Fossil-Fuel Subsidies and the Poor in Asia

Submitted by: ADB
FOSSIL-FUEL SUBSIDIES
AND THE POOR IN ASIA

Shikha Jha
Asian Development Bank

APEC Senior Officials Meeting, 23 September 2011
San Francisco

Outline of the presentation

- An overview of the energy scene in Asia
- Political economy of subsidies
- Proposed research study
The Energy Scene in Asia: An overview

Asia-Pacific: Energy for all?
- Fastest demand growth, esp fossil-fuel energy
  - ¼ of global energy; PRC accounts for ½
- No access to basic electricity services
  - 800 million (20% of population)
- Reliance on traditional biomass
  - 1.8 billion (44%)
- ADB: Access to energy to 100 million by 2015
The poor spend larger % on fuel and light

India

Philippines

Source: Household Consumer Expenditure in India, 2007-08; Report No. 530; 2009 Philippines FIES

Prices differ substantially across the region - An example

Retail Gasoline Prices in Developing Asia (Oct 2008)

Source:

ADB
Challenge

- To come up with ways and means to
  - enhance energy supply security
  - improve energy accessibility of the poor and
  - provide them affordable modern energy services
- ... while tackling climate change and other environmental issues

Strategies proposed by G20 Asian members – Some examples

- **PRC**: To gradually reduce urban land-use tax relief for fossil fuel producers
- **India**: To work out implementation strategies and timetables for rationalizing and phasing out fossil-fuel subsidies
- **Indonesia**: To gradually phase out subsidies and adopt other measures to reduce fossil-fuel energy consumption
- **Korea**: To phase out subsidies to anthracite coal and briquette producers
Fossil-fuel subsidies: The political economy angle

Characteristics of energy sector

<table>
<thead>
<tr>
<th></th>
<th>Typical developed economy</th>
<th>PRC</th>
<th>Vietnam</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political discretion in price setting</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Dominance by state-owned vertically-integrated utilities</td>
<td>Low, some exceptions</td>
<td>High</td>
<td>High</td>
<td>High</td>
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<tr>
<td>Central planning in the electricity sector</td>
<td>Low, some exceptions</td>
<td>High</td>
<td>High</td>
<td>High</td>
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<tr>
<td>Political difficulty of reform</td>
<td>Mixed</td>
<td>Moderate</td>
<td>N/A (Just starting)</td>
<td>High</td>
</tr>
<tr>
<td>Difficulty in finding instruments to compensate low-income households for price changes</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

Complexities of subsidies

- Interest-group influence
  - Industry lobby
  - Vote banks
- Off-budget subsidies
  - Tax holidays
  - Waiver of import duties
- Logistical difficulties
  - Users are organized differently
  - Government’s ability to deal with interest groups varies
  - Responsible offices—foreign affairs, finance, energy, tax, national planning: Requires coordination

Varied energy pricing systems

- **Liberalized** – market-determined prices
- **Automatic** – regulations establishing an automatic adjustment mechanism
- **Price controls** – administer, regulate, or adjust prices on an ad-hoc basis

<table>
<thead>
<tr>
<th>Gasoline Pricing Mechanisms (2006)</th>
<th>Number of economies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberalized</td>
<td>15</td>
</tr>
<tr>
<td>Automatic</td>
<td>8</td>
</tr>
<tr>
<td>Ad hoc</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>

Difficulties in measuring subsidies

- Oil and gas subsidies easy to estimate: international price to benchmark economic costs
- Subsidies for coal (partially traded, contractual prices) and electricity (non-traded) hard to measure
- No single on-going process or consistent database
Rationale

- Energy subsidies are critical for development
  - can stimulate economic activity/spur growth
  - alleviate poverty
- But these subsidies
  - are expensive and divert resources from other priorities
  - result in excessive production/consumption
  - deplete exhaustible resources, harm the environment
- Phasing out subsidies would
  - save fiscal resources and energy
  - reduce carbon dioxide emissions
Objectives of the Study

1. Identify and measure fossil-fuel subsidies
2. Assess household impact of their elimination
3. Discuss options to mitigate impact on poor

- Potential economies
  - Bangladesh, PRC, India, Indonesia, Kazakhstan, Malaysia, Pakistan, Thailand, Uzbekistan
  - Korea, Philippines, Viet Nam

Contributions of the project

- Systematic measurement and analysis of fossil fuel subsidies to consumers and producers
- Asia-wide evaluation of impact of subsidy elimination and social safety nets for the poor
  - OECD: Case study of subsidy reform in Indonesia
  - WB: Poverty and Social Impact Analysis of subsidy removal on poor in Armenia, Sri Lanka and Tajikistan
- Dissemination of the findings to governments to encourage reforms
- Benchmark to initiate studies of macroeconomic impacts
Thank you!

