Indonesia LPG Business Acceleration

Kerosene to LPG Conversion Effect

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“LP Gas: Exceptional Energy for the Sub-Continent”
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Energy Transport Group
Facts: Background And Solution

1. **Huge fuel subsidy** (~USD 8.0 billion /year) and ~70% subsidy are for Kerosene. The huge volume of kerosene also affect on environment issue

2. **Kerosene subsidy increases** even though the government reduce its volume significantly

3. **LPG is cheaper and better**

   (Cents USD, 1 USD = Rp. 8,465.87 average on August 2011)

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Kerosene</th>
<th>LPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume based on calorific Value</td>
<td>1 liter</td>
<td>0.4 kg</td>
</tr>
<tr>
<td>Market Price</td>
<td>93</td>
<td>120</td>
</tr>
<tr>
<td>Retail Subsidized Price</td>
<td>30</td>
<td>51</td>
</tr>
<tr>
<td>Subsidized Price</td>
<td>64</td>
<td>69</td>
</tr>
<tr>
<td>Amount of subsidy</td>
<td>64</td>
<td>25</td>
</tr>
</tbody>
</table>

   Saving per liter 38 Cents USD

   Target Converted 8,000,000 KL/year

   Potential Subsidy Saving 3.05 Billion USD /year

**SOLUTION: Kerosene to LPG Conversion Program**

To Convert residential fuel from Kerosene to LPG by distributing initial package (3 kg LPG bottle, stove, and regulator set) for free, followed by withdrawing Kerosene and replaced by LPG (both subsidized)
Kerosene is widely used up to 2007. Kerosene to LPG Conversion Program started in 2007-2011 with LPG being the main cooking fuel from 2011 onwards.

- **Red Area** converted in 2007 and 2008 with a total amount of 19 million packages.
- **Green Area** converted in 2009 with a total amount of 24.4 million packages.
- **Orange Area** targeted to finish in 2010, for about 9.3 million packages.
- **Yellow Area** will not be converted, except around the purple area in 2012.
- **Blue Area** will be converted in 2011.

**Indonesia LPG Road Map: Kerosene To LPG Conversion Effect**

1. **Red Area**
   - Kero (mio KL): 9.9
   - LPG (mio MT): 1.1
   - Distribution (mio Pcs): 0.1
   - Subsidy Saving (bio USD): N/A

2. **Green Area**
   - Kero (mio KL): 5.8
   - LPG (mio MT): 2.9
   - Distribution (mio Pcs): 48.1
   - Subsidy Saving (bio USD): 4.2

3. **Orange Area**
   - Kero (mio KL): 2.0
   - LPG (mio MT): 3.6
   - Distribution (mio Pcs): 56.8
   - Subsidy Saving (bio USD): 7.2

1 USD ~ Rp. 9,000
Indonesia LPG Business Acceleration

Pre Conversion
~4.000 MT/day

Conversion Period
~14.000 MT/day

Post Conversion
~17.000 MT/day

- PSO
- NPSO

Jan-07 Apr-07 Jul-07 Okt-07 Des-07 Jan-08 Apr-08 Jul-08 Okt-08 Des-08 Jan-09 Apr-09 Jul-09 Okt-09 Des-09 2010 2011 2012 2013 2014 2015

- +56%
- +42%
- +57%
- +28%
- +11%
## LPG Infrastructure Growth Rapidly During Conversion Period

