Growing in tandem with Aluminium

After sustaining a difficult CY11-13 era marked by constraints and challenges, global demand for Calcined Petroleum Coke (CPC) has finally bloomed, thanks to the steady demand for aluminium, one of the key CPC users. However, CPC prices declined ~25% during CY14-16 owing to weak Green Petroleum Coke (GPC) prices. With growing use of light-weight materials across key industries, we expect growth in aluminium demand to remain firm, and in turn, global CPC demand to stay in line with primary aluminium production. Improvement in GPC prices would improve CPC realizations, with spreads likely to remain in the current range. However, declining suitable-grade GPC remains a worrying factor for CPC manufacturing companies.

CPC: Key input in aluminium smelting

During the crude refining process, a solid, porous, black by-product material called GPC is produced along with several other core & non-core products. When GPC is exposed to very high temperatures, the removal of moisture and impurities give birth to CPC. Anode-grade CPC (with lower metal content) is used in aluminium smelting process and represents 85% of global CPC demand whereas Industrial-grade CPC represents the balance 15%, used in manufacturing of Titanium Dioxide. For every ton of primary aluminum produced, ~0.4 tons of CPC is consumed. Thus, aluminium production is a key determinant of CPC demand.

Global primary aluminium demand likely to stabilize

Global primary aluminium demand growth has historically tended to outperform other metals, clocking decent ~5.2% CAGR over CY14-16 to touch 59.8 mn tons in CY16. Of the total CY16 demand, China contributed 52%, with Europe (including Russia) and North America pitching in 15% and 11% respectively. India's demand was on the slower side during FY15-17 vis-à-vis global demand, with a 3.9% CAGR. However, India's market share in world’s demand has remained in the range of 3.3%-3.5% over the past four years, estimated at ~2.1 mn tons during FY17.

Indian aluminium prices are closely linked to global prices, and discernibly influenced by global demand-supply dynamics. With the demand-supply mismatch in overall world market, prices have been quite volatile in the recent past. However, despite a volatile situation, aluminum demand is likely to be driven by increasing use of light-weight materials across key industries including construction, automobile, consumer electronics and packaging. In line with the growing demand, global primary aluminum production is expected to clock a CAGR of ~4% over CY16-20.

In the domestic market, aluminum demand is likely to pick up pace on the back of expected traction in industrial activity, infra spends, demand for packaging material and governmental focus on power transmission and distribution.

Figure 1: For every ton of Aluminium, smelting process consumes 0.4 tons of CPC
Calcined Petroleum Coke

Figure 2: Global aluminium demand registered 5.2% CAGR over CY14-16; likely to stabilize over CY16-20E

Source: Industry, IIFL Research

Figure 3: China contributed 55% to the global primary aluminium production in CY16

Source: Industry, IIFL Research

Figure 4: With demand-supply mismatch, China exported surplus to several other countries

Source: Industry, IIFL Research

Figure 5: India’s aluminium demand is estimated to remained inline with global demand during FY17

Source: NITI Aayog documents, Industry, IIFL Research
CPC demand likely to stay in line with aluminium production; higher Chinese exports & falling GPC prices kept CPC prices subdued in the recent past; likely to improve ahead

As 85% of the global CPC is used in the aluminium smelting process, aluminium production is one of the most important factors influencing CPC usage. With primary aluminium demand likely to stabilize in the medium term, we expect CPC demand to remain in line with aluminium production. Country-wise, China is a dominant player in the CPC market with a major chunk consumed within its domestic space. Having said that, notwithstanding its CY16 production of 15.3 mn tons representing ~55% of global CPC production, China’s domestic demand has fallen short by ~1.4 mn tons resulting in higher exports, and thereby more CPC availability in other countries. This, coupled with subdued GPC prices (due to sharp decline in crude prices), has seen CY16 CPC prices (FOB) fall from ~US$325/MT during CY14 to ~US$230/MT. However, with the expected medium-term uptick in aluminium production and improvement in GPC prices, CPC prices should strengthen in the coming time.
Calcined Petroleum Coke

Figure 9: CPC Prices has moved in the similar trajectory to the GPC prices; likely to follow the trend

Source: Bloomberg, IIFL Research

Suitable grade GPC availability: worry for major players in the longer term

GPC is only a by-product of the oil refinery process, and not produced wholly to meet world’s supply of CPC, or aluminium producer. Oil refinery technology up-gradation and improving economies of scale over the past decade has resulted in sour-crude refining. While continuous building of refining capacity indirectly swells GPC production, processing of sour crude results into production of lower-quality GPC. Thus, anode-grade GPC is expected to grow at a slow pace, and will act as the main entry-barrier for new players. Currently, ~130 oil refineries worldwide sell GPC in varying forms for which most CPC producers vie for a share. Moreover, as refinery cannot control GPC quality; CPC manufacturers blend differing grades of GPC and CPC to try and match the stringent quality norms of aluminium smelters. Availability of suitable grade GPC is thus a key long term concern for major CPC players.

Figure 10: Availability of anode-grade GPC to decline over longer term

Source: Industry, IIFL Research

Figure 11: Major listed players

<table>
<thead>
<tr>
<th>Company</th>
<th>Mcap (Rs. mn)</th>
<th>Revenue CAGR CY16-18E</th>
<th>EBITDA Margin (%)</th>
<th>CY18E P/E (x)</th>
<th>EV/EBITDA (x)</th>
<th>RoE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rain Industries</td>
<td>44,112</td>
<td>10%</td>
<td>16.0%</td>
<td>7.8</td>
<td>6.0</td>
<td>13.5%</td>
</tr>
<tr>
<td>Himadri Speciality Chemicals*</td>
<td>31,046</td>
<td>20%</td>
<td>19.7%</td>
<td>17.8</td>
<td>10.6</td>
<td>13.4%</td>
</tr>
</tbody>
</table>

Source: Bloomberg, IIFL Research; * Himadri Speciality Chemicals follows Financial year
IIFL Wealth Research bags 2 Best Analyst Awards

IIFL Wealth Research has bagged two prestigious awards at the *Zee Business Market Excellence Awards 2016*.

**Prayesh Jain** was conferred the Best Analyst Award for Auto sector and **Bhavesh Gandhi** bagged the Best Analyst Award for Pharma sector.

Besides the twin awards, IIFL Wealth Research was also nominated in the categories of Oil/Gas, Banking and Industrials.

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In the past, the research team has won Zee Biz Awards under different categories; Bloomberg has rated our research as the most accurate, while we have twice been winners of Business Standard Smart Portfolios, having received awards at the hands of luminaries including President Pranab Mukherjee, Prime Minister Narendra Modi and Minister of State Piyush Goyal.

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