Contact:
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Fossil-Fuel Subsidies and Strategies for Reform

Submitted by: Global Subsidies Initiative (GSI)
Fossil-Fuel Subsidies and Strategies for Reform

APEC Senior Officials’ Policy Dialogue on Fossil-Fuel Subsidies

Kerryn Lang, Global Subsidies Initiative
23 September 2010

Global Subsidies Initiative (GSI)

- Established by the International Institute for Sustainable Development (IISD) in 2005

- Purpose: to investigate and promote reform of subsidies that have negative economic, social or environmental impacts.

- Phase II (2009 – 2011): Fossil-fuel subsidies
- Phase III (2012 – 2014): Energy and Water
Outline of this presentation

1. Overview of fossil-fuel subsidies for both consumption and production
2. Benefits of fossil-fuel subsidy reform
3. Increasing momentum for reform on international agendas
4. Elements of a successful reform strategy

1. Overview of fossil-fuel subsidies

Consumption subsidies:
- Estimated to amount to $312 billion in 2009, $558 in 2008 (IEA, 2010)
- Mostly in developing and energy-exporting economies
- Not well targeted for intended beneficiaries (the poor)
- Hurdles to reform include swaying public opinion & developing effective welfare nets
1. Overview of fossil-fuel subsidies

Producer subsidies:
- GSI’s estimate: $100 billion per year
- Used in developed and developing economies
- Many different types (e.g. financial transfers, tax breaks, royalty reductions, accident liability caps)
  - Canada study: 63 subsidies totaling CA$2.84 billion in 2008
  - Indonesia study: 3 subsidies totaling US$ 1.8 billion in 2008

2. Benefits of fossil-fuel subsidy reform

- Reforming fossil-fuel subsidies will:
  - Level the playing field for investments in clean and renewable energy technologies, energy efficiency
  - Reduce global greenhouse gas emissions by 10% by 2050 (OECD, 2010)
  - Reduce public expenditure; remove a fiscal liability in times of high and volatile oil prices
3. Increasing momentum for reform

- G-20 and APEC commitments to rationalize and phase out over the medium term [inefficient] fossil-fuel subsidies that encourage wasteful consumption...while protecting the poor
4. Elements of a successful reform strategy

• **Research:** costs, benefits, options and impacts

  E.g. Government of Indonesia commissioned 3 university reports to inform its roadmap for phasing out fuel subsidies, identifying various options:
  1. Raise the price of subsidized fuel
  2. Limit the amount of subsidized fuel available and target who receives it (e.g. older cars, not new cars)
  3. Phase out the subsidy by region (starting with Jakarta)

• **Price-setting mechanisms:** independent, transparent & adjustable.

  Price rises: gradual or sharp?

  • E.g. Bolivia tried to raise fuel prices by between 53% and 87% in December 2010 but failed
  • GIZ recommends raising prices 10% at a time, however
  • E.g. Iran reformed fuel subsidies in one price rise, by providing compensation for entire population (~50% of the revenues)
4. Elements of a successful reform strategy

- Complementary policies:
  - Cash transfers: conditional or unconditional
  - Reduce/abolish school fees, provide free school meals
  - Increase the minimum wage
  - Extend credit facilities for entrepreneurs or small businesses (e.g. farmers, fishermen, women in rural areas)
  - Increased investment in public transport systems, rural electrification schemes and other essential services
  - Expand pension or health insurance schemes

- Monitoring, evaluation and adjustment
  - E.g. monitoring energy price adjustments against the international market price
  - E.g. evaluating and adjusting the targeting or delivery of cash transfer payments
Thank you

email: klang@iisd.org
www.globalsubsidies.org/en
IEA Analysis of Fossil-Fuel Subsidies for APEC

Submitted by: IEA
IEA analysis of fossil-fuel subsidies for APEC

Amos Bromhead
Office of the Chief Economist
International Energy Agency
San Francisco, 23 September 2011

Primary energy demand in APEC economies in the Current Policies Scenario

APEC energy demand expands by 44% between now and 2035 – an average rate of increase of 1.4% per year – with fossil fuels remaining dominant in the energy mix.
Spending on oil & gas imports as a share of GDP in APEC economies in the Current Policies Scenario

The combination of higher prices and expanded imports translates to a growing import bill for the region, which can be a heavy burden on economic growth.

Energy-related CO₂ emissions in APEC economies in the Current Policies Scenario

APEC’s share of global CO₂ emissions increases slightly to 59% in 2035, highlighting that the region will have to play a key part if climate objectives are to be met.
Fossil-fuel subsidies can have unintended effects

Fossil-fuel subsidies result in an economically inefficient allocation of resources and market distortions, while often failing to meet their intended objectives.

Quantifying fossil-fuel consumption subsidies using the price-gap approach

- A price-gap is the amount that an end-use price is below the full cost of supply or reference price.
- It is applicable where end-use prices are regulated and fall short of international market levels.
  - Does not capture: production subsidies, rebates to consumers, the effect of cross-subsidies, cost of investing in new capacity (electricity).

