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# AN INPUT TO INDONESIAN FUEL PRICE SYSTEM REFORMS

A review of international experiences with fuel pricing systems



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## About GSI

GSI is an initiative of the International Institute for Sustainable Development (IISD). GSI is headquartered in Geneva, Switzerland and works with partners located around the world. Its principal funders have included the governments of Denmark, the Netherlands, New Zealand, Norway, Sweden and the United Kingdom. The William and Flora Hewlett Foundation have also contributed to funding GSI research and communications activities.

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### **AN INPUT TO INDONESIAN FUEL PRICE SYSTEM REFORMS** **A review of international experiences with fuel pricing systems**

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## Executive Summary

In January 2015, the Indonesian government introduced a new pricing system for gasoline and diesel fuel. The system is intended to end wasteful spending on fuel subsidies by passing through international oil price increases into domestic fuel prices. This will result in large fiscal savings—IDR 195 trillion (US\$ 15.6 billion) alone was saved in State Budget Revision 2015, allowing for a major injection of funds into infrastructure. But it will also result in higher average prices for Indonesian consumers. Going forward, will the government be able to continue passing through price changes at the same time as safeguarding the interests of consumers, particularly if world oil prices return to past highs? This paper reviews international experience to compare how other countries have dealt with the economic and political challenge of fuel pricing, and to identify what lessons this might provide for strengthening and maintaining Indonesia's new pricing mechanism and helping consumers cope with price volatility.

### How do Indonesia's prices compare with other countries?

Over the past five years, Indonesia has had among the lowest prices for gasoline and diesel in the world. At the time of the last survey of world fuel prices by GIZ, no other country in Southeast Asia had such low prices (see Table ES1). Nor did any other fast emerging economy, with all of the BRICS countries (Brazil, Russia, India, China and South Africa) and Turkey having priced gasoline and diesel above Indonesian levels (see Table ES2). The only countries with prices on par with Indonesia were either net oil-exporters or recent net oil-importers. Internationally, then, it is a norm to allow fuel prices to at least reach higher levels, more closely reflecting the costs of fuel. It is only Indonesia's recent reforms—price hikes in November 2014—in combination with falling international oil prices that have taken Indonesian prices on par with many peers for the first time.

**TABLE ES1. GASOLINE PRICES IN INDONESIA COMPARED TO OTHER COUNTRIES, NOVEMBER 2012**

SOUTHEAST ASIA	US\$ PER LITER	BRICS	US\$ PER LITER
Indonesia	0.47	Russia	0.99
Malaysia	0.62	China	1.19
Vietnam	1.15	India	1.25
Philippines	1.25	South Africa	1.38
Thailand	1.56	Brazil	1.39

Source: (GIZ, 2014).

**TABLE ES2. DIESEL PRICES IN INDONESIA COMPARED TO OTHER COUNTRIES, NOVEMBER 2012**

SOUTHEAST ASIA	US\$ PER LITER	BRICS	US\$ PER LITER
Indonesia	0.47	India	0.86
Malaysia	0.59	Russia	1.00
Thailand	0.97	Brazil	1.02
Philippines	1.01	China	1.28
Vietnam	1.06	South Africa	1.42

Source: (GIZ, 2014).

*Note: An early release of GIZ data from its November 2014 fuel price survey indicates much smaller differentials between countries than witnessed in 2012. This is because world oil prices fell dramatically in late 2014, resulting in lower fuel prices in non-subsidizing nations, with remaining differentials largely determined by efficiency and taxation. Once world oil prices rise again, larger gaps can be expected to return. Relative positions may change, reflecting the fact that some nations, such as Malaysia and Thailand, have also announced the removal of fuel subsidies.*

Most Indonesians are not aware of how little they have paid for fuel compared to other countries. Recent survey research of public opinion has found that only 44 per cent of Indonesian citizens know that fuel is subsidized and only 4 per cent know how much government expenditure is allocated to subsidies.

