



Energy Price and Subsidy Swap Lesson From Indonesia

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IEA - Energy Efficiency in Emerging Economies
Training Week for Southeast Asia

Type of Energy Subsidies in Indonesia



Gasoline, Diesel

Transport Fuel

- Gasoline RON 88: market price, “hidden” distribution incentive outside Java-Madura-Bali through SOE
- Automotive Diesel: Fixed Subsidy



Cooking gas

LPG

- LPG: Fixed price, closed distribution only for the poor. Heavy leak.



Household Electricity

Electricity

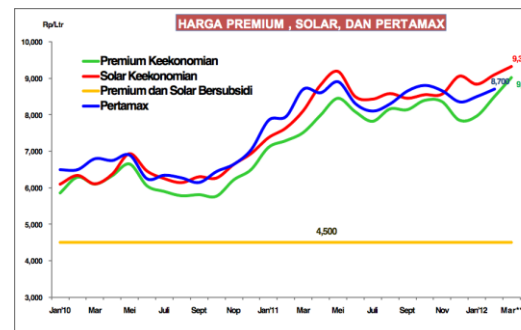
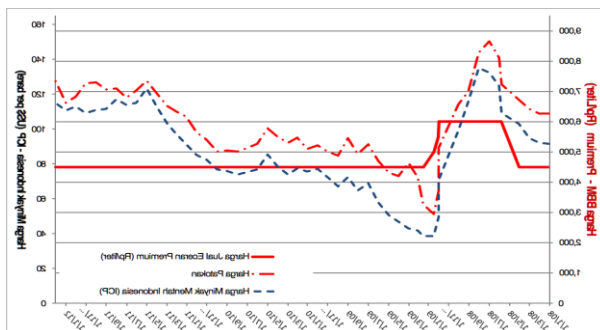
- Electricity: Fixed tariff / price for residential costumers <450VA



Subsidy Reform Timeline

Transport Fuel		LPG		Electricity	
1998-2014	2015	2007	2016-now	1998-2014	2013-now
Price adjustment, aimed to reduce subsidy. Before 1998, blanket subsidy for all fuel products, with ad hoc evaluation.	System change (fixed price → fixed subsidy). Periodic price evaluation every 3 months.	The “Conversion Program” replacing subsidized kerosene with subsidized LPG (shifting subsidy to more efficient energy).	<i>Preparation to merge energy subsidy with social security system (inconclusive).</i>	Fixed tariff with ad-hoc tariff adjustment.	2013 - Gradual tariff adjustment. 2017 – Improving targeting accuracy with poverty database and setting up complaint mechanism.

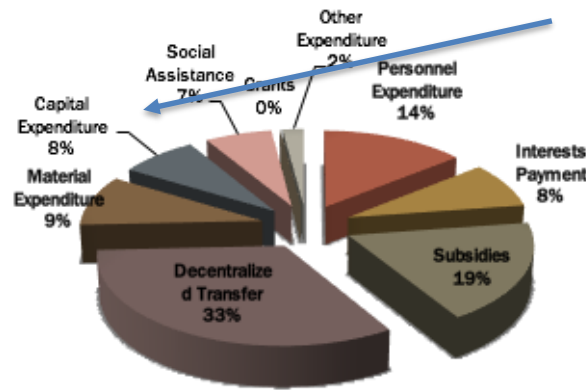
*ad-hoc: without timeline, done if needed.



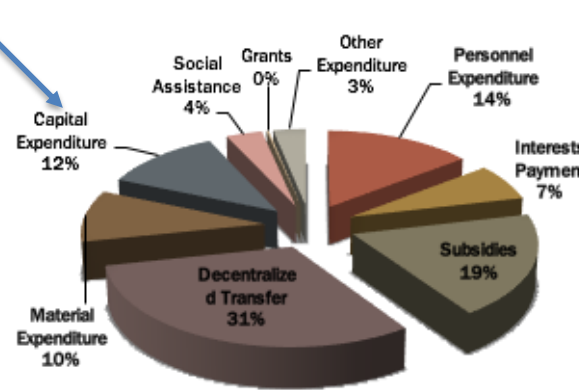


Fiscal Rigidity

State Expenditure
State Budget 2010 - Audited



State Expenditure
State Budget 2013 - Proposal



- Vulnerable to shock, esp. from external factors. Fiscal risk.
- Limiting budget capacity to reinvest