- What costs are represented by estimates from the price-gap approach?
  - For net exporters, these are essentially opportunity costs.
  - For net importers, these are estimates of direct, budgetary transfers.

- Relevant calculations:
  - Subsidy = (reference price – end-use price) * consumption.
  - Reference price (fuels) = int'l price (quality adj) +/- freight & insurance + local distribution + VAT.
  - Reference price for electricity is based on annual average-cost pricing: calculated from a weighted average of the cost of electricity production (according to specific power mix), plus transmission and distribution.
The price-gap method compares end-use prices paid by consumers with reference prices that correspond to the full cost of supply – a subsidy is present if the end-use price falls short of the reference price.

Worldwide, fossil-fuel consumption subsidies totaled $409 billion in 2010 – about $100 billion higher than in 2009; among APEC economies, we estimate they reached $105 billion.
Fossil-fuel consumption subsidies per capita and as a percentage of total GDP

The economic cost of subsidies can be more completely understood when viewed as a percentage of GDP or on a per-capita basis.

Major energy producers are among the biggest subsidisers

For net exporters of oil and gas in APEC economies, subsidies to those fuels totalled $74 billion in 2010, compared with $31 billion in net-importing economies.
Fossil-energy subsidies go mostly to the rich

Share of fossil-fuel subsidies received by the lowest income quintile by fuel in surveyed economies*, 2010

- LPG
  - Gasoline
  - Diesel
  - Electricity
  - Natural gas
  - Kerosene

Only 8% of the amount spent on fossil-fuel consumption subsidies in 2010, reached the poorest 20% of the population

Getting rid of fossil-energy subsidies would save energy & cut emissions

- Without further reform, spending on subsidies in APEC economies is set to reach $150 billion in 2020
- Subsidy reform would have energy security, environmental & economic benefits
- Phasing-out subsidies in APEC economies by 2020 would:
  - reduce energy demand by 2.3%
  - reduce oil demand by 0.5 mb/d
  - cut CO₂ emissions by 0.6 Gt
- Savings would be considerably higher in the economies that have subsidies
### Recent pricing reforms in selected economies

<table>
<thead>
<tr>
<th>Economy</th>
<th>Description of actions or announced plans</th>
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</thead>
<tbody>
<tr>
<td>Angola</td>
<td>Raised gasoline &amp; diesel prices by 50% and 38% in Sept 2010. Plans to reduce fuel subsidies by 20% per year until eliminated.</td>
</tr>
<tr>
<td>India</td>
<td>Scrapped regulation of gasoline prices in June 2010, with plans to do the same for diesel; Plans to eliminate cooking gas and kerosene subsidies in a phased manner starting April 2012, replacing with direct cash support to the poor.</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Postponed a restriction of subsidised fuel for private cars in February 2011, which could push state subsidies higher than the budgeted amount. Previous plans.</td>
</tr>
<tr>
<td>Iran</td>
<td>Significantly cut energy subsidies in Dec 2010 as start of a 5-year program to bring the prices of oil products, natural gas and electricity in line with international market- levels. Cash payments are being made to ease the impact of higher fuel prices.</td>
</tr>
<tr>
<td>Jordan</td>
<td>Announced an expansion of their subsidy programme in January 2011 by further reducing kerosene prices and gasoline prices.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Cut subsidies for gasoline, diesel and LPG in July 2010 as part of a gradual reform programme.</td>
</tr>
<tr>
<td>Mexico</td>
<td>Steadily increased gasoline, diesel, and LPG prices in 2011, with the goal of eliminating subsidies.</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Raised gasoline, diesel and electricity prices in 2011, but prices increases have not kept pace with international prices. Plans are to reduce the power subsidy by 23% this year and gradually phase out.</td>
</tr>
<tr>
<td>Qatar</td>
<td>Increased petrol, diesel and kerosene prices by 25% in January 2011.</td>
</tr>
<tr>
<td>Russia</td>
<td>Plans to raise natural gas prices to international levels for industrial users through 2014.</td>
</tr>
<tr>
<td>South Africa</td>
<td>Plans to raise electricity prices by 20% per year through 2015 according to the Integrated Resource Plan, approved in March 2011.</td>
</tr>
<tr>
<td>UAE</td>
<td>Increased gasoline prices in April and July of 2010 to the highest level in the GCC.</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Raised gas price for households and electricity generation plants by 50% in August 2010 and announced plans to raise them by 30% in 2011.</td>
</tr>
</tbody>
</table>

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### Consultation on pricing data

- The IEA welcomes consultation with individual APEC economies about pricing data
- **IEA contacts on fossil-fuel subsidies:**
  - Fatih Birol, fatih.birol@iea.org
  - Amos Bromhead, amos.bromhead@iea.org
  - Matthew Frank, matthew.frank@iea.org
  - Jung Lee, jung.lee@iea.org
Fuel Subsidy Policy in Indonesia

Submitted by: Indonesia
FUEL SUBSIDY POLICY
In Indonesia

San Francisco, 23 September 2011

Outlines

1. General Information on fuel subsidy
2. Development of fuel subsidy budget
3. Policy of fuel subsidy
4. LPG conversion program
5. Compensation program in reducing fuel subsidy in 2005
   ▪ Fiscal stimulus and cash transfers 2009
Fuel Subsidy

According to the Indonesian Budget Law, fuel subsidy defined as a budgetary allocation given to a company or institution that produces and/or sells the oil fuel and Liquefied Petroleum Gas (LPG), with the purpose to provide access of energy at an affordable price for consumers.

