DPRK Energy and Minerals Trade with China

Trends Since 2007

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DPRK Energy Experts Working Group Meeting
Beijing
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Today’s Presentation

• Notable Findings
• Questions Concerning Bilateral Trade
• Data Sources
• Energy and Fuel Trade
• Minerals Trade
• Trends and Implications
Notable findings

- Since 2000, energy and minerals have become a larger portion of North Korean exports and a smaller portion of imports.
- In 2009, energy comprised 17% of official DPRK imports from the PRC and 33% of exports by value.
- Whereas the DPRK is a net importer of PRC crude oil and oil products, it became a net exporter of electricity and coal to China in 2003.
- Between 2000 and 2009 the value of North Korean minerals exports to China increased by an average annual growth rate of 53%.
- North Korean mineral and electricity exports are sold at discounted prices; on the other hand Chinese bituminous coal, crude oil, and oil product are sold to North Korea at premium prices.
- North Korea is a net exporter of both energy and financial resources in its trade with China.

This presentation will address five questions on DPRK energy trade with China

- What is the value and quantity of energy and minerals trade between North Korea and China?
- How does each country price energy and minerals exports relative to China’s other trading partners?
- How are goods moving between China and North Korea?
- What type of minerals is China importing from North Korea?
- What do trade data indicate about national policy and the domestic energy situation?
Direct DPRK data are elusive

• North Korean trade data are covered in the UN International Commodity Trade Database and on a fairly detailed level in Chinese Customs Statistics Yearbooks.
• This presentation reviews data compiled by the China Customs Bureau.
• Bilateral trade data from China Customs were classified under “Other Asia, N.E.S” from August-November, 2009.
• Trade value data are in nominal dollars according to current official exchange rates.

North Korea’s net imports of Chinese goods reached $1.3 billion in 2008
Energy and fuels has been a consistent portion of DPRK-PRC trade.

In 2009, energy and fuels was the single largest official DPRK-PRC trade category.

<table>
<thead>
<tr>
<th>Commodity</th>
<th>DPRK Imports (million $)</th>
<th>Commodity</th>
<th>DPRK Exports (million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy &amp; fuels</td>
<td>$327</td>
<td>Energy &amp; fuels</td>
<td>$259</td>
</tr>
<tr>
<td>Machinery</td>
<td>$160</td>
<td>Ores, slag, ash</td>
<td>$140</td>
</tr>
<tr>
<td>Electrical machinery</td>
<td>$132</td>
<td>Woven apparel</td>
<td>$93</td>
</tr>
<tr>
<td>Vehicles, not railway</td>
<td>$103</td>
<td>Iron and steel</td>
<td>$73</td>
</tr>
<tr>
<td>Knit apparel</td>
<td>$94</td>
<td>Fish and seafood</td>
<td>$57</td>
</tr>
<tr>
<td>Plastic</td>
<td>$75</td>
<td>Salt; sulfur; earth, stone</td>
<td>$29</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>$68</td>
<td>Zinc &amp; articles thereof</td>
<td>$20</td>
</tr>
<tr>
<td>Mannmade filament, fabric</td>
<td>$67</td>
<td>Inorg chem; rare earth mt.</td>
<td>$16</td>
</tr>
<tr>
<td>Cereals</td>
<td>$55</td>
<td>Edible fruit and nuts</td>
<td>$16</td>
</tr>
<tr>
<td>Iron/steel products</td>
<td>$51</td>
<td>Aluminum</td>
<td>$13</td>
</tr>
<tr>
<td><strong>Total Imports</strong></td>
<td><strong>$1,891</strong></td>
<td><strong>Total Exports</strong></td>
<td><strong>$777</strong></td>
</tr>
</tbody>
</table>
Crude oil imports were overshadowed by 3.6 million tonnes of coal exports in 2009.

But crude oil is more valuable...
...and North Korea’s sporadic crude oil imports have been largely unabated

On the other hand, coal exports surged with prices, while imports have diminished
Sporadic exports of DPRK electricity have grown more sustained while imports have subsided.

North Korean exports of electricity have grown at “friendship prices”...
...but Chinese crude oil and oil product have been sold at top dollar

Chinese bituminous coal exports to the DPRK are also priced above average...
...though the North Korea received a 10% discount during the 5 months of 2009 when it imported Chinese coke.

Transportation equipment moves on a one-way street from China to the DPRK.
Most North Korean imports from China are transported by road…

...except for energy & fuels, which move primarily by pipeline and water
Minerals emerged as the largest DPRK export category in the first half of 2010

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<td>Ores, Slag, Ash</td>
<td>92</td>
</tr>
<tr>
<td>Machinery</td>
<td>$76</td>
<td>Energy &amp; fuels</td>
<td>72</td>
</tr>
<tr>
<td>Vehicles, Not Railway</td>
<td>$68</td>
<td>Iron And Steel</td>
<td>45</td>
</tr>
<tr>
<td>Electrical Machinery</td>
<td>$68</td>
<td>Woven Apparel</td>
<td>43</td>
</tr>
<tr>
<td>Iron And Steel</td>
<td>$39</td>
<td>Zinc + Articles Thereof</td>
<td>16</td>
</tr>
<tr>
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<td>$23</td>
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<td>11</td>
</tr>
<tr>
<td>Cereals</td>
<td>$23</td>
<td>Inorg Chem, Rare Erth Mt</td>
<td>8</td>
</tr>
<tr>
<td>Manmade Staple Fibers</td>
<td>$23</td>
<td>Knit Apparel</td>
<td>7</td>
</tr>
<tr>
<td>Total Imports</td>
<td>$939</td>
<td>Total Exports</td>
<td>348</td>
</tr>
</tbody>
</table>

Minerals are a growing component of North Korean exports to China

(DPRK imports)

(DPRK exports)
Exports are largely comprised of ores, slag, and ash, while imports are mostly inorganic chemicals and rare earth metals.

Iron ore dominates North Korea’s mineral exports to China by volume.
North Korean iron ore exports to China have been consistently discounted.

Bilateral trade is transferring energy and financial resources from DPRK to China.
These ‘mirror statistics’ have implications for DPRK energy and bilateral relations

- DPRK-PRC trade deficit surged to its highest point in 2008 ($1.3 billion), at the same time the value of the energy-trade deficit rose to its highest point ($378 million).
- Expanding coal, electricity, and minerals exports may reflect surplus capacity, dilapidated transmission infrastructure, and/or desperation for hard currency.
- Asymmetrical energy export pricing suggests an unbalanced alliance.
- Simultaneously increasing electricity exports and electrical generator equipment imports suggests the need for grid updating and improvement.
- North Korea’s net export of both energy and money in its trade with China suggests increasing reliance on resource extraction for economic survival.

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