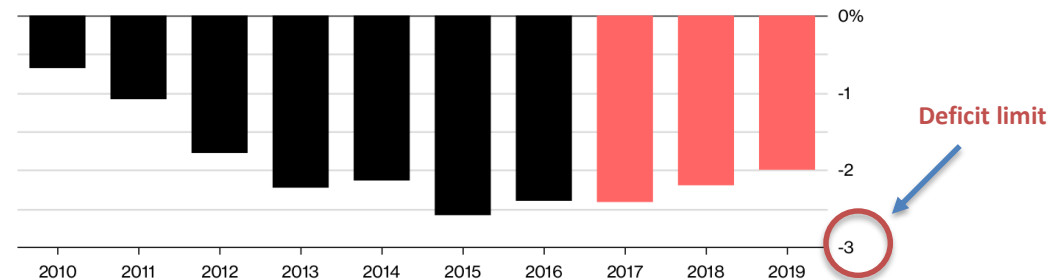
Source: State Budget Proposal 2013

Call: Evaluate budget, rationalize spending: including energy subsidy (biggest spending post, app. 75% of total subsidy, and **regressive**)

Fiscal Imbalance

Indonesia starts curbing its budget deficit

■ Budget deficit as % of GDP ■ Government forecasts



Note: 2019 forecast is less than 2% of GDP
Source: Data compiled by Bloomberg

Bloomberg

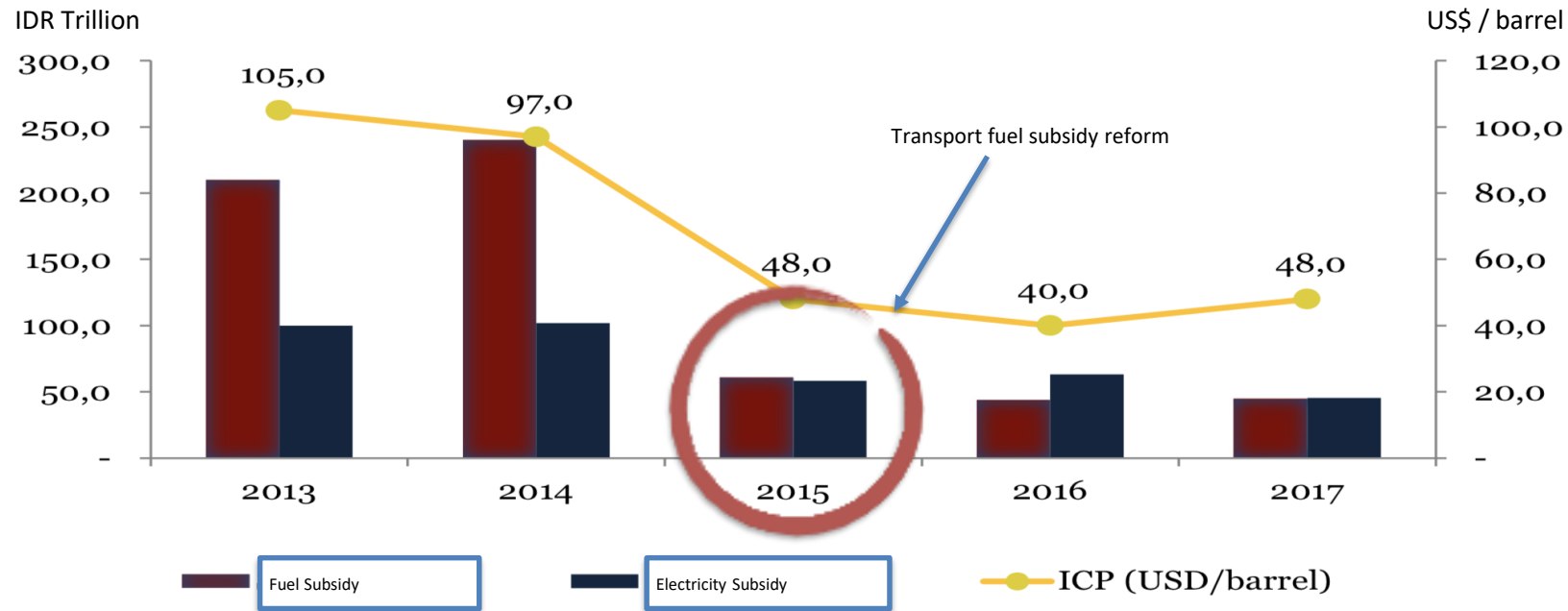


Energy Subsidy

Next mission

Reducing subsidy is important, but it doesn't necessarily get the price right without a fundamental pricing system reform