## What is good practice in a pricing system?

A pricing system can be thought of as consisting of at least two parts: the rules used to set prices; and the institutions that implement them. GIZ and the Global Subsidies Initiative have put forward four dimensions where good practice is needed: subsidies; pass-through; transparency; and enforcement (summarized in Table ES3). The extent of subsidies and pass-through is determined by the rules in place. Transparency and enforcement depends on the institution regulating the market. This could be a state-owned enterprise, Ministry, independent regulator or a mix of institutions that collectively monitor prices, communicate with the public and investigate non-compliance.

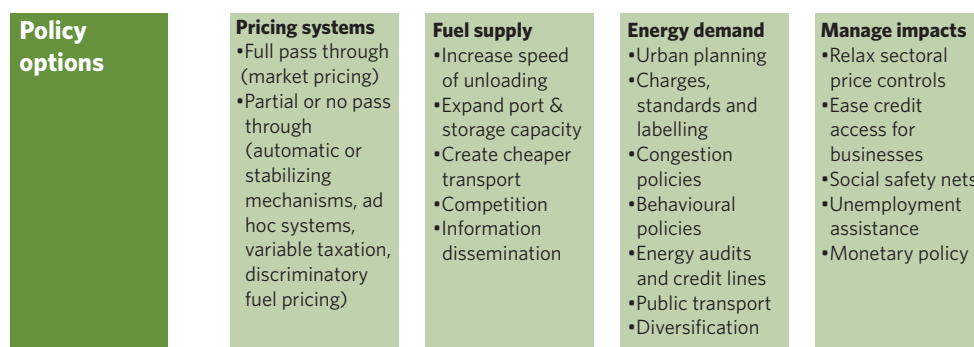
**TABLE ES3. GIZ & GSI GOOD PRACTICE ACROSS DIMENSIONS OF FUEL PRICING**

	DIMENSION	GOOD PRACTICE
1.	<b>Subsidies:</b> The degree to which subsidies reduce the retail price of fuel for consumers.	<ul style="list-style-type: none"> <li>Prices cover production and distribution costs.</li> <li>Fuel taxes exist to help cover transport infrastructure, pay for environmental costs of fuel and raise revenue.</li> </ul>
2.	<b>Pass-through:</b> The degree to which international price change is “passed through” into prices domestically.	<ul style="list-style-type: none"> <li>Domestic prices are adjusted to reflect international fuel market costs, inflation and exchange rate fluctuations.</li> <li>Prices are adjusted to avoid large subsidy burdens.</li> </ul>
3.	<b>Transparency:</b> The degree to which the composition and regulation of energy prices is open and transparent.	<ul style="list-style-type: none"> <li>Information is available on: prices, price sub-components, who sets prices and by what rules; and on government monitoring and enforcement of price rules.</li> <li>Information is accessible, understandable and accountable.</li> </ul>
4.	<b>Enforcement:</b> The degree to which government ensures that pricing rules are followed in reality.	<ul style="list-style-type: none"> <li>Clear, consistent and enforced rules on handling non-compliance.</li> <li>Mechanisms exist to report, investigate and respond to allegations of non-compliance.</li> </ul>

Source: Adapted from Beaton, et al. (2013); GIZ (2012); Wagner (2014).

## If not fuel prices—what? Options for managing fuel price volatility

Many countries use fuel pricing systems to fully or partially prevent exposure of households and businesses to oil price volatility. Volatility still affects the country, however, by taking up government expenditure that could be used for other purposes. This strategy simply shifts risk from businesses and households onto the government budget but it does not reduce risk. Several other strategies are available for managing volatility. These focus on reducing the costs in the fuel supply system, thereby reducing the absolute cost of fuel sold domestically at any given international market price; reducing energy demand by promoting efficiency and more rational consumption, thereby reducing the importance of fuel prices on household and business budgets; and finally managing the impacts of volatility after they take place, targeting assistance to help vulnerable groups cope.



**FIGURE ES1. OPTIONS FOR MANAGING FUEL PRICE VOLATILITY**

Source: Authors, based on review of Kojima (2013b); Yépez-García & Dana (2012); Beaton, et al. (2013); Wagner (2014).

## How Do Countries Similar to Indonesia Price Fuel?

Fuel pricing systems were examined across a range of countries considered “similar” to Indonesia: Southeast Asian nations, archipelago countries or large emerging economies. Table ES4 provides an overview of findings.

