

RAIN INDUSTRIES LTD.

(BSE:500339)

Stock Price: Rs36.00/sh; Target Price: Rs177.00/sh

FX assumptions used: Rs62/1US\$; 1.37US\$/1€



The depressed valuation of this leveraged, underfollowed, niche market, stable margin, and oligopolistic natured business provides an opportunity for a serial capital compounder.

Original idea sourced from a sumzero write-up posted by Luca Franza of Ausonio Fund.

Parry Pasricha
January 3, 2014
parrypasricha89@gmail.com

Stock Price: Rs36.00/sh
Market Cap (mln): Rs12,108/\$195

Enterprise Value (mln): Rs83,784/\$1,351
2013E EBITDA (mln): Rs15,695/\$267

2013E EV/EBITDA: 5.1x
2013E P/E: 2.7x

Table of Contents

Investment Thesis.....	2
Rain's History	4
Investor Concerns	5
Industry Overview	6
Business Overview	7
Calcined Petroleum Coke	7
Coal Tar Distillation	10
Cement, Power, and Trading.....	13
Following the Cash.....	14
Profitability.....	14
Use of Cash.....	15
Management	17
Valuation	18
Sum-of-the-Parts.....	18
Comps Analysis.....	19
Appendix I: Brief History of the Aluminum Industry	20
Appendix II: Aluminum Anode Production	22
Appendix III: Corporate Structure & Facilities	23

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Investment Thesis

The investment idea presented in this report is a little known industrial business based out of India with global operations called Rain Industries Limited (“Rain”). What started as an Indian cement producer in the early-70’s, is now a global conglomerate with over US\$2 bln in annual revenues. Rain can be split into three primary businesses: petroleum coke calcining¹ (36% of revenues), RÜTGERS’ primary coal tar distillation² and chemicals production³ (58%), and the cement business (7%). The company’s two main products of calcined petroleum coke (CPC) and coal tar pitch (CTP) – combining for ~47% of revenues – are used by aluminum smelters in carbon anode⁴ production.

Recent Events. On Oct-21-2012, Rain announced the acquisition of the leading coal tar distiller in Europe called RÜTGERS. The acquisition for a gross enterprise-value of €702 mln (Rs59.6 bln) was the company’s second overseas leveraged buyout (LBO), and with it Rain became the largest ‘carbon’⁵ supplier to the aluminum industry globally. The acquisition was completed on Jan-04-2013 and yet for nine months ending Sep-30-2013 Rain has earned Rs10.03/sh versus Rs13.22/sh for the same period in 2012. At the time of the announcement, Rain had a market capitalization of Rs14.9 bln (US\$280 mln) and based on 2012 earnings, was trading at a P/E of 3.2x. Currently Rain trades 2.7x 2013E earnings with a market capitalization of Rs12.0 bln (US\$195 mln). While a margin squeeze in the company’s calcining business explains most of the earnings compression, a number of factors have contributed to Rain’s depressed valuation, namely: i) despite an acquisition valued at ~4.0x Rain’s market value investors have not seen any earnings accretion to date; ii) investors are worried of the company’s leverage ratios; iii) the aluminum industry is out of favour with aluminum prices falling 25% since Jan-2011; iv) the Indian market is out of favour – in 2013 the BSE Sensex index rose 9% while the Indian Rupee depreciated 12% whipping out any gains for foreign investors; v) the company operates in a niche carbon industry with few publicly traded comps; vi) it is an Indian stock with a market capitalization under US\$200 mln removing it from most investment manager’s universe; vii) portfolio managers are wary of fraud in all foreign listed equities; and lastly viii) it is fairly challenging for non-Indian Residents to invest in Indian listed securities. All of these factors combine for an inordinately cheap valuation and attractive risk/reward opportunity.

I believe Rain is a potential “triple play” – essentially you’re buying a quality business, trading at a depressed valuation, and one that is operated by a competent and well-aligned management team – providing several avenues for capital appreciation.

1. **Quality of Business.** Rain operates as a market leader in both pet coke calcining and coal tar distilling, which are best described as oligopolistic. Barriers to entry for these businesses include: regional markets created by notable transportation cost, longstanding customer and supplier relationships, strategically located facilities, and trademarks and patents. The carbon business operates on a cost pass-through business model, where the operator earns a stable return for sourcing and processing raw materials. Similarly, both pet coke calcining and coal tar distilling take by-products from crude oil processors’ and steel manufacturers’ and turn them into value-add products for the aluminum and chemicals industry. In an economic downturn Rain is able to offset lower selling price with cheaper raw materials; however the recent period has been exceptionally challenging with aluminum prices falling

¹ Calcining is a process that involves the heating of green petroleum coke (GPC) in order to remove volatile material and produces calcined petroleum coke (CPC) used in production of carbon anodes.

² Coal tar distilling involves heating coal tar to remove moisture and hydrocarbons – primary yields include coal tar pitch (used for carbon anode production), naphthalene oils (used for chemicals production), and aromatic oils (used to produce carbon blacks and creosote oils).

³ Chemicals division is integrated with primary coal tar distillation and processes hydrocarbons recovered from primary distillation process into products such as resins and modifiers, aromatic chemicals, and superplasticizers.

⁴ Carbon anodes are large carbon blocks which act as electrical conductors in the Hall-Heroult aluminum smelting process.

⁵ ‘Carbon’ business refers to the petroleum coke calcining and primary coal tar coal tar distilling operations.