Indonesia Energy Subsidy



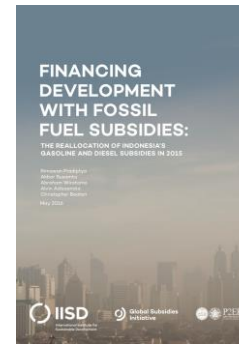
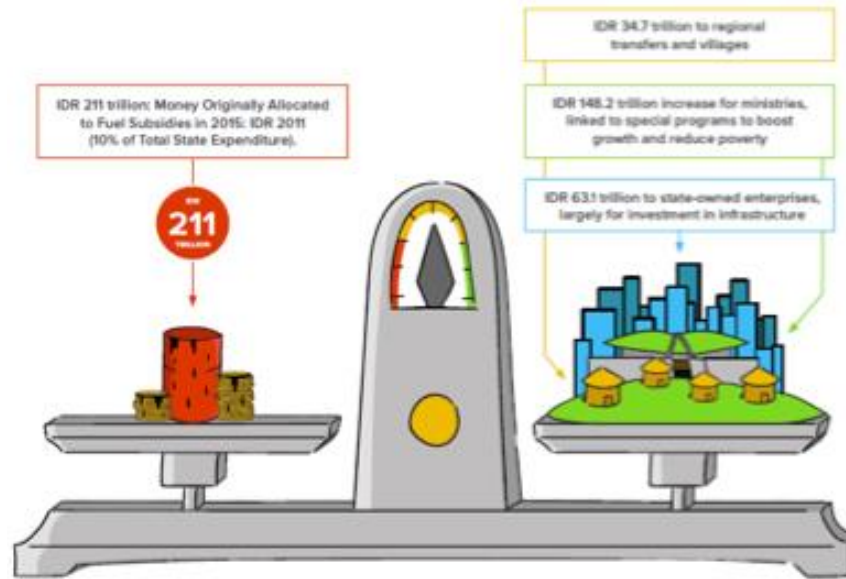
Subsidy saving:

In the first year: more than IDR 211-222 trillion (pre-audit/audited)

Accumulative saving from 2015-2017: IDR 323 trillion (app. USD 24.85 billion)

<https://kumparan.com/redaksi-humas/kebijakan-subsidi-energi-jamin-harga-tidak-naik>

Subsidy Swap



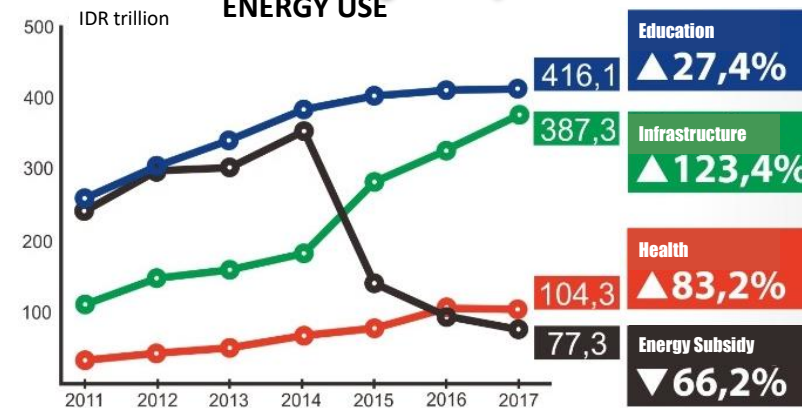
<https://www.iisd.org/sites/default/files/publications/financing-development-with-fossil-fuel-subsidies-indonesia.pdf>

