that made deregulation inevitable. To maintain the OPSF on a long-term neutral balance, the setting of domestic oil prices through the OPSF required accurate forecasting of the long-term trend of world oil prices and resisting political pressure to increase prices when warranted. The failure to set oil prices appropriately, made more difficult by the increasing and more volatile oil prices in the world market, led to the OPSF to function as a fuel subsidy mechanism. The government was then compelled to shift to a deregulated regime because government financial support of the OPSF was simply unsustainable without foregoing government expenditure on other public concerns.

Though the industry players, both the oil majors and the new players, generally welcome the deregulation of the downstream oil industry, there has been consistent opposition to deregulation voiced by the transport sector and more militant consumer groups. Some of those who oppose deregulation blame it for the high local prices of petroleum products and propose the restoration of the OPSF, the nationalization of the downstream oil industry and the reduction of taxes on petroleum products.

⁴² Some of the new players are Total, Eastern, Seoil, Liquigaz, Pryce and PTT.



Given the increasing long-term trend in oil prices, consumers would have faced higher oil prices over the period 1998 to the present whether or not the downstream oil industry was regulated. The Philippines, with its modest crude oil production, is highly dependent on imported oil. Under a deregulated regime, changes in world oil prices are more immediately reflected in local pump prices. The country would still face higher local oil prices under a regulated regime, as it had prior to deregulation, and even if the government can accurately forecast world oil prices and optimally adjust local prices for neutral OPSF budget balance. As shown by the historical experience of the Philippines with the OPSF, the only way local consumers can have lower oil prices when world oil prices are increasing is through government subsidies. It is generally accepted that fuel subsidies are economically inefficient—they distort price signals, the informational content of prices regarding supply-demand conditions, and result in inefficient resource allocation both on the production and consumption sides. Fuel subsidies consequently encourage greater fuel consumption.

Even if the Philippines were producing significant quantities of crude oil, the country would still face higher local oil prices when world oil prices are high. International trade is liberalized in the country, consistent with international commitments in multilateral trade agreements such as those with the Association of Southeast Asian Nations (ASEAN) and the World Trade Organization (WTO). Furthermore, under this scenario of high domestic oil production and high world oil prices, local petroleum product prices would be lower only if the domestic oil producers can be compelled—for example through export restrictions on private oil producers—to sell to the domestic market at prices lower than the world oil prices. Private oil producers could have sold their output to the world market at a higher price and therefore would need to be compensated for foregone revenue. Such a situation would result in fuel subsidies for domestic oil consumption, and, since subsidies must be financed from some source, such arrangements would have implications for government budgets.

Even if the government operated the oil fields, it would have an implicit revenue loss if domestic oil production were sold in the local market at prices below the world market. Other resource-rich countries, such as Saudi Arabia, Malaysia and Indonesia, may justify this action as a form of sharing their natural wealth with their people. However, there are less price-distortionary policies, such as the conditional cash transfer programs of Indonesia and the Philippines targeting the lower-income classes. The foregone revenue could have also been used for needed public goods, such as roads and law enforcement, and strengthening the monitoring, regulation and enforcement capabilities of the government. Instead of subsidizing present consumption of fuels, the government could have spent on health and educational investments, the benefits of which the country can enjoy in the future.

The findings have been consistent among the three independent review committees formed by the DOE in 2005, 2008 and 2012 to examine the effects of the downstream oil deregulation law. None of the three committees recommend the repeal of the deregulation law or the restoration of an oil price stabilization fund. They conclude that the high domestic prices of petroleum products are not due to having a deregulated regime but due to the external factor of increasing world prices of oil. Convergence of local prices is not due to cartelization of the oil companies but due to competition. Pump prices tend to be lower in areas where there are more retail stations. Deregulation has also attracted the entry of new players, especially in the gasoline and LPG retail business. They also concluded that oil firms were not making “excessive” profits, as their returns on equity were lower under the deregulated regime than prior to deregulation—lower than returns on equity in some other industries and lower than risk-free short-term government securities.

Some question whether the financial statements of the oil companies, though most likely satisfying international accounting standards, can be reliably and sufficiently used to infer abuses of market power. Studies such as academic studies done outside the purview of the Department of Energy



and away from the demand for “simplicity” of approaches understandable by the general public (and using other analytical approaches to evaluate whether deregulation has worked and to identify possible areas of intervention by the government to enhance competition) would raise the level of discussion on whether the deregulation has been beneficial to the country.

There is still scope for fine-tuning the implementation of the downstream oil deregulation law. The monitoring and enforcement capabilities of the Department of Energy with respect to quantity and quality standards can be strengthened. Furthermore, even under a deregulated regime the Department of Energy can still exercise, and should more actively exercise, regulatory authority to detect, prevent and prohibit anti-competitive behaviour. The government, through the Department of Energy, can also explore ways to further encourage the entry of new players (such as by providing common oil depots and rationalizing local government requirements) and competition, especially in some geographical pockets.

The government can reduce regional differences in petroleum prices, partly explained by distance and transport costs, by improving the general transport infrastructure of the country, such as roads and ports, to lower logistical costs. The deregulation of the public land transport system should be further explored. With fares regulated for jeepneys, buses and taxis, the transport sector has to shoulder the cost of increasing fuel prices prior to approval of fare adjustments by the regulatory body. Similarly, when prices fall, the transport sector may benefit unfairly if fare reductions do not take place promptly. A suggestion of the 2012 review committee is an automatic (no hearings or public consultations), monthly, fare-setting mechanism that can respond to fuel price changes.

To evaluate the success or failure of the downstream oil industry deregulation, it must be understood that deregulation is primarily aimed at enhancing the efficiency of the functioning of the market and hence promote economic growth, and is not meant to be a redistributive program to directly address the country’s poverty problem. Though the effect of the deregulation on the poor is a social concern, and rightly so, as much as possible compensatory measures should be through mechanisms that do not distort the relative prices of petroleum products. More targeted programs, such as the conditional cash transfer programs, are preferable because they have less leakage in the sense that assistance is more certain to reach the poor and schemes can act as income transfers without distorting prices. The Philippines’ principal cash transfer mechanism, the *Pantawid Pamilya Pilipino Program*, is described in detail below.