**TABLE ES4. FUEL PRICING SYSTEMS IN COUNTRIES COMPARABLE TO INDONESIA**

	MECHANISM	NOTABLE FEATURES
China	Fuel prices are adjusted when world oil prices fluctuate by more than CNY 50 per ton (~US\$ 1 per barrel or US\$0.006 per liter). New prices are set according to a formula based on a 10-day moving average of an undisclosed basket of reference prices, including a fuel tax. The government reserves the right not to pass through price changes. The system is administered by the National Energy Administration and the National Development Reform Commission. Pump prices are publically available but there is relatively little transparency on price components.	<ul style="list-style-type: none"> <li>The government has regularly exercised its right not to pass through price rises. Since shifting from a 4% price change trigger based on a 20-day moving average to a CNY 50 per ton trigger based on a 10-day moving average, the passing through of prices has become more common.</li> <li>China’s fuel tax is adjustable and has been used to help smooth domestic prices. In Jan 2015, the tax was increased in response to falling world oil prices.</li> </ul>
India	Fuel prices are determined by the market (gasoline since 2010, diesel since 2014), including excise duty and VAT. The oil sector is regulated by the Ministry of Petroleum and Natural Gas (MPNG) with downstream support from the Petroleum and Natural Gas Regulatory Board. Pump prices are published on the MPNG website. State-owned oil marketing companies publish price components, but regularity of updates is variable.	<ul style="list-style-type: none"> <li>India gradually removed diesel subsidies over two years of small monthly adjustments to prices.</li> <li>India has adjusted its fuel excise duty to help smooth prices. In Jan and Feb 2015, the duty was increased in response to falling world oil prices.</li> </ul>
Mexico	Fuel prices are adjusted on a monthly basis according to a fixed formula based on an international reference price and including excise tax, state tax, carbon tax and VAT. The system is administered by the Ministry of Energy and prices are set by the Ministry of Finance and the Energy Regulatory Commission. Pump prices are published on the MoE website but there is relatively little transparency on price components.	<ul style="list-style-type: none"> <li>Mexico gradually removed diesel subsidies through small monthly adjustments to prices.</li> <li>Recently introduced competition to its fuel market as part of comprehensive energy sector reforms.</li> <li>Mexico has a supplement to help households afford energy costs in its cash transfer program <i>Oportunidades</i>.</li> </ul>
Philippines	Fuel prices have been determined by the market since 1998, with oil companies and retailers usually adjusting prices on a weekly basis. Prices include an excise tax and VAT. The market is regulated by the Department of Energy (DoE), which monitors prices around the country and publishes them on its website. During times of high prices, the DoE engages actively with media and TV to explain the rationale behind increases.	<ul style="list-style-type: none"> <li>During periods of high prices, the Philippines has temporarily enlarged payments in its 4P cash transfer program and issued smart cards to help Jeepney and motorized tricycle drivers.</li> <li>Three high-level independent panels have been called since 2005 to acknowledge and respond to public concerns about fuel pricing.</li> </ul>
South Africa	Prices are adjusted monthly according to a fixed formula based on Mediterranean and Singaporean spot prices, including several taxes and levies. The system is managed and prices are determined by the Central Energy Fund on behalf of the Department of Energy (DoE). Price calculations are verified by independent auditors. Transparency is high, with prices and components reported on the DoE website, and regular engagement with TV, media and journalists on price changes.	<ul style="list-style-type: none"> <li>The price formula includes: “regional variations”, to reflect costs of distribution in different areas and to narrow the price gap between urban and rural areas; a “road accident fund” levy to compensate third party victims of motor vehicle accidents; and an allowance for fuel pump attendant salaries, to ensure a fair wage.</li> </ul>
Thailand	Fuel prices were deregulated in 1991, but Thailand’s Oil Stabilization Fund (OSF) has smoothed prices of petroleum products by variably taxing or subsidizing them at different points in time. The Ministry of Energy (MoE) administers the energy sector. It publishes daily updates of fuel prices and components on its website. The OSF is administered by an independent agency under the MoE, the Energy Fund Administration Institute. It also reports detailed information on prices.	<ul style="list-style-type: none"> <li>The OSF has had mixed results, with high fuel subsidies and a high deficit that has needed bail-out or private loans on at least two occasions.</li> <li>In 2008, Thailand did not use the OSF, instead coping with high world oil prices with a range of other measures: free bus and train rides, electricity and water for poor households and a minimum wage.</li> </ul>