The fuel price is lower than the market price due to the application of administered price policy for premium, kerosene, and diesel.

Allocated directly through State Owned Enterprise/Company.

Problems:

• Volatility of raw fuel price makes domestic fuel price is also volatile
• Fuel demand is still high.

Regulatory Framework on Fuel Subsidy

- Law No.22/2001 on Oil and Gas
- Govt Regulation No.36 /2004 on Downstream Oil and Gas
- Presidential Decree No.55/2005 on retail domestic fuel prices and preceeding Presidential Decree No.9/2006
- Presidential Decree No.71/2005 on Provision and Distribution of Particular Type of Fuels
Fuel Subsidy Calculation Formula

\[
\text{Fuel Subsidy} = \left[ \text{Reference Price of Fuel} - (\text{Retail Fuel Prices} - \text{Tax}) \right] \times \text{Fuel Volume}
\]

- **Retail fuel price** is the retail selling price per liter of fuel in domestic area.
- **Tax** is a Value Added Tax (PPN 10%) and Motor Vehicle Fuel Tax (PBBKB 5%).
- **Reference price of fuel** is calculated based on the MOPS price plus distribution costs and margins.
- Reference price of fuel = MOPS + \( \alpha \)
  - \( \alpha \) is the distribution cost + margin
  - MOPS (Mid Oil Platt’s Singapore) is the price on the stock sale and purchase transactions on the Singapore oil.

THE RECEIPIENTS OF SUBSIDIZED FUEL

Source: Presidential Decree No. 9/2006
### Composition of Subsidized Fuel Consumption

**Type of Subsidized Fuel**
- Gasoline = 60%
- Diesel = 34%
- Kerosene = 6%

**Gasoline Consumption (Land Transportation)**
- Motorcycle = 40%
- Business Car = 4%
- Public = 3%
- Private Car = 53%

**Clusters of Consumers**
- Household = 6%
- Micro industry = 1%
- Fishery = 3%
- Land transportation = 89%
- Water transportation = 1%

**Subsidized Fuel Consumption**
- Jawa – Bali = 59% (Including Jabodetabek 18% from total or 30% from Jawa-Bali)
- IBT = 10%
- NTB dan NTT = 2%
- Sumatera = 16%
- Kalimantan = 2%
- Sumatera exc. Kota Besar = 16%
- Kalimantan exc. Kota Besar = 5%
- Sumatera Kota Besar = 4%
- Kalimantan Kota Besar = 2%

**Gasoline Consumption (by Region)**
- Jawa – Bali = 30% from Jawa – Bali (18% from total)
- Kalimantan exc. Kota Besar = 5%
- Kalimantan Kota Besar = 2%
- Sumatera exc. Kota Besar = 34%
- Sumatera Kota Besar = 6%
- NTB dan NTT = 2%
- Jawa – Bali = 4%
- Sumatera exc. Kota Besar = 18%
- Kalimantan exc. Kota Besar = 18%

**Source:** Ministry of Energy and Mineral Resources

### Subsidized Fuel Budgeting Mechanism

- **BPH Migas (Biro Pusat Haluan Migas)**: Regulatory body for fuel and gas upstream activities
- **Ministry of Energy**: Proposing type and estimations of volume subsidized fuel
- **Ministry of Finance**: Calculation of estimated fuel subsidy based on some assumption and parameters
- **DPR-RI (The Parliament)**: Estimations of fuel subsidy
- **Revised Budget Law**: Amendment of budget allocation for subsidy fuel
- **Budget Law**: Budget allocation for subsidized fuel
Fuel Subsidy in State Budget

Fuel Subsidy Compared to Others Subsidies, Central Government Expenditures, Total Expenditures, and GDP
Conversion program from kerosene to LPG since 2007 has reduced the volume of kerosene significantly from 10.0 million in kilo litters in 2006 to 1.8 million kilo litters in 2011.