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>**1 Storage *</td>
<td>• On shore tank 136,000 MT</td>
<td>• On shore tank 167,000 MT</td>
<td>• Total storage 345,000 MT</td>
</tr>
<tr>
<td></td>
<td>• Thruput 4,000 MT/day</td>
<td>• Floating storage 182,000 MT</td>
<td>• Thruput 17,000 MT/day</td>
</tr>
<tr>
<td>**2 Vessel</td>
<td>• 6 LPG Pressurized vessels</td>
<td>• 3 VLGC @44,000 MT</td>
<td>• 1 VLGC @44,000 MT</td>
</tr>
<tr>
<td></td>
<td>@1,800 MT</td>
<td>• 6 LPG semiref vessels @11,400 MT</td>
<td>• 8 LPG semiref vessels @11,400 MT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 9 LPG Pressurized vessels @1,800 MT</td>
<td>• 10 LPG Pressurized vessels @1,800 MT</td>
</tr>
<tr>
<td><strong>3 Filling Station Filling Capacity</strong></td>
<td>• 66 stations (12 kg)</td>
<td>• 360 stations already operated</td>
<td>• Total capacity ~ 21,900 MT/day</td>
</tr>
<tr>
<td></td>
<td>• Capacity ~ 6,000 MT</td>
<td>• 11 Pertamina LPG Depo</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 4 Private LPG Depo</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 22 COCO Stations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 323 Private Stations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Capacity ~ 14,000 MT/day</td>
<td></td>
</tr>
<tr>
<td><strong>4 Skid Tank Capacity</strong></td>
<td>• 4,000 MT/day</td>
<td>• 14,000 MT/day.</td>
<td>• 17,000 Mton/day</td>
</tr>
</tbody>
</table>
Until July 2011, initial package already distributed to 52.86 million households and SME's in 22 provinces.

About 674 thousand kiloliters of subsidized kerosene has been withdrawn monthly and replaced by 274 thousand tons of subsidized LPG.

The switching of kerosene to LPG from 2007 until July 2011 resulting in saving subsidized for the Government of Indonesia for about 4.74 bio USD.
Conversion Impact To The LPG Demand-supply

**LPG Demand**

<table>
<thead>
<tr>
<th>Year</th>
<th>PSO</th>
<th>NPSO</th>
<th>Total Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>4,263</td>
<td>1,783</td>
<td>6,046</td>
</tr>
<tr>
<td>2011</td>
<td>4,422</td>
<td>1,778</td>
<td>6,199</td>
</tr>
<tr>
<td>2012</td>
<td>4,701</td>
<td>1,846</td>
<td>6,547</td>
</tr>
<tr>
<td>2013</td>
<td>4,770</td>
<td>2,715</td>
<td>7,485</td>
</tr>
<tr>
<td>2014</td>
<td>4,850</td>
<td>2,795</td>
<td>7,645</td>
</tr>
<tr>
<td>2015</td>
<td>4,936</td>
<td>2,881</td>
<td>7,817</td>
</tr>
</tbody>
</table>

**LPG Supply**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Domestik</th>
<th>Total Impor</th>
<th>Total Supply</th>
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<tr>
<td>2010</td>
<td>1,783</td>
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<tr>
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<td>2,795</td>
<td>2,881</td>
<td>5,676</td>
</tr>
<tr>
<td>2014</td>
<td>2,881</td>
<td>2,881</td>
<td>5,762</td>
</tr>
<tr>
<td>2015</td>
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**Key Success Factors**

1. **Strong Government Policy**
   - One Strong Leader: Vice President → Cut the Bureaucracy
   - Effective Ministerial Coordination

2. **Strong & Effective Implementation**
   - Create Effective Model using Conversion Cycle
   - Ensure the Readiness Logistic & Infrastructures
   - Strong Financial Capability
   - Who: Pertamina

3. **Real Benefit for End Users**
   - Fulfill their basic needs: cheaper, always available and safe.
   - Quick benefit that they can feel it for instance.
   - They don’t concern about subsidy.
   - Who: Household and SME
Real Benefit For End Users *)

*) Based on Fiscal Policy Office Survey, November 2008

- 76.4% will continue using LPG in the future
- 85.6% feel LPG save their money
- 85.9% know better the program
- 89.9% support this program
Conclusion

- LPG conversion program will dramatically change the energy landscape of Indonesia and will reduce fuel’s subsidy at significant amount.
- To support the LPG conversion, it takes a lot of investment opportunities that will heat up Indonesia LPG industry.
- Indonesia Government plays an important role to secure the implementation of this program, furthermore integrated and sustainable energy policy should be developed to provide better energy for society.

Challenges

Worse Perception
Numbers of LPG incidents blown up by media caused people worse perception. Intensive and continuous socialization about LPG safety usage will eliminate the perception.

Geographic Archipelago
LPG infrastructure must be prepared to cover all Indonesia area which consist of so many islands. LPG conversion area spreaded from the crowded city to the villages with small population.

From Seaside to Deepforest
LPG packages delivered to the fishermen in the seaside and also to the farmer in the deepforest. We must provide the LPG refill nationwide.