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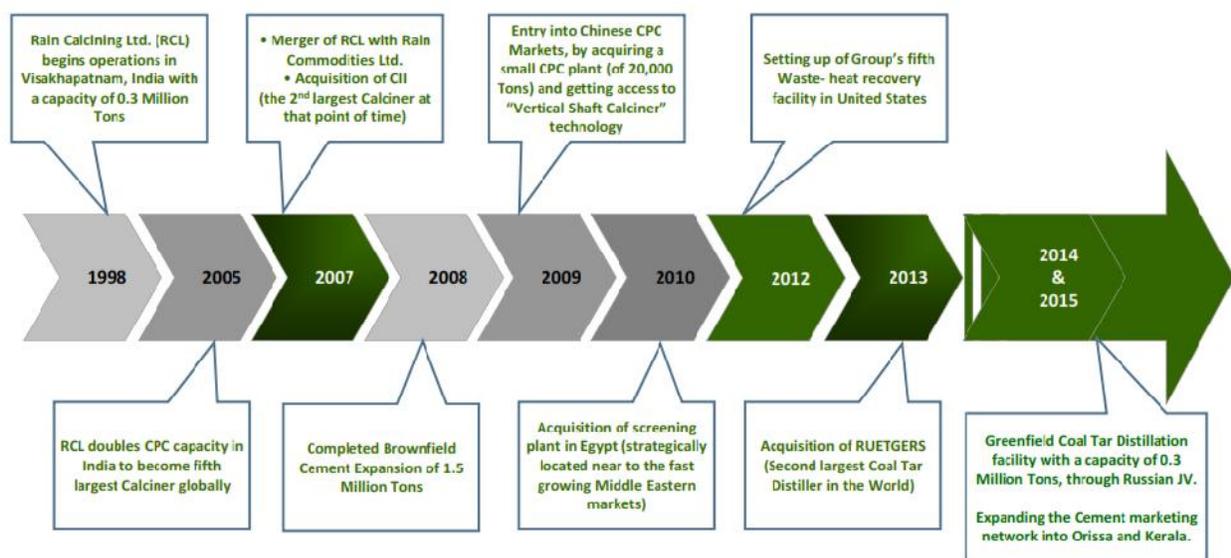
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25% since Jan-2011 and energy-based raw materials cost remaining relatively flat (green petroleum coke and coal tar). Despite volatility in the aluminum prices, from 2008-2012 the calcining business earned 22-25% EBITDA margin (18% in 2013E) while RÜTGERS has earned 11-12% over the last four years (10% in 2013E), demonstrating the business's low operating leverage.

- Business Value.** Over the business cycle, Rain is capable of earning Rs26.80/sh in EPS, US\$387 mln in EBITDA, and US\$204 mln in unlevered free cash flows per year. With lower selling prices combined with compressed margins in its two main products sold to the aluminum industry, I expect EBITDA to come in at US\$267 mln (approximately 23% lower than 2012 inclusive of RÜTGERS). The impact on earnings will be much greater – while Rain has acquired businesses with low operating leverage, the company does employ leverage in its capital structure. My 2013 EPS estimate is Rs13.48/sh (40% lower) compared to the consolidated profits of Rs22.42/sh in 2012 if RÜTGERS earnings were added and adjusted for changes in exchange rates. Rain's valuation on these depressed earnings is still depressed. Using 2013 numbers Rain trades at a P/E of 2.7x and EV/EBITDA multiple of 5.1x. Using cyclically adjusted earnings and EBITDA, which for simplicity sake we will assume to be the average over the last five years, Rain trades at a P/E of 1.7x and EV/EBITDA multiple of 4.2x. I believe Rain is worth in the ballpark of Rs177/sh or ~4.9x its current share price based on a discounted cash flow valuation approach using normalized earnings and 10% discount rate.
- Management Plans and Interest.** Rain is operated by a well-aligned management team with a track record of prudent capital allocation. Jagan Mohan Reddy is the CEO of the company co-founded by his father, and overall the Reddy family owns ~40% of Rain Industries providing significant alignment of interest. Management is well aware of its depressed valuation and plans to return capital to shareholders while de-leveraging the corporate structure. From 2007 to 2012 Rain reduced its net-debt from US\$728 mln to US\$413 while returning 12% of income to shareholders.

The Special Situation. The key catalyst for Rain will be the management's plan to pursue a U.S. listing of the carbon business (calcining, coal tar distilling, and chemicals) in late 2014. While details of the listing are still up in the air, it creates a special situation in Rain's corporate structure – creditors have provided the company with ~US\$1.3 bln at a cost of ~8%, while the equity currently yields over 70%! It is relatively easy for a small cap, leveraged, and niche industry Indian stock to be mispriced, but a partial U.S. listing of the carbon business (which I believe is worth ~US\$1.9 bln) should provide a material re-rating in the valuation and also help de-leverage the company.

Rain Industries Timeline of Events



Source: Company presentation

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Rain's History

Rain Industries (formerly Rain Commodities Ltd.) traces its origins back to the early 1970's when it was incorporated as Tadpatry Cements by Mr. Radhakrishna Reddy and several partners. In the mid-80's the company changed its names to Priyadarshini Cement Ltd. While Radhakrishna Reddy was operating his cement business, his son Jagan Mohan Reddy entered the aluminum supply chain in 1998 with his independent company, Rain Calcining Ltd. In 2007, the two companies joined hands to acquire one of the global leaders in petroleum coke calcination through an all debt LBO of CII Carbon becoming the second largest calciner globally. In 2012, Rain acquired the leading coal tar distiller in Europe through its second LBO, in RÜTGERS, becoming the largest carbon supplier to the aluminum industry globally.