Commodities and Fuel Domestic Prices, 2003-2010

<table>
<thead>
<tr>
<th>Year</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tr>
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<td>1Jan-31Des</td>
<td>1Jan-1Oct</td>
<td>1Oct-31Des</td>
<td>1Jan-31Des</td>
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<tr>
<td>GASOLINE</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
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<tr>
<td>DIESEL</td>
<td>$</td>
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<tr>
<td>KEROSENE</td>
<td>$</td>
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<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>$</td>
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<tr>
<td>DIESEL OIL FOR INDUSTRY</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>NS</td>
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<td>NS</td>
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<tr>
<td>FUEL OIL</td>
<td>$</td>
<td>$</td>
<td>$</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
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</table>
Medium Term Expenditure Framework Fuel Subsidy

<table>
<thead>
<tr>
<th></th>
<th>Revised Budget</th>
<th>Realization</th>
<th>Budget</th>
<th>Revised Budget</th>
<th>Proposed Budget</th>
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<tr>
<td>2010</td>
<td></td>
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<tr>
<td>Electricity Subsidy</td>
<td>144.0</td>
<td>55.1</td>
<td>88.9</td>
<td>40.7</td>
<td>21.8</td>
<td>82.9</td>
<td></td>
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<tr>
<td>Fuel Subsidy</td>
<td>140.0</td>
<td>57.6</td>
<td>82.4</td>
<td>45.9</td>
<td>25.4</td>
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<td>2011</td>
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<tr>
<td>Electricity Subsidy</td>
<td>136.6</td>
<td>45.6</td>
<td>95.9</td>
<td>129.7</td>
<td>123.6</td>
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<td>Fuel Subsidy</td>
<td>195.3</td>
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<td></td>
<td>129.0</td>
<td>103.3</td>
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<td>2012</td>
<td></td>
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<tr>
<td>Electricity Subsidy</td>
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<td>128.3</td>
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<td>123.6</td>
<td>103.3</td>
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</table>

Fuel Subsidy Policy

**Policy Implementation**
- Reducing type of subsidized fuel in 2005 from 5 to 3 types by removing Diesel Oil for industry and Fuel Oil (minyak bakar) from subsidy
- Changing the subsidy payment mechanism from a cost and fee system to an alpha system (margin + distribution cost)
- Continuing kerosene to LPG conversion program since 2007
- Energy diversification (Gas for Bus and public transportation)
- Retail fuel price rationalization
- Improving the subsidized fuel distribution mechanism to enable the subsidy to be more targeted.

**Policy 2011**
- Conversion of kerosene to LPG
- Controlling the use of subsidized fuel through a closed distribution system, gradually and improving the regulations
- Increase the utilization of alternative energy (such as biofuels)
- The government has authority to make adjustments in subsidized fuel prices if the ICP within 1 year increased more than 10%
- Subsidized bio-fuel at IDR2,000-per liters
- Increasing Motor Vehicle Fuel Tax (PBBKB) by 5 percent.
- Include motor vehicle fuel tax in the structure of fuel subsidy.
**Policy Framework for Phasing Out Fuel Subsidy**

- Rising fuel consumption
- Fuel prices increases
- Bottleneck domestic refineries
- Restricting domestic fuel stock
- Insufficient infrastructure of public transportation
- Less consumption on non-fuel subsidy

**Current Condition**

**Fuel Subsidy Alleviation**

- Decreasing energy intensity
- Provision of sufficient infrastructure and transport of fuel
- Alleviating fuel subsidy along with compensating variation
- Energy diversification

**Target Condition**

- Lower volume of subsidized fuels
- Minimum subsidy on fuels
- Non-fuel diversified renewable energy sources

**Strategy**

**Fuel Subsidy Policy Reform, 2012 - 2014**

I. **Policy 2012 - 2014**

- Reducing the fuel subsidy gradually
- Controlling the volume of subsidized fuel consumption through the control of subsidized fuel distribution, especially for private cars. This policy will start from Jawa and Bali, and finally all regions in Indonesia.
- Increasing the subsidized fuel retail price

II. **Earmaking saving from fuel subsidy reform**

- Cash Transfer
- Infrastructure development
  - national and local roads,
  - train (Line north of Java, local cities including monorail).
  - ports and airports (pioneer).
  - urban transport system.
  - drinking water
- Social development (health and urban environment).
Impact of Kerosene to LPG Conversion

Roadmap of Kerosene to LPG Conversion Program

**Up to 2007**
- Kerosene used by majority households in Indonesia (9.9 million KL) and subsidized by Government (more than Rp 37 Trillion/year).
- LPG only used by 10% of households and more expensive than subsidized kerosene.

**2007 - 2009**
- Government program: distribute 42 millions of conversion package to targeted households.
- Removing 2.069 million KL of kerosene and distribution of 19 million conversion package up to 2008.
- Removing 4.1 million KL of kerosene and distribution of 23 million conversion package up to 2009.

**2010 forward...**
- LPG will become major energy with estimated volume of 4.1 million tonnes/year.
- 6 million KL of kerosene will remove and only maintain 2 million KL.