Reallocating subsidy saving
More efficient spending

More efficient economy

- Better infrastructure can contribute to lower logistic time and cost
- Ease traffic jam with public transport - quality of life
- New grid delivering more power and less interruption

INCREASING ECONOMIC VALUE FROM ENERGY USE



Source: Ministry of Finance
<https://jpp.go.id/ekonomi/energi/307234-ini-9-penjelasan-tarif-dan-subsidi-listrik>

International recognition

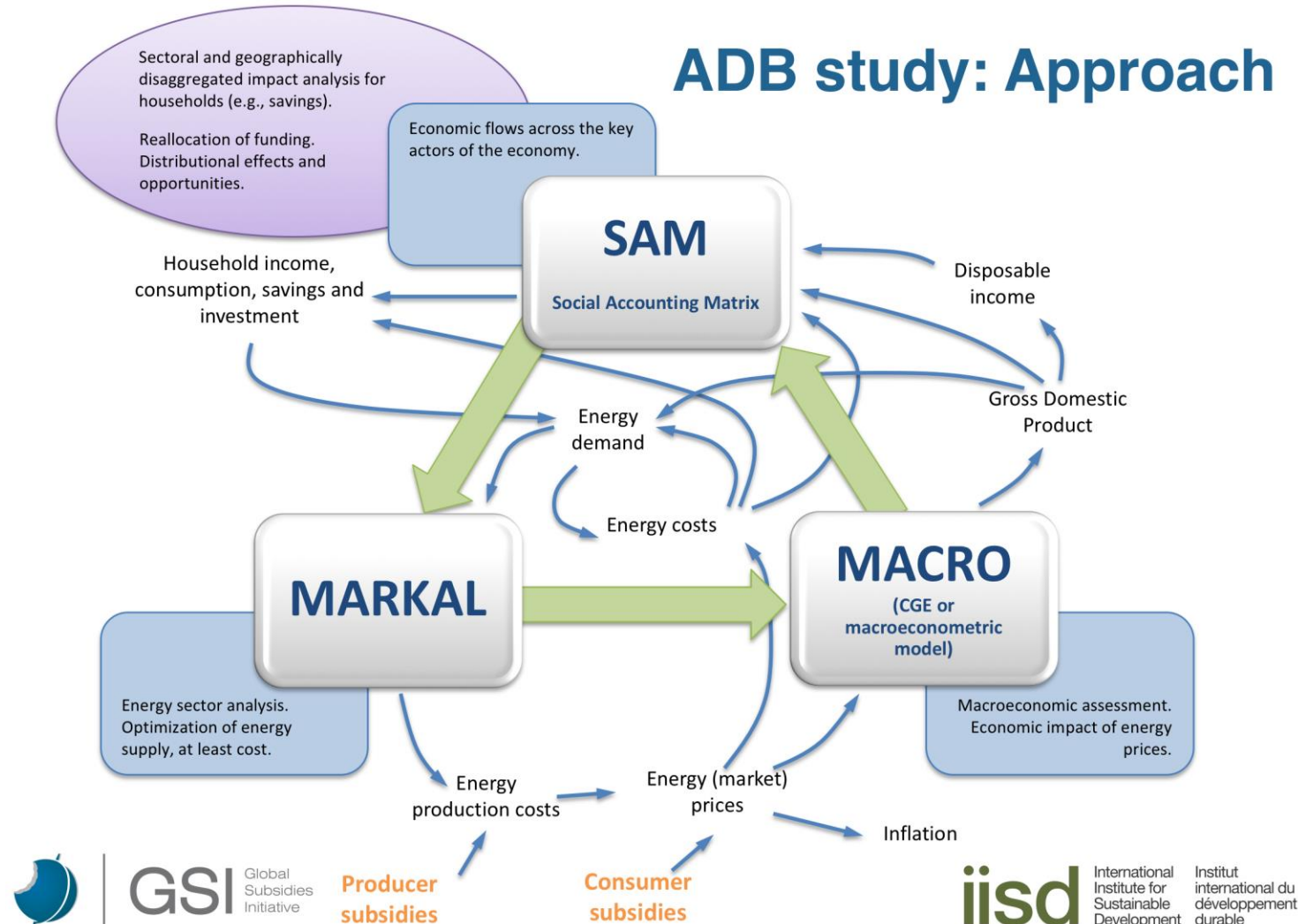
S&P	May 2013 Stable BB+	May 2015 Positive BB+
Moody's	January 2012 Stable Baa3	Feb 2017 Positive Baa3
Fitch	Dec 2011 Stable BBB-	Dec 2016 Positive BBB-