Case Study: the *Pantawid Pamilya Pilipino Program*

Poverty reduction has been a developmental goal of the Philippines government. However, success has been slow. In 2009, the poverty incidence among families was 20.9 per cent, corresponding to 3,855,730 poor families (NSCB, n.d.b). The 2009 poverty incidence represents a modest decline from 21.1 per cent in 2006, though it is still above the 2003 poverty incidence among families of 20.0 per cent. The national government in 2007 started the *Pantawid Pamilya Pilipino Program* (4Ps), a conditional cash transfer program* to assist poor households to improve their health, nutrition and education particularly of children aged 0–14 years.* The lead agency is the Department of Social Welfare and Development (DSWD), with close coordination with the Department of Education, Department of Health and the Department of Interior and Local Government.

*Conditional cash transfer programs have also been earlier implemented in other countries, mostly Latin American countries, as a tool for poverty alleviation. These countries include Bangladesh, Brazil, Chile, Columbia, Ecuador, Honduras, Jamaica, Mexico, Nicaragua and Turkey.

*In the 2011 national budget, the 4Ps has four components: Supplemental Feeding Program, Food for Work Program for internally displaced persons, Rice Subsidy Program, and the Conditional Cash Transfer (CCT) Programs, with the latter getting the bulk of the 4Ps budget. The discussion on the 4Ps in this section refers only to the CCT component.



The 4Ps has both short-term social assistance and long-term social development objectives. In the short term, the program aims to provide cash assistance to poor households to address their immediate needs, and in the long term the program aims to break the intergenerational poverty cycle through investments in human capital, specifically in health, nutrition and education. The 4Ps also contribute to the attainment of the Millennium Development Goals (MDGs) of eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equality through empowerment of women, reducing child mortality and improving maternal health. The 4Ps is also designed to address the problems of targeting, uncoordinated and fragmented provision of services, monitoring and evaluation that have beset past social protection programs in the Philippines.

A rationale for conditional cash transfers is the economic justification that “cash” or direct income transfers are preferable to “assistance-in-kind” since the latter can distort consumer choices; that is, the consumer may consume more of the subsidized good because it is relatively cheaper compared to what he would consume with an income transfer. Economic theory shows that the consumer will be better off (or at the least not worse off) with an income transfer, rather than with assistance-in-kind. In times of rising oil prices, some governments give fuel subsidies to help the poor and appease social discontent. However, general fuel subsidies have been shown to be costly and inefficient in helping the poor because of leakage of the assistance to the non-poor, especially the higher-income classes who consume more fuel. The logistics of food transfer programs can also be problematic with their associated transport and storage costs. In some temporary employment programs, a large proportion of the budget is spent on construction equipment, materials and skilled labour, and not necessarily the unskilled poor. The conditions tied to the cash grant can increase the cost of the implementation of the program but may be necessary to attain the longer-run objective of the program for the beneficiaries to spend on investments on human capital.

The beneficiaries are selected by the DSWD through the National Household Targeting System for Poverty Reduction (NHTS-PR) using a proxy-means test that considers proxy variables such as ownership of assets, type of housing, education of the household head, livelihood of the family and access to water and sanitation facilities. LGU officials do not participate in the selection of beneficiaries but assist in the conduct of community assemblies of beneficiaries. Eligible beneficiaries should satisfy the following qualifications:

1. Resident of the poorest municipalities based on the 2003 small area estimates of the National Statistical Coordination Board (NSCB).
2. Household income is equal to or below the provincial poverty threshold.
3. Household has children aged 0–14 years old and/or has a pregnant woman at the time of assessment.
4. Household agrees to meet the conditions specified in the program.



The conditions for participation in the 4Ps are:

1. Pregnant women must avail of pre- and post-natal care and be attended during childbirth by a trained health professional.
2. Parents must attend family development sessions.
3. Children aged 0–5 years old must receive regular preventive health check-ups and vaccines, and children aged 6–14 years old must receive deworming pills twice a year.
4. Children aged 3–5 years old must attend day care or pre-school classes at least 85 per cent of the time, and children aged 6–14 years old must attend elementary or high school classes at least 85 per cent of the time.

A compliance verification system (CVS) has been developed by the DSWD.

The cash grant is made up of the following components:

Table 12. Household cash grants under 4Ps

| Amount | Purpose |
|---|--|
| PhP 6,000 (~USD 142) a year, or PhP 500 (~USD 11.8) per month for 12 months | Per household, for health and nutrition expenses |
| PhP 3,000 (~USD 71) a year, or PhP 300 (USD 7.1) per month for 10 months a year | Per child, maximum of three children per household, for educational expenses |

The maximum grant a household may receive is then PhP 15,000 (~USD 355) annually. A household with three children receives PhP 1,400 (~USD 33) a month for 10 months plus PhP 500 (USD 11.80) a month for a further two months. The money is disbursed through a Landbank cashcard when feasible; otherwise, the cash is dispensed through over-the-counter transactions at the nearest Landbank branch, other rural banks and other alternative payment businesses such as Globe Remit (cellular phone) and Philpost (postal system). Usually, the mother receives the cash grant for the household. A household may benefit from the 4Ps for a maximum of five years. Beginning in 2012, households that participate in the 4Ps also qualify for the PhilHealth insurance, the government's national health insurance program. The funding for the health insurance comes from a separate budget allocation for the health insurance premium of indigent families under the National Household Targeting for Poverty Reduction of the DSWD.

The maximum annual cash grant of PhP 15,000 is about 20 per cent of the monthly poverty threshold in 2009 (Senate Economic Planning Office, 2011). A family of five needs a minimum monthly income of PhP 7,017 (~USD 166) for basic food and non-food requirements, equivalent to an annual income of PhP 84,204 (~USD 1,994). Hence, the cash grant seems reasonable enough that it is not set too high to discourage work effort nor too low to have an insignificant effect on the household. The maximum five years for a beneficiary household reduces the chances of developing dependency on the program. The first set of 4Ps beneficiaries ended their five-year stint under the CCT program in 2012. Some private sector companies, through their corporate social responsibility (CSR) activities, such as Globe Telecom and Micro Ventures Foundation Inc., have entered into partnerships with the DSWD to provide leadership and business skills training that would help the beneficiaries set up small enterprises.