Source: Ministry of Energy and Mineral Resources
Fuel Subsidy Reduction Compensation Program of 2005

- The government raised fuel prices in March and October 2005 as the result of high crude prices.
- To mitigate the impact of rising fuel prices, the Government provided compensation program for fuel subsidies reduction (namely PKPS-BBM), in the forms of:
  - Education (eq. School Operational Assistance/BOS and Student Special Assistance /BKM)
  - Health (eq. basic health services, health care referrals, and other support services).
  - Rural infrastructure (roads, bridges, clean water, sanitation, boat moorings, basic irrigation system, and electricity supply to isolated areas)
  - Direct Cash Transfers (BLT) for poor.
- PKPS-BBM was allocated on the year of 2005 and 2006

Fiscal Stimulus Program, on 2009

- In order to prevent the weakening of the domestic economy as the result of the global economic crisis, the Government provide countercycle policy measures through fiscal stimulus, aiming of:
  - Increased purchasing power
    - Reducing personal income tax rates and broadening progressive tax rates, subsidies for cooking oil VAT, bio-fuels, for generic medicine.
  - Improved business competitiveness and durability
    - Reducing corporates and public companies income tax, subsidies for industrial import duties, gas exploration tax, geothermal sales tax, article 21 income tax, reducing diesel retail price, discount rates for electricity industry, interest subsidy for water companies, and state equity investment to credit providers and guarantors.
  - Improved labor-intensive infrastructure.
- On the other hand, in order to maintain the purchasing power, Government allocates salary increases for civil servants and pensioners, paying 13th salary, and two months of direct cash transfers.
Impact of Changes in energy subsidies

- Changes in energy subsidies would have a very broad impact, including:
  - Inflation (first round effect and second round effect)
  - Poverty and Unemployment
  - Competitiveness industry
  - Economy growth
  - Fiscal sustainability
  - Energy sustainability

- Therefore designed of a comprehensive subsidies reduction policy is needed, including calculate the impact widely.

- Subsidies reduction policy can be follow with compensation policy to the target communities or certain industries to reduce the negative impact.

- In developing economy such as Indonesia, the implementaition of the subsidies reduction policy will strongly influenced by political policy.

Although some macroeconomic indicators are still strong, the poverty rate in Indonesia has decreased slowly, as not as we hope....

The Number of Poor and Poverty Rate 2006 - 2011

- The poverty rate in 2006 was high enough because of the fuel price's increasing.
- Since 2006, the number of poor and poverty rate has decreased.
- During March 2010-March 2011, the number of poor decreased from 31.02 million people to 30.02 million people, and the poverty rate decreased from 13.33% to 12.49%.
The Fluctuation of food and fuel prices in the last six years in Indonesia could potentially increase the number of poor people.

The graph shows the percentage change in food and fuel prices from 2005 to 2010. The percentage increase in 2008 is highlighted, indicating a sharp rise in prices before the harvest. The graph also indicates a potential increase in the number of poor people due to increased food and fuel prices.

Source: BPS

Thank You
Differentiation between fuel subsidy price and Economical Price

Gap between economical price and fuel subsidized price is getting wider, as the impact of the rising world oil prices

Mid-Term Development Plan Fuel Subsidy Phase-out Strategy
(According to Ministry of Energy and Mineral Resources)

- Compensating Variance
  - Transform price subsidy to direct subsidy
  - Social Safety Net to shield the vulnerable society (the poor)

- Reduction of Fuel Subsidy
  - Minimizing fuel distribution cost
  - Full cost absorption of fuel provision
  - Effective targeting and costing of fuels subsidy

- Fuel Price Reference
  - a. Energy diversification
  - b. Closed distribution system
  - c. Incentive and disincentive fiscal
<table>
<thead>
<tr>
<th>Challenge: The Implementation of Fuel Subsidy Roadmap</th>
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<td><strong>Pengguna BBM</strong></td>
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<td>Minyak tanah</td>
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<td>Solar untuk Industri Pelayaran</td>
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<td>Industri Pelayaran</td>
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<td>Minyak Tanah Untuk Industri Pelayaran</td>
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<td>Industri Pelayaran</td>
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<tr>
<td>Avtur</td>
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</tr>
</tbody>
</table>

| Penggunaan BBM                                         | Sep '05 | Oct '05 | Apr '06 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
| Minyak tanah                                          | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Usaha Mikro                                           | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Industri                                              | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Premium                                               |         |         |         |      |      |      |      |      |      |      |      |      |
| Transportasi                                          | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Perikanan                                             | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Industri                                              | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Solar                                                  |         |         |         |      |      |      |      |      |      |      |      |      |
| Transportasi                                          | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Perikanan                                             | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Industri                                              | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Solar untuk Industri Pelayaran                        | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Industri Pelayaran                                    | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Minyak Tanah Untuk Industri Pelayaran                 | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Industri Pelayaran                                    | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
| Avtur                                                  | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |
|                                                        | NS      | NS      | NS      | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   | NS   |

**1.** To decrease the state budget burden, the phasing out of fuel subsidy will be done gradually through the limitation of fuel volume.