Note on Subsidy Swap

- ✓ Subsidy reallocation (swap) can be useful to double-down and demonstrate the benefit of reform
- ✓ Reallocating subsidy saving ideally should be harmonized with development agenda
- ✓ Options for reallocation posts:
 - Tackling immediate issues: loan/debt payment, easing deficit, negative account, reform impact
 - Energy post: building energy infrastructure, renewable energy development, energy efficiency projects
 - Non-energy post: health, public infrastructure, social security, boosting specific industry
- ✓ Swap can be measured and forecast. Impact, cost, and time, are predictable
- ✓ Understanding the possibilities of swap is useful for energy / development planning and the formulation of other strategic decisions / policies, such as sectoral plan, or Nationally Determined Contribution (NDC) and green house gas emission target.
- ✓ Outcome of swap may not be immediately materialized, especially if the allocation goes to mid or long-term projects. Public communication is needed to inform the bigger picture to the public.

ADB study: Approach





Subsidy Reform Stimulates Energy Efficiency

6.2.4 Domestic Oil Fuels Sales

million kiloliter

	2012	2013	2014	2015*	2016	2017 *)
Avgas	2,606	2,868	1,499	3,070	2,967	1,128
Avtur	3,898,832	4,159,010	4,229,094	4,336,624	4,665,191	2,537,319
RON 88	28,459,985	29,501,773	29,707,002	28,107,022	21,753,536	6,861,800
Kerosene	1,382,469	1,260,490	971,434	769,233	590,190	304,090
ADO *)	25,079,718	23,715,716	21,440,501	26,130,183	14,306,728	7,205,407
IDO	91,600	79,137	60,870	53,069	37,720	11,732
Fuel Oil	3,428,875	1,973,903	1,884,040	1,647,441	1,229,379	912,064
RON 95	149,424	158,714	154,888	278,758	290,954	130,553
RON 92	666,461	850,408	1,062,920	2,761,956	4,789,597	2,775,787
RON 90	0	0	0	379,959	5,805,578	6,393,391
Solar 53	0	0	0	0	74,034	84,169
Solar 51	12,297	23,053	33,305	38,552	105,889	134,747
Bio RON 88	0	0	0	0	0	0
Bio RON 95	0	0	0	0	0	0
Bio RON 92	0	0	0	0	0	0
Bio Solar *)	9,130,039	10,332,005	11,232,729	3,042,511	13,220,539	5,445,482
Total Fuel	72,302,305	72,057,077	70,778,283	67,548,378	66,872,301	32,797,669

Sources : Directorate General of Oil and Gas
Note : *) Temporary Data up to Semester I 2017

Source: ESDM

- * Fuel price adjustment has shrunk the price gap between subsidized fuel and the non-subsidized fuel.
- * Narrower price gap between subsidized and non-subsidized fuel drives consumers to buy higher quality fuel, rather than the middle product (duplicating experience in 2003). The gap with high performance gasoline now is around USD 0.25- USD0.30 / liter, and around USD 0.18 with middle product. **PRICE CAN INFLUENCE ATTITUDE.**
- * Higher appreciation towards quality drives competition and innovation in semi-open market. PT Pertamina launched gasoline RON 98, Gol aimed to meet the Euro 4 standard. More efficient fuel consumption and technology, less pollution, because there is a increasing demand for higher quality fuel.