As of June 2012, the *Pantawid Pamilya Pilipino Program* had 3,014,586 registered households in 79 provinces covering 1,261 municipalities and 138 cities in 17 regions of the country (DSWD, n.d.). The pilot testing of the 4Ps started in the second half of 2007 covering 6,000 households in four areas: Agusan del Sur, Misamis Occidental, Pasay City and Caloocan City (SEPO, 2011). The 4Ps was financed by the national government, with loans from the Asian Development Bank and the World Bank.* In 2011, the 4Ps accounted for about 70 per cent of the DSWD budget. Implementation support and monitoring, evaluation and administration support was about 20 per cent of the budget allocation for the 4Ps, with 80 per cent of the budget for cash transfers to beneficiaries. The budget and coverage of the 4Ps for 2007 to 2012 are given in Table 13, which shows how the government has scaled up the CCT program. The 2009 Family Income and Expenditure Survey gives an estimate of 3.9 million poor families. Thus by 2012, the conditional cash transfer program covers about three-fourths of the country's poor households.

Table 13. Budget and Coverage of 4Ps, 2007–2011

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-------|--------|---------|-----------|-------------|
| Budget, PhP million | 50 | 298.5 | 5,000 | 10,000 | 21,200 |
| Number of target beneficiary households | 6,000 | 20,000 | 321,000 | 1 million | 2.3 million |

Source: SEPO, 2011 (from a Department of Social Welfare and Development (DSWD) presentation to the Senate Committee on Finance in 2010).

For the CCT program to make a considerable impact on poverty rates over the long term, it would require large budgets and good operational management, hence, the cynicism from some quarters whether the government can handle the expansion of the 4Ps. Its effectiveness must be evaluated through monitoring of health and education outcomes. A problem identified in some areas is the supply side: poor conditions of school facilities including the lack of classrooms, teachers, school seats, textbooks and sanitation facilities; and the lack of health facilities, especially basic emergency obstetrics care in LGU health facilities. In this respect, the LGUs, with assistance from the Department of Health and the Department of Education, play an important role in ensuring the availability of health and educational facilities, personnel and supplies.

An idea put forward by some in the environmental sector is the inclusion of conditionality, where appropriate, i.e., of participation in environmental projects like reforestation, soil conservation and the like, where externalities can be significant. In this case, upland farmers and small fishermen may be targeted. Though the 4Ps can have an impact on human development for the poor, it is still necessary for the government to improve tax administration, even imposing new taxes if necessary, and carrying out other economic reforms to enable economic growth that can sustainably finance social protection programs like the 4Ps, including the repayment of loans from the multilateral agencies that provided financing for the program.

To finance the CCT program, the national government obtained a USD 405 million loan from the World Bank and a USD 400 million loan from the Asian Development Bank (Somera, 2010). The ADB loan comes from the Bank's ordinary capital resources (OCR) that charge near commercial rates, with a 0.15% annual commitment fee, and payable in 25 years with a five-year grace period. Since the 4Ps is a non-revenue generating project, future administrations have to source loan payments elsewhere, such as through general taxation.



Some of the concerns of the NGO community are the following (Somera, 2010):

1. **The size of the program and its financial requirements**, and the realignment of government money from other expenditure on the poor, such as on housing, land reform and job creation.
2. **Repayment of World Bank and ADB loans** used to finance the program and its implications on future government budgets.
3. **The conditional grant working as a dole-out**. It has been suggested that the CCT program be expanded to include job training, preferential housing, microfinance, agricultural development and local business development.
4. **Its effectiveness in attaining the desired health and educational outcomes**.

3.2 THE RESTRUCTURING OF THE ELECTRIC POWER INDUSTRY

3.2.1 Before the Restructuring

Prior to the restructuring of the Philippine power sector that started in 2001, the government-owned National Power Corporation (NPC) generated electricity and bought electricity from independent power producers (IPPs). Presidential Decree (PD) No. 40 issued on November 7, 1972 (Department of Energy, 1972a) gave the NPC a monopoly on power generation and transmission. The decree authorized NPC to “own and operate as a single integrated system all generating facilities supplying electric power to the entire area embraced by any grid set up by NPC.” Faced with power shortages, the government issued Executive Order (EO) 215 on July 10, 1987 (Philippine Tariff Commission, 1987) that allowed private investors to participate in power generation through cogeneration, build-operate-transfer (BOT) and build-operate-own (BOO) schemes. These private sector generation firms are called independent power producers (IPPs). Explicitly recognizing that the generation of electricity, unlike the transmission and distribution of electricity, is not a natural monopoly, EO 215 marked the opening of generation, which had been a monopoly of the NPC, to private investors.

At the height of the power crisis, the Electric Power Crisis Act (RA 7648) (Republic of the Philippines, 1993) passed on April 12, 1993, allowed the Ramos government to enter into “take-or-pay” contracts with IPPs. A criticism of these IPP contracts is that the government offered generous terms to the IPPs with risk-sharing arrangements favourable to the private investors, thus resulting in huge profits for the private investors (Woodhouse, 2005). In 2001, 15 IPPs were among the top 1,000 corporations in the Philippines. Because of the take-or-pay provision, the NPC guaranteed paying for electricity that was never used or even generated, the cost of which was passed on to electricity consumers as a PPA, or purchased power adjustment. The government guaranteed the NPC’s obligations, which further increased the national government’s contingent liabilities.

In 1998, the government obtained a USD 600 million loan from the Asian Development Bank (ADB) and the Japan Bank for International Cooperation (JBIC) tied to the restructuring of the power industry, including the passage of an enabling law. The major impetuses for the restructuring were the high power rates in the country relative to those in other countries in the region and the burgeoning debt of the NPC that was worsened by the 1997 Asian financial crisis. The restructuring was aimed at reducing the government’s role in the power sector: unbundling and privatizing the power industry and selling the NPC assets. The goal of the restructuring was to drive industry players to operate more efficiently and provide reliable and competitively priced electricity.



It was also imperative to privatize the NPC because of its huge foreign exchange exposure, created by both debt and IPP obligations. When the EPIRA was enacted in 2001, the total financial obligations of NPC were more than PhP 900 billion (~USD 17.3 billion), with about 65 per cent due to obligations to IPP contracts (Woodhouse, 2005). Due to fiscal budget constraints, the government could not further infuse additional funds for NPC operations, thus posing uncertainty in the funding sources for long-term investments.