**2.** Implement the diversification of energy conversion of kerosene to LPG and the provision of non-fuel fuel.

**3.** Implement a closed distribution system for certain users.

**4.** The diversion of Price Subsidy to Direct Subsidy and Social Assistance through the strengthening of poverty reduction programs.

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**Medium Term Subsidy Policy Direction**

- To maintain the good and service price stability, to protect the lower income of society, to increase the agricultural production, and to give insentif for business and community.

- Redesign of subsidii: Price Subsidy → Targeted Subsidy
  - Direct subsidy and/or closed subidy according to the targeted receivers.
  - Supported by a better population database.

- Regional Governments are expected to help in the supervision of subsidy distribution to minimize the leakage and to have a more targeted subsidy.
The implementation of administered price policy has increased inflation rate in Indonesia. Although the increase of subsidized fuel price and the electricity tariff impact significantly to the inflation rate, the implementation of these policy will have minimal impact if done when the inflation rate has historically been relatively low (such as the period from March to April during the main harvest and after the Idul Fitri).

In general, inflation rate in Indonesia is still high. August inflation was 0.93% \((mtm)\), 4.79\% (yoy) and 2.69\% (ytd) mainly driven by the increase of food prices which gave the highest contribution 0.24\% \((mtm)\). Gold prices pushed the core inflation up to 5.15\% (yoy).

### Monthly and Yearly Inflation

![Graph showing monthly and yearly inflation trends](image-url)
Indonesia growth remains strong in Q2 2011

- Some economies experienced slowing GDP growth compared to Q2-2010.
- Indonesia GDP growth in Q2-2011 was 6.5% or higher than Q2 2010 of 6.1%.

Source: Statistic Bureau (BPS) & Bloomberg
Managing Subsidy Reform in the Context of Sustainable Development

Submitted by: World Bank
Managing subsidy reform in the context of sustainable development

Maria Vagliasindi, Lead Economist
Energy Anchor, World Bank

Prepared for the APEC High Level Policy Dialogue on Fossil Fuel Subsidy Reforms

September 23rd, 2011

Outline

i. Methodology
ii. Key Policy Questions
iii. Summary Results
   - Have energy subsidy reforms managed to avoid adverse social impacts?
iv. Lessons learned
Methodology

Sample Selection for Case Studies Analysis

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<tr>
<th>Low and Lower Middle Income</th>
<th>Net Energy Importer</th>
<th>Net Energy Exporter</th>
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<tr>
<td>AFR Ghana</td>
<td>Group A</td>
<td>Group C</td>
</tr>
<tr>
<td>EAP Indonesia</td>
<td>Armenia, Moldova</td>
<td>Azerbaijan</td>
</tr>
<tr>
<td>ECA</td>
<td>Morocco, Jordan</td>
<td>Egypt, Iran, Yemen</td>
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<tr>
<td>MNA</td>
<td>India, Pakistan</td>
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<td>SAR</td>
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<table>
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<tr>
<th>Upper-Middle and High Income</th>
<th>Net Energy Importer</th>
<th>Net Energy Exporter</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAP Malaysia</td>
<td>Group B</td>
<td>Group D</td>
</tr>
<tr>
<td>ECA Turkey</td>
<td></td>
<td>Malaysia</td>
</tr>
<tr>
<td>LAC Chile, Dominican Rep., Peru</td>
<td></td>
<td>Argentina, Mexico</td>
</tr>
</tbody>
</table>

Source: World Bank’s Background Paper

Have energy subsidy reforms managed to avoid adverse social impacts?

To address such a question need to look at evidence from household survey

- patterns of consumption of the different fuels, by quintiles or deciles
- implications for the direct and indirect impact of the removal of subsidies
  - by the average consumer
  - by different quintiles or deciles
a) Patterns of consumption of the different fuels

Kerosene is used for lighting and heating, especially in low income economies where households do not have access to electricity. The share of income spent on kerosene accounts for the poorest quintile up to 6 times more than for the richest quintile.

**Kerosene Expenditure (% income), between top and bottom quintile**

![Kerosene Expenditure Graph](image)

Source: World Bank’s Background Paper

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a) Patterns of consumption of the different fuels (ctd)

Gasoline which is used in internal combustion engines is mainly spent by the richer quintile who consumes 10 to 20 times more than the poorest quintile.

**Gasoline Expenditure (% income), between top and bottom quintile**

![Gasoline Expenditure Graph](image)

Source: World Bank’s Background Paper
a) Patterns of consumption of the different fuels (ctd)

Electricity is more important for the bottom quintile, with few notable exceptions.

**Electricity Expenditure (% income), by top and bottom quintile**

![Bar chart showing electricity expenditure by quintile for various countries.](chart1)

*Source: World Bank’s Background Paper*

b) Welfare Impact of Removing Fuel Subsidies

**Welfare Impact of Removing Fuel Subsidies (% loss in real income)**

![Bar chart showing welfare impact of removing fuel subsidies for various countries.](chart2)

*Source: Del Granado et al (2010)*
b) Welfare Impact of Removing Fuel Subsidies

What alternative instruments can be used to reach the poor?