## Implications for Indonesia

International experience suggests a number of areas where Indonesia could build on its existing foundation. Table ES5 below sets out options across four key areas. Three of these are thematic: adapting the pricing rules to mimic some of the most useful features from other countries; investing in regulatory functions, particularly around monitoring, enforcement and transparency; and investing in non-pricing measures to address price volatility over the short, medium and long-term. Finally, a cross-cutting need for communications applies across all three areas.

**TABLE ES5. OPTIONS TO STRENGTHEN FUEL PRICING IN INDONESIA**

	Pricing formula	Regulatory functions	Non-Pricing Measures to Manage Volatility
	<ul style="list-style-type: none"> <li>• <b>Variable tax:</b> This can prevent prices falling so low that it is difficult to raise them again, as illustrated by recent use in China and India. It also gives a release valve during periods of high prices that is more nuanced than simply not applying the formula.</li> <li>• <b>Link adjustments to absolute or % changes in world prices:</b> China has used this feature to avoid negligible adjustments and to ensure a quick response to significant world price fluctuations. Depending on design, there may be less hoarding than changes on a fixed schedule.</li> <li>• <b>Create incentives for retailers to benefit by deviating downward from set prices:</b> Such incentives—even within a state-owned company like Pertamina—can promote more efficient supply and thereby lower prices.</li> <li>• <b>Consider linking assistance to high fuel prices:</b> Rather than abandoning pass-through when prices are high, countries such as Mexico, the Philippines and Thailand have provided targeted assistance to vulnerable groups. Indonesia should consider automatically triggering temporary measures when prices are high.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Improve systems for ongoing, real-time monitoring of pricing across Indonesia:</b> The new pricing system has ushered in an era where prices ought to change regularly, as opposed to once every few years. Incidents of non-compliance will harm consumer welfare and could bring the new system into disrepute. Real-time monitoring will allow government agencies to be pro-active in identifying and tackling such problems.</li> <li>• <b>Improve capacity for responding to consumer concerns:</b> A facility to acknowledge and respond to consumer complaints can help identify problems and build confidence in the new system. Independent enquiries such as in the Philippines can be used in the case of major issues.</li> <li>• <b>Monitor and promote competition in unsubsidized gasoline markets:</b> The new market for general gasoline in the Java-Madura-Bali area is large and can be used to identify the potential for promoting lower prices through increased competition.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Link a share of subsidy savings to investments that tackle volatility:</b> Managing volatility through means other than pricing will often require large investments. Funding this with subsidy savings can demonstrate that the new system is promoting the best interests of consumers.</li> <li>• <b>Invest in improving the efficiency of supply:</b> Specific interventions would require an assessment of efficiency bottlenecks. Policies would likely create impact in the medium- to long-term through infrastructure in areas such ports, transport and refining.</li> <li>• <b>Invest in reducing energy demand:</b> Interventions could create impacts from short- to long-term by upscaling existing efforts on congestion, vehicle and fuel efficiency, public transport, energy diversification and urban planning.</li> <li>• <b>Invest in targeting assistance to vulnerable groups:</b> Interventions could focus on using existing capacity, or developing new facilities, such as crisis response packages or smart card systems to target assistance to key sectors such as transport operators.</li> </ul>
Communications	<ul style="list-style-type: none"> <li>• <b>Transparency:</b> It should be clear who applies the formula and what calculations take place to produce announced prices.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Transparency:</b> Consumers should be able to access information tracking prices across regions of Indonesia. They should also be able to access information about non-compliance and related enforcement.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Awareness-raising:</b> When world prices rise to previous highs, consumers are likely to call for subsidies to return. Communications should ensure that they are aware of other efforts to address price volatility.</li> </ul>

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