When the EPIRA was passed in 2001, the largest generating company was the NPC, with a number of IPPs generating and selling electricity to NPC and other customers. The transmission lines were owned and operated by NPC, and the distribution sector by the private sector. The distribution utilities (DUs) are classified into private investor-owned utilities, local government unit-owned utilities and electric cooperatives. The main regulatory agency for the power sector was the Energy Regulatory Board (ERB) which regulated the retail rates of the distribution utilities.

3.2.2 The EPIRA and Its Implementation

On June 8, 2001, the Electric Power Industry Reform Act (EPIRA) (Republic of the Philippines, 2001) was enacted under the Arroyo administration, after seven years (starting in 1994) of public hearings and floor deliberations on various versions of the bill in Congress. Two major reforms in the EPIRA were the restructuring of the power sector and the privatization of the NPC.⁴³ The restructuring of the power sector involved the separation of the generation, transmission, distribution and supply components. The privatization of the NPC required the sale of state-owned generation and transmission assets to the private sector.

The major features of the restructured industry are:

1. **Competition in generation and supply.** Distribution utilities can enter into long-term bilateral contracts with generators and also source power from the spot market (Wholesale Electricity Spot Market or WESM) where trading of electricity between buyers and sellers take place.
2. **Open access.** The transition to open access is ongoing. Open access to transmission and distribution network facilities, with payment of transmission charges and distribution wheeling charges, can ensure that the benefits of competition in generation and supply will accrue to end-users.
3. **Consumer choice.** With retail competition and open access, consumers will be given the option of choosing their source of electricity from among generators and suppliers of electricity.
4. **Unbundling of electricity tariffs.** To make rates more transparent, the generation, transmission, distribution and other components of electricity tariffs are itemized in electricity bills.
5. **Elimination of cross-subsidies between customer classes,** such as industrial customers to residential customers.

The EPIRA required the creation of the Energy Regulatory Commission (ERC) to replace the Energy Regulatory Board (ERB) as an independent, quasi-judicial regulatory body, with stronger and broader powers, authorized not only to correct but also to prevent and penalize anti-competitive practices. With the restructuring, generation and supply are deregulated, while the wires sectors, transmission

⁴³Political issues related to the passage of EPIRA and the privatization of NPC were the alleged payoffs by the executive branch of the government to lawmakers for passage of the EPIRA and the displacement and associated social cost of NPC employees laid off due to downsizing. In 1994, NPC had about 17,000 employees; in 2012, it had only 3,800 employees (Woodhouse, 2005).



and distribution, are regulated by the ERC. As a safeguard against undue market power by certain business groups, the EPIRA specifies an explicit cap on the amount of electricity that a distribution utility can buy from an affiliated company engaged in power generation. Specifically, the law provides that “no company or related group can own, operate or control more than 30 per cent of the installed capacity of a grid and/or 25 per cent of the national installed generating capacity.”

The Power Sector Assets and Liabilities Management (PSALM) Corporation, a government-owned and controlled corporation, was also created under the EPIRA to take ownership of all of the NPC’s assets, including real estate properties and other disposable assets and the power supply contracts with IPPs. The PSALM is tasked to manage the orderly sale, disposition and privatization of NPC and liquidate NPC’s financial obligations and stranded contract costs. As a result of lobbying from politicians from Mindanao, where electricity tariffs are lowest and which is not currently connected to the Luzon-Visayas grid, the NPC’s Agus and Pulangui hydroelectric power complexes in Mindanao are excluded from the privatization program for at least 10 years from the coming into effect of the EPIRA. The law also states the NPC’s steamfield assets and power plants of each geothermal complex shall not be sold separately but as a package.

The “pro-poor” or “mitigating” measures specified under the EPIRA are:

1. **Mandated rate reduction.** The NPC is mandated to reduce its rates for residential end-users by PhP 0.30 (0.5 USD cents) per kWh from the date of the EPIRA coming into effect. The law is silent on the expiration of the power rate reduction. However, toward completion of the restructuring, the NPC is envisioned to be left mostly with its missionary electrification function and most of its generation facilities privatized. The mandated rate reduction was specified in the bill in exchange for the national government absorbing USD 200 million of NPC liabilities. Electricity from non-NPC generation plants is not subject to the mandated rate reduction.
2. **Lifeline rates for marginalized or low-income electricity consumers.** This provision was initially set for the first 10 years of the EPIRA coming into effect, but was subsequently renewed for another 10 years. The lifeline rate scheme is financed as a cross subsidy within the distribution utility. The threshold levels and the lifeline rate discounts then vary across distribution utilities, with the largest distribution utility in the country, Meralco, having the highest monthly threshold level at 100 kWh. An exercise in setting the threshold level is finding the level that can be financed by non-lifeline users with a subsidy of, for example, PhP 0.05 or PhP 0.10 (0.1 to 0.2 USD cents) per kWh.
3. **NPC to provide missionary electrification even after its privatization.** NPC performs missionary electrification through its Small Power Utilities Group (SPUG) with funding from SPUG revenues and the universal charge collected from all grid-electricity end-users.

3.2.3 Generation

In 2011, PSALM owned only 8.39 per cent of the installed generation capacity in the country: 2 per cent in Luzon, 4 per cent in Visayas and 50 per cent in Mindanao. In 2002–2003, IPP contracts were reviewed and renegotiated. Some of the IPP contracts of NPC have been transferred to private sector IPP administrators. The high PSALM ownership in Mindanao is due to the exemption of the Agus and Pulangui hydroelectric power complexes from privatization during the first 10 years of the EPIRA. This exemption from privatization has contributed to the current problem of power shortage in Mindanao where reserves are either negative or very thin.



The high dependence of Mindanao on hydroelectric power, accounting for about 50 per cent of installed capacity in the region, has led to problems during periods of drought or low rainfall, and the low rates charged have led to poor maintenance of the hydroelectric power facilities. In 2012, the national government had to finance the rehabilitation of the hydropower facilities. While the rehabilitation of the hydropower facilities is ongoing, alternative power sources—diesel power plants and barges in the short term—have to be used to satisfy demand.

Having become accustomed to the low prices of hydroelectric power supplied by the NPC, local distribution utilities in Mindanao have balked at contracting with higher-priced alternative sources, thus letting their customers face the threat of power outages. The DOE has had to issue a directive ordering electric cooperatives to buy additional power supply from private power plants. On the other hand, the DOE bidding to sell government-owned diesel power barges (with the condition that these be transferred to service Mindanao) has repeatedly failed, since the private investors face the problem of local distribution utilities unwilling to pay the higher price for electricity from the diesel power barges. The national government has given Mindanao two options: pay higher electricity prices to be assured of supply or face power outages.

The Mindanao stakeholders, including politicians, have been vocal against the privatization of the Agus and Pulangui hydroelectric power complexes on the perception that government ownership will ensure lower electricity prices. They argue that the government can supply electricity “at cost” while private firms will charge higher electricity prices because the firms will also want to make a profit. Some Mindanao stakeholders do not also see the linking of the Mindanao grid to the interconnected Luzon-Visayas grid as a solution to their power problems. Since the Luzon-Visayas tariffs are generally higher, they see the transmission link to the now-isolated Mindanao grid as opening up the possibility of higher tariffs in Mindanao. As a consequence of the power problems in Mindanao and blaming the privatization provisions (though not implemented in Mindanao for the hydropower facilities), the stakeholders also want a review of the EPIRA. The Mindanao electricity problem looks like a case wherein consumers used to subsidized electricity have developed a feeling of entitlement to low electricity prices.

3.2.4 Transmission

The country’s transmission network is now operated and maintained by the National Grid Corporation of the Philippines (NGCP), a fully private corporation, which obtained a 50-year franchise. For the transmission assets, PSALM initially created the National Transmission Company (TransCo), a government company wholly owned by PSALM, to assume the transmission function of the NPC. The EPIRA also mandated the privatization of TransCo through an outright sale or management concession contract. In December 2007, the TransCo concession, through competitive bidding, was awarded to NGCP. On January 15, 2009, TransCo turned over the management and operation of its power transmission system to NGCP. As the system operator of the power grid, NGCP balances the demand and supply of electricity among its customers—generators, private distribution utilities, electric cooperatives, government-owned utilities, ecozones, industries and directly connected companies. However, ownership of all transmission assets remains with TransCo.

3.2.5 Distribution

In 2011, there were 25 private-investor-owned utilities and local-government-unit-owned utilities and 120 electric cooperatives (ECs). The largest distribution utility in the Philippines is Meralco, a private investor-owned utility, which serves the National Capital Region (NCR) and surrounding areas. Meralco’s customer base comprises about 25 per cent of the Philippine population, and its electricity sales make up 75 per cent of Luzon’s and 55 per cent of the Philippines’ electricity sales



(Meralco, n.d.). According to its website, the franchise area of Meralco accounts for 50 per cent of the Philippines' GDP (Meralco, n.d.). For private distribution utilities, the ERC is currently shifting to a performance-based methodology for setting rates from its initial rate-of-return methodology (Junia, 2012).

Among the distribution utilities, the electric cooperatives, generally operating in lower-income areas compared to that of Meralco, have been beset by inefficiencies and financial problems. The EPIRA required the restructuring of the ECs. Under the EPIRA, the National Electrification Administration (NEA) provides financial, institutional and technical assistance to the ECs and monitors the performance of the ECs. The franchising functions of NEA have been transferred to Congress and its rate functions to the ERC. The NEA also acts as guarantor for purchases of electricity in the Wholesale Electricity Spot Market (WESM) by electric cooperatives or small distribution utilities. Part of the restructuring process is the assumption by PSALM of some of the rural electrification and related loans incurred by the ECs. As of September 2011, PSALM has paid a total of PhP 12.85 billion (~USD 297 million) for the EC's outstanding financial obligations.

3.2.6 Supply Sector

In traditional electricity markets, the electricity end-user is a captive customer of the distribution utility that holds the franchise in the area; in turn, the distribution utility determines its own sources of power or the generation mix. To enhance retail competition and empower consumers, the EPIRA allows for the development of a supply sector where it is possible for a supplier other than the local distribution utility to sell electricity using the wires of the local distribution utility. Electricity suppliers are allowed to sell, broker, market and aggregate electricity to end-users, with customers able to choose from different retail suppliers. In June 2011, the ERC declared that the pre-conditions for the implementation of retail competition and open access have been fulfilled. The DOE plan was to start the implementation of retail competition and open access in the second half of 2012 or early 2013.

Wholesale Electricity Spot Market

To enhance competition in the generation sector, the Wholesale Electricity Spot Market (WESM), an auction market for bulk trading of electricity, was introduced. WESM started commercial operations in the Luzon grid in June 2006 and in the Visayas grid in December 2010. Generators compete to sell electricity in a centralized pool or a "gross pool," including electricity sold through bilateral contracts, and distributors and bulk consumers buy from the pool. The market participants include the market operator (MO), the system operator (SO) and the trading participants (sellers and buyers). Generating companies connected to the country's transmission network and customers purchasing electricity supplied through the transmission network have to register as pool members. Buyers are charged nodal prices wherein the system marginal price, also called the market clearing price, is adjusted to reflect transmission congestion and transmission losses.

As of October 2011, the integrated WESM (Luzon and Visayas grids) had a total of 112 participants: 47 generating companies and 65 customer trading participants, consisting of six private distribution utilities, 46 ECs, six bulk end-users and seven wholesale aggregators. For the period April–October 2011, the monthly spot quantity was in the range of 5 per cent to 10 per cent of total electricity supply, with bilateral contract quantities in the range of 90 per cent to 95 per cent. The spikes in the WESM spot prices have induced some shift to bilateral contracts between generators and distribution utilities for power supply.



Missionary Electrification

Under the EPIRA, the DOE established the Expanded Rural Electrification Program (ER Program) to strengthen and integrate rural electrification efforts using innovative and sustainable delivery service mechanisms by both the government and the private sector. Whereas previous rural electrification efforts focused on barangay electrification, the ER Program focused on the electrification of sitios and households. The ER Program is targeting 90 per cent household electrification by 2017.

The EPIRA states the following sequencing of players for rural electrification:

1. The obligations of the distribution utility (DU) include the provision of universal service within its franchise area, including unviable areas, as part of its social obligations. However, the DU must sustain the economic viability of its operations. In the event that it is not viable for the relevant franchise holder to serve an area but viable for other DUs, then adjoining DUs may be allowed to service said area.
2. If an area remains unelectrified because DUs find it unviable to serve the area, then the area can be open to other qualified third parties.
3. If an area cannot be serviced by DUs and other qualified third parties, then it shall be the responsibility of NPC-SPUG to provide power in the area.

Qualified third parties have been active in promoting renewable energy sources such as solar, wind and mini-hydro, especially in off-grid areas.

As of February 2012, the NPC-SPUG in its missionary electrification function serves 213 islands and eight isolated grids, covering 3,947 energized barangays in 216 municipalities. It has 51 customers—44 electric cooperatives and seven local government units. In August 2010, the ERC, using the Missionary Electrification Development Plan of the DOE as basis for evaluation, approved a fixed amount of PhP 2.763 billion (~USD 61 million) per year for 2010 to 2013 for NPC-SPUG operations that can be passed on to the universal charge for missionary electrification (UCME). The required UCME is the difference between NPC-SPUG's sales revenues and operating and capital expenditure for expansion and rehabilitation.

As of 2012, the NPC-SPUG operates 534 generating units, mostly diesel-powered, with a total rated capacity of 278 MW. The generating units consist of 277 land-based diesel power plants, one hydroelectric plant, one hybrid wind turbine farm and 11 barge-mounted mobile power plants. Only 25 (11 per cent) of the 221 service areas have 24-hour electric service, with about two thirds of the service areas having only six to eight hours of electric service per day. The service hours in SPUG areas, as of December 2011, are given in Table 14.

Table 14. Service hours in Small Power Utilities Groups

| Service Hours (per day) | No. of Service Areas | Percentage of Total Service Areas |
|-------------------------|----------------------|-----------------------------------|
| 6-8 hours | 149 | 67.4% |
| 10-15 hours | 36 | 16.3% |
| 16-20 hours | 11 | 5.0% |
| 24 hours | 25 | 11.3% |
| Total | 221 | 100.0% |

Source: NPC-SPUG, n.d.



Given SPUG's reliance on predominantly diesel-powered electricity generation, the payments made to SPUG to bridge the gap between its sales revenues and operating and capital expenditure is a form of fossil fuel subsidy.⁴⁴

Other Developments: Incentives for renewable energy

The shift from fossil fuel sources to renewable forms of energy is a key strategy of the government to provide energy for the country, reduce the country's dependence on fossil fuels and consequent exposure to price fluctuations in international markets, and enhance environmental protection in pursuit of "greener" economic growth. This policy is embodied in the Renewable Energy Act of 2008 (Republic of the Philippines, 2008). The thrust of the policy is toward creating a market-based environment that promotes private sector participation and encourages research and development and technology transfer. Geothermal and hydro resources already account for a significant portion of the fuel source for power generation. A current problem with renewables, especially with biomass, solar, wind and ocean, is their relatively high cost and consequently, their relatively low commercial viability.

The incentives for renewable energy projects for on-grid power generation, including those using biomass, solar, wind, geothermal, ocean energy and hydropower, granted by the Renewable Energy Act of 2008 are listed in Table 15.

Table 15. Incentives for Renewable Energy Projects

| | Incentive |
|---|--|
| 1 | Income tax holiday (IHT): For the first seven (7) years of its commercial operations, the duly registered RE (renewable energy) developer shall be exempt from income taxes levied by the national government. |
| 2 | Duty-free importation of RE machinery, equipment and materials within the first 10 years upon the issuance of a certification of an RE developer |
| 3 | Special realty tax rates on equipment and machinery: Realty and other taxes on civil works, equipment, machinery and other improvements of a registered RE developer actually and exclusively used for RE facilities shall not exceed one and a half per cent (1.5%) of their original cost less accumulated normal depreciation or net book value. |
| 4 | Net operating loss carry-over (NOLCO): The NOLCO of the RE developer during the first three (3) years from the start of commercial operation shall be carried over as a deduction from gross income for the next seven (7) consecutive taxable years immediately following the year of such loss. |
| 5 | Corporate tax rate: After seven (7) years of income tax holiday, all RE developers shall pay a corporate tax of 10 per cent (10%) on its next taxable income. |
| 6 | Accelerated depreciation, using either the declining balance method or sum-of-years digit method, if and only if an RE project fails to receive an ITH before full operation. |
| 7 | Zero per cent value-added tax rate on sale of fuel or power generated from renewable sources of energy and zero-rated value-added tax on purchases of local supply of goods, properties and services for the development, construction and installation of the plant facilities of the RE developer |
| 8 | Tax exemption of carbon credits: All proceeds from the sale of carbon emission credits shall be exempt from any and all taxes. |
| 9 | Tax credit on domestic capital equipment and services: A tax credit equivalent to 100% of the value of the value-added tax and custom duties that would have been paid on the RE machinery, equipment, materials and parts had these items been imported shall be given to an RE operating contract holder who purchases such from a domestic manufacturer. |

⁴⁴Following the preparation of this research paper in 2013, the UCME has been identified as a possible inefficient fossil fuel subsidy by a peer review of the Philippines' fossil fuel subsidies by the Asia-Pacific Economic Cooperation (APEC). The APEC review additionally notes that the UCME is essentially a cross-subsidy, paid for by higher rates in grid-connected areas, and that the SPUG's regulatory policy is biased in favour of procuring diesel infrastructure. It concludes that the policy "leads to wasteful and inefficient use of fossil fuels." The review recommends further analysis of the UCME and capital investment in more efficient power plants in SPUG areas (APEC, 2016).



Moreover, intermittent RE-based power is considered “must dispatch,” hence reducing the commercial risks for intermittent RE developers. The Renewable Energy Act of 2008 also declares the renewable energy sector a priority investment sector to be included in the country’s Investment Priority Plan. It then entitles registered RE developers to the Board of Investment (BOI) incentives: tax and duty-free importation of component, part and materials; tax credit on domestic capital components, parts and materials; income tax holiday and exemption; and zero-rated value-added tax transactions, which are already covered in the list of incentives in the table above.

The Renewable Energy Act of 2008, Chapter V (Section 13) mandates the following with respect to the government share from power sales from renewable resources:⁴⁵

The government share on existing and new RE development projects shall be equal to one per cent (1%) of the gross income of RE resource developers resulting from the sale of renewable energy produced and such other income incidental to and arising from the renewable energy generation, transmission, and sale of electric power except for domestic geothermal energy, which shall be at one and a half per cent (1.5%) of gross income.

Exempted from the above provision are RE micro-scale projects not exceeding 100 kilowatts. For missionary electrification, the Renewable Energy Act mandates the NPC-SPUG and qualified third parties in off-grid areas to source a minimum percentage of their total annual generation from available RE resources in the area. The minimum percentage is to be recommended by the National Renewable Energy Board (NREB) and determined by the DOE.

To accelerate the development of on-grid renewable energy markets, the Renewable Energy Act of 2008 also mandates the setting up of a feed-in tariff system for electricity produced from wind, solar, ocean, run-of-river hydropower and biomass. The application period of the fixed tariffs shall not be less than 12 years. On July 27, 2012, the Energy Regulatory Commission (ERC) approved the initial feed-in tariffs (FITs), as given in Table 16, for power generated from run-of-river hydro, biomass, wind and solar energy. The proposed FITs forwarded by the National Renewable Energy Board (NREB) in its May 16, 2011 petition to the ERC are also given in Table 16. The ERC deferred fixing the FIT for ocean thermal energy conversion for further study.

Table 16. Renewable Energy Feed-in Tariffs

| RE Source | Approved FIT (PhP/kwh) | NREB Proposed FIT (PhP/kwh) | Proposed Capacity Allocation (MW) |
|--------------------|------------------------|-----------------------------|-----------------------------------|
| Run-of-river hydro | 5.90 | 6.15 | 250 |
| Biomass | 6.63 | 7.00 | 250 |
| Wind | 8.53 | 10.37 | 200 |
| Solar | 9.68 | 17.95 | 50 |
| Ocean | | 17.65 | 10 |

The ERC explains the lower approved FITs relative to the NREB proposed FITs as due to their use of updated and lower estimates of construction and other project costs of representative plants for the various technologies and a lower equity internal rate of return. When compared to the Meralco generation charges of PhP 6.7397 (USD 0.16) per kWh for August 2012 and PhP 6.4549 (USD 0.15) per kWh for July 2012,⁴⁶ the FITs for run-of-river hydro and biomass compare favourably and do not look unnecessarily high. A contention of advocates of higher FITs is that whereas the

⁴⁵There is a question as to whether power generated using biomass is covered by this provision.

⁴⁶In July and August 2012, the WESM (spot market) electricity prices were high and Meralco sources about 5 per cent to 10 per cent of its requirements from the WESM.



generation rates using conventional technologies are adjusted monthly using the generation rate adjustment mechanism (GRAM), the FITs are fixed and not adjusted for inflation and should take into account the higher technical and commercial risks associated with renewable energy technologies.

The DOE proposed an installation target to be covered by the FIT rates of 760 MW over three years. This additional capacity is about 5 per cent of the 2011 total installed capacity of 16,162 MW in the Philippines. The ERC has announced that the FITs shall “be subject to review and readjustment by the ERC after the initial FIT implementation of 3 years or when the installation targets for each technology as set by the Department of Energy shall have already been met” (Energy Regulatory Commission, 2013).

Opposition of some business and industry groups over the FIT and the potential increase in electricity prices delayed the implementation of the FIT. One proposal was the phased implementation of the renewable energy technologies, with the cheaper biomass and hydro facilities commissioned first, and delaying the more expensive technologies like wind and solar until technological advances lower their cost. Another proposal was the auction of the limited installation allotments of 760 MW for renewable energy sources as an alternative to the imposition of feed-in-tariffs. Under the second proposal, the proposed FIT rates would be price ceilings, and lower tariffs can result from the auction system.





4.0 Conclusion

In the 1990s, the government of the Philippines recognized that it was financially unsustainable to continue state control of prices of petroleum products and a monopoly on power generation.

Peso depreciation, rising oil prices and low and infrequent price adjustments turned its Oil Price Stabilization Fund (OPSF), originally intended to smooth out price volatility, into a mechanism for fuel subsidies. Its National Power Corporation (NPC) incurred debts that posed a serious risk to the energy supply of the country: the government faced financial constraints in the maintenance of its generating assets and in investing in new generation plants. This was made quite evident with the severe power shortages experienced by the country in the early 1990s.

During the 1990s, the Philippines embarked upon the deregulation of its downstream oil industry and the restructuring of the power sector. The major objectives of the reforms in the energy sector were: to reduce the fiscal burden of energy subsidies; to introduce competition in the energy markets; to promote increased private sector participation; and to ensure an efficient and reliable energy supply.

4.1 IMPACTS OF OIL PRICING REFORMS

The deregulation of the downstream oil industry has succeeded in attracting new players to the industry. In the fuel retail market, there is greater competition not only in pricing but also in the quality of services. Though the oil majors—Petron, Shell and Caltex—still control a significant share of the market, new players and small independents have been increasing their market share since the start of deregulation in 1998. Independent review committees formed by the Department of Energy to look at the downstream oil industry deregulation and oil pricing have consistently found no evidence of “overpricing” or excessive profits by oil firms. The 2012 review committee found that under the deregulated regime, there is greater responsiveness of local pump prices to world oil prices and the ratio of local pump prices to world oil prices is lower and less volatile.

However, there is a need to strengthen the power and capability of the Department of Energy to enforce standards and exercise its regulatory function.

There also exists opposition to deregulation from some consumer groups who call for the reestablishment of an oil price stabilization fund, the nationalization of the oil industry and the reduction of taxes on petroleum products.

4.2 IMPACTS OF THE POWER SECTOR REFORMS

With the restructuring of the power sector, the operations of generation, transmission and distribution are mostly performed by the private sector. Except for the hydropower assets of NPC in Mindanao, most of the NPC generation assets have been transferred to the private sector. A private concessionaire operates the major transmission grid. Distribution, as prior to the restructuring, remains with the private sector. The restructuring of the power sector then allowed private capital to flow, especially into the generation and transmission subsectors formerly monopolized by the NPC.

Major developments include the setting up of the Wholesale Electricity Spot Market (WESM) and the unbundling of tariffs for greater transparency in pricing. The Department of Energy retains its planning and monitoring functions while the Energy Regulatory Commission is the regulatory agency for the power sector. A much smaller NPC undertakes missionary electrification through its Small Power Utilities Group (SPUG).



Electricity prices in the Philippines are high relative to those in most Southeast Asian countries that subsidize electricity and are about par with Singapore's. Over the 2000–2009 period, energy use per capita in the Philippines has been declining, and energy efficiency (as measured by GDP per unit of energy use) has been increasing. However, over the same period, per capita electric power (kWh) consumption has been increasing.

4.3 GOING FORWARD

The Philippines is a net importer of energy sources, including coal, crude oil and other petroleum products. In its current state of development and production from domestic resources, it does not have much income from “natural wealth” from energy resources, unlike other Southeast Asian countries such as Brunei, Indonesia and Malaysia. Moreover, the economic performance of the Philippines relative to other Asian economies over the last three decades has been poor. The country has limited financial resources to sustain large subsidy programs in the energy sector.

Today, energy prices are largely market-determined. However, some forms of intervention in energy markets continue to exist:

- Incentives for exploration and development of coal, oil and natural gas resources.
- Small consumption subsidies for socially sensitive oil products: diesel, bunker fuel, kerosene and LPG. These fuels enjoy an exemption from the excise tax applied to other fuels (but not from VAT which is applied to all). This means that international price rises are fully passed through to Philippines' consumers but that the government foregoes the full collection of revenue on these products.
- An additional consumption subsidy for LPG, via an import duty exemption.
- Provisions in the power sector restructuring law, such as the lifeline rates, missionary electrification and assistance to electric cooperatives.

With the exception of kerosene, the subsidized oil products are widely used by middle-income and higher-income consumers, and hence the tax exemptions benefit the general population. The Household Energy Consumption Survey indicates that kerosene use declines with rises in income, while the use of diesel and LPG increases. These tax exemptions are therefore not targeted as assistance to the poorest sectors of the population. In the power sector, the interventions are supposed to be transitory to help “disadvantaged” groups adjust during the restructuring process.

In addition to these ongoing support measures, the government occasionally embarks on one-off targeted social assistance programs during large spikes in the prices of fuel and electricity. Examples are:

- **The *Pantawid Pasada* program for jeepney drivers.** This disbursed cash assistance to jeepney drivers through the use of debit cards or smart cards. There were two rounds: the initial round in 2011 wherein each smart card was given a load of PhP 1,050 (~USD 24) and a second round with a reload of PhP 1,200 (~USD 28). The program benefitted jeepney drivers who shoulder the fuel cost in the “boundary” system, wherein the jeepney drivers pay a fixed daily rental amount for the use of the jeepney to the jeepney owner/operator. Although the transfer was not large, many jeepney drivers, with an average net daily income of PhP 300 to PhP 800 (~USD 7–19), still welcomed the assistance.



- **The *Pantawid Kuryente* project for residential electricity consumers.** In 2008, this one-time cash subsidy provided PhP 500 (~USD 11) to residential electricity consumers with a monthly consumption of 100 kWh or less. After the disbursement problems in Metro Manila, where beneficiaries had to queue at branches of a government bank to get the cash, the transfer was subsequently credited by the distribution utilities outside Metro Manila to the accounts of the intended beneficiaries identified through their computerized billing records. The leakage rate (72 per cent) and exclusion rate (42 per cent) were high, indicating relative ineffectiveness in reaching the target population—the poor. These results also suggest that low electricity consumption is not a good indicator of being poor.

As cash transfer programs, a good feature of these two interventions is that they did not distort the price of diesel or electricity for the recipients. Diesel and electricity were not made cheaper by lowering their prices, but the incomes of the recipients were supplemented to enable them to pay for the product. The recipients simply received an income transfer.

Looking at social protection measures more broadly, it is questionable to what extent energy pricing—whether through ongoing assistance or short-term programs—is an effective and efficient measure for the transfer of social assistance. Deregulation has primarily been pursued as an efficiency-enhancing program, with implications for equity and income redistribution. But the major thrust of the national government for social protection is the conditional cash transfer (CCT) program called *Pantawid Pamilya Pilipino Program*. While there are strong arguments to be made in favour of interventions such as extending electrification, policies targeted to support poor households could be more effectively streamlined into this more sophisticated, targeted approach to welfare assistance.





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Appendix 1: Estimates of fossil fuel subsidies within the Philippines

Table A 1. IMF Philippine subsidy estimates

| 2011 | Petroleum products | Electricity | Natural gas | Coal |
|---|--------------------|-------------|-------------|------|
| Pre-tax subsidies (% of GDP) | 0.0 | 0.0 | 0.0 | 0.0 |
| Pre-tax subsidies (% of government revenues) | 0.0 | 0.0 | 0.0 | 0.0 |
| Post-tax Subsidies (% of GDP) | 0.20 | 0.00 | 0.08 | 0.46 |
| Post-tax Subsidies (% of government revenues) | 1.18 | 0.00 | 0.43 | 2.65 |

Source: IMF Energy Subsidy Reform Lessons and Implications, January 28th 2013

Table A 2. IEA Philippine subsidy estimates

| Subsidy by fuel (billion dollars) | Oil | Electricity | Natural gas | Coal |
|-----------------------------------|------|-------------|-------------|------|
| 2009 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2010 | 1.1 | 0.0 | 0.0 | 0.0 |
| 2011 | 1.46 | 0.0 | 0.0 | 0.0 |
| 2011 | | | | |
| Average subsidization rate | 4.3% | | | |
| Subsidy (\$/person) | 15.3 | | | |
| Total subsidy as share of GDP | 0.7% | | | |

Source: IEA online database of fossil fuel subsidies <http://www.iea.org/subsidy/index.html> accessed 10.12.2013

Subsidies estimated using the price-gap approach i.e., $subsidy = (reference\ price - end-user\ price) \times units\ consumed$

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