The most recent CGE literature consider the results of “recycling” at least some of the savings coming from reduction of subsidies through alternative policies.

- In most of the cases, fossil fuel subsidy removal has adverse economic and social impacts. Incidence of poverty is significantly lower where the subsidy removal does not include kerosene, supporting the evidence that among fossil fuel subsidies they are the most “progressive”.

- To mitigate and offset the negative impact on the economy, the re-allocation of given percentage of the subsidy to the poor through cash transfer have proven to be effective.
Unconditional cash transfer (Indonesia)

Welfare Impact of Removing Energy Subsidies (% increase in urban and rural poverty) in Indonesia

Scenarios 1A and 1B report the 2005 package of reforms without or with the increase in the price of kerosene; Scenarios 2A represent the 2005 package of reform together with an untargeted cash transfer (UCT). Scenarios 2B and 2C introduce a targeted cash transfer, with different degree of effectiveness (100% and 75%). Scenarios 3A and 3B introduce subsidy to targeted household for spending on education and health (in the same amount of the UCT) with and without the 2005 package of reform.

The case of targeted cash transfer (Argentina)

Welfare Impact of Removing Energy Subsidies (% loss in real income) in Argentina

(a) without cash transfers  (b) with cash transfers

Source: Benitez and Chisari (2010)
Note: P1-P5 refers to the 5 years period after the simulation of the tariff increase in 2006.
Lessons learned

1. Strengthening social safety nets and improving the targeting mechanisms for subsidies:
   a) lifeline tariffs
   b) geographical or socio-economic targeting and subsidies to enhance access
   c) cash transfers

2. Informing the public and announcing one-off compensatory measures

3. Ensuring the Sustainability of Subsidy Policy through Broader Sectoral Reforms

1. Strengthening social safety nets and improving the targeting mechanisms for subsidies: a) lifeline tariffs

   Targeting mechanisms and methods for identifying those eligible for the subsidy program can vary, depending on the degree of coverage as well as the extent to which different programs are progressive, determining trade-offs between different solutions

   ❖ In the case of lifeline tariffs while they offer the advantage of much higher coverage in middle income economies than other existing targeted programs, but they entail a relatively high cost of implementation
b) Geographical or socio-economic targeting

- One approach to improve the targeting performance of electricity subsidies is to use geographical or socio-economic targeting variables.

- An alternative approach is to replace consumption subsidies with connection subsidies. Simulations show that connection subsidies designed to reach a majority of un-served population living in areas connected to the grid are superior to consumption subsidies and in most of the cases are also progressive.

Source: Komives et al. (2007)

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c) Cash Transfers

**Oportunidades** is Mexico’s main anti-poverty government program using cash transfers to households linked to regular school attendance and health clinic visits and in 2007 an energy component was added.

Cash transfers have been found in general to be progressive, vis-à-vis subsidies which are highly regressive. However, the implementation of targeted transfers can be challenging. Their effectiveness and efficiency depend on the targeting method and administrative capacity.

Source: ENIGH (2008)
2. Informing the public and announcing one-off compensatory measures

- Governments need to ensure public trust in the reform agenda through broad communication, appropriate timing of subsidy removal, and implementation of compensatory social policies.

- While developing social safety nets is important to ensure that consumers can cope with higher prices successfully in the long run, tariff and fuel price increases may need to be accompanied by immediate short-term measures to address any acute impacts of subsidy reform.

Informing the public and announcing one-off compensatory measures

- In Jordan, the minimum wage was increased, with low-paid government employees receiving higher wage increases than other employees as palliative measures, largely regarded as successful in dealing with price increases. An electricity lifeline tariff for those using less than 160 kWh per month was kept. A one-off compensation for the non poor was also implemented. Along with subsidy reform, measures aimed at fuel substitution and energy efficiency were also implemented.

- In the case of Ghana, budget savings from fuel subsidies were directed towards transparent and easily monitorable poverty mitigation. In addition, planned investment in the provision of mass urban transport expansion was expedited and the existing rural electrification system was expanded.
3. Ensuring the Sustainability of Subsidy Policy through Broader Sectoral Reforms

- Where the quality of electricity services is low, engaging in broader reforms to improve service ahead of reforming energy subsidies lends credibility and improves consumer willingness to pay the unsubsidized prices.
- Steps such as improving metering, billing and payment collection, and enhancement of quality of service can make tariff increases more acceptable as subsidies are removed.
- Improving energy efficiency will also help to reduce the potential social costs of removing subsidies to consumers.
- More generally, rationalizing the fuel mix for electricity and transport and discouraging private transport in favor of public transport can help support reforms, as will the prioritization of structural expenses that benefit the poor (including sectoral road and rural electrification schemes, but also social expenditure, including health and education).

Thank you!

Let us know how we can best help you in your effort to implement subsidy reforms