**RACE SHOULD BE TO THE TOP - BETTER QUALITY
NOT TO THE BOTTOM - CHEAPER BUT LOW
QUALITY**

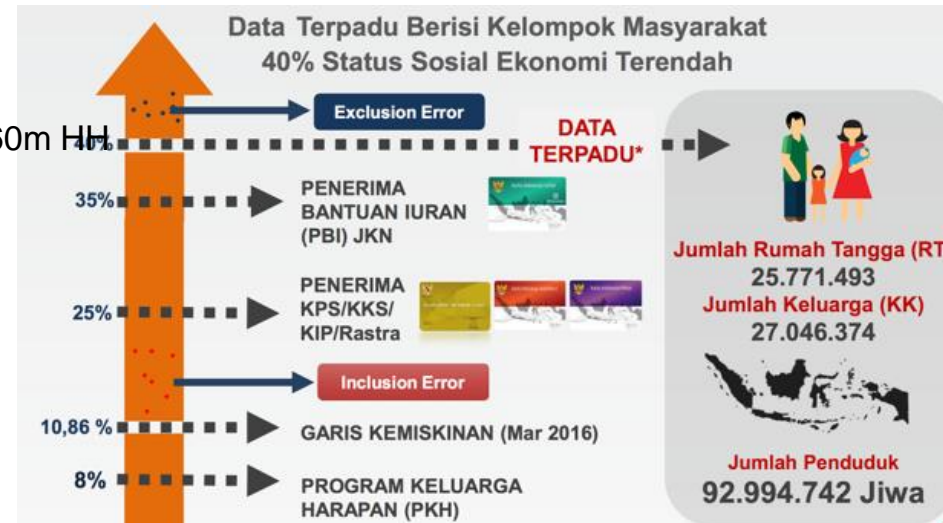


Latest State of LPG Subsidy Reform in Indonesia

- Primary missions: 1) to reduce LPG subsidy; 2) improving subsidy accuracy using poverty database; 3) incorporating digital and banking system

- Mission Target (rough numbers):

- Existing Recipient (Conversion Program): $\pm 60\text{m HH}$
- UDB Number: 26.6m HH
- Food Assistance: 15.5m HH
- PKH coverage: 10m HH
- Card holders: **1.5m - 3m HH**



- Scenario 1: Closed Distribution (Distup) with Reduced Recipients (UDB) - MEMR Baseline
- Scenario 2: (DUAL PRICE) Regulated Price with Bank Card System through Bank's Online/Offline Vendors- Ministry of Social Affairs and Himbara (need rapid ramp-up on the number of card holders and vendors acquisition)
- Scenario 3: (SINGLE PRICE) Market Price and Transformation of LPG Subsidy into a Social Security item (energy subsidy wallet) with gradual implementation (broadest coverage, least developed plan)

All scenarios require a reallocation plan of LPG distributors



Latest State of Electricity Subsidy Reform in Indonesia



<https://www.iisd.org/sites/default/files/publications/ten-things-indonesia-infographic-en.pdf>

- Gradual tariff adjustment
- Introduction of “*complaint mechanism*”, creating dynamic subsidy recipient registration based on poverty database. Improved accuracy and self-update ability
- The example of reform beyond subsidy reduction, because it replaces the system / installs new system





“Coal vs Renewable” Power

Renewable power has to compete with a fossil fuel-dominated (esp. coal) power system with subsidy

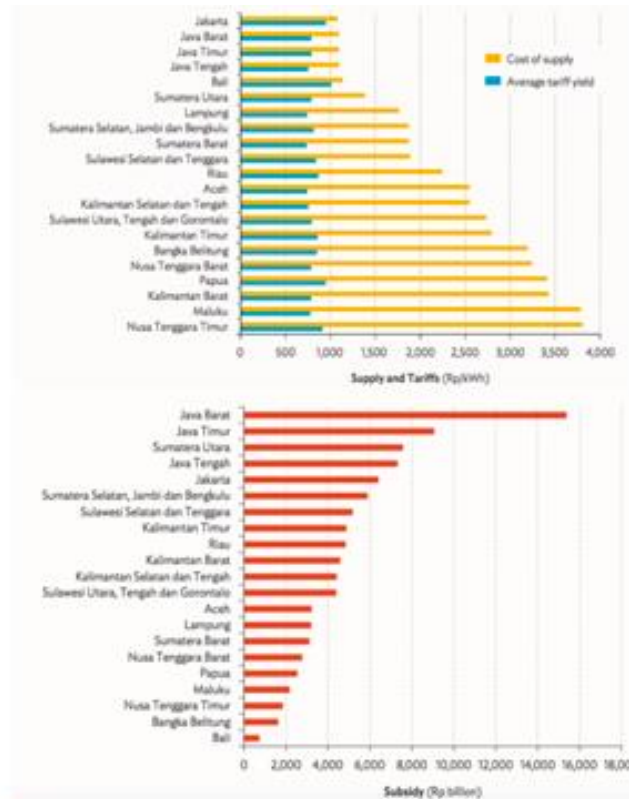


Figure 7: Cost of supply and tariff yield by region (above) and total electricity subsidy by region, 2013 (below)

Source: ADB (2016)

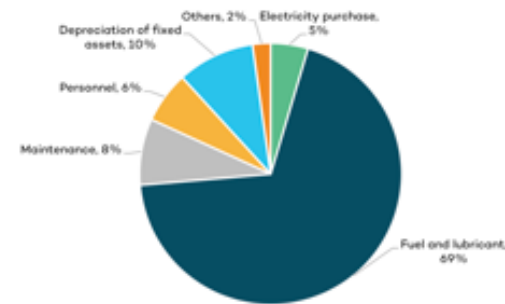
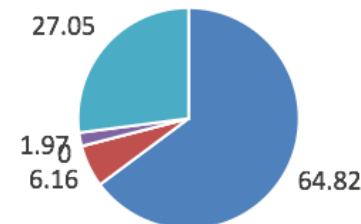


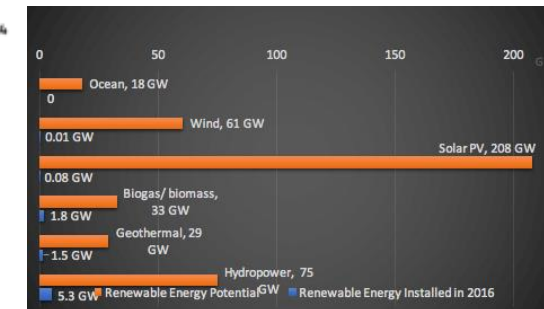
Figure 4: Breakdown of PLN's operational expenses in 2014

Source: PLN/ANEKA (2014)

2016




■ Coal ■ HSD ■ IDO ■ FO ■ Natural Gas





Lesson Learned

- * Need to **evaluate subsidy on fossil fuel** since it poses fiscal risk due to unstable market.
- * Protracted subsidy may harm the economy and development quality. **Tackling it earlier is highly recommended.**
- * Reform needs to consider: **planning, consistent implementation, impact management, public communication, and institutionalized continuation.**
- * It is possible to have a reform while **protecting the most-impacted and most-vulnerable groups.**
- * **Heavy subsidy on fossil fuel** related activities **impedes the development of alternative and clean energy**
- * **Externalities** (social, environmental, and health factors) should be considered in energy price structure to provide more accurate information for the consumers
- * There are proofs that if you “**get the price right**”, **consumers may go with a more energy-efficient options.** A more comprehensive support and public education is needed.
- * **Subsidy swap** is a way to **exploit the benefit of reform.** Ability to demonstrate it will increase public confidence to the reform.
- * Subsidy swap does not merely move fiscal slots. **It ideally serves development goal, it can be measured** not only to create psychological effect about the reform, but a substantial economic improvement.



Our future starts now

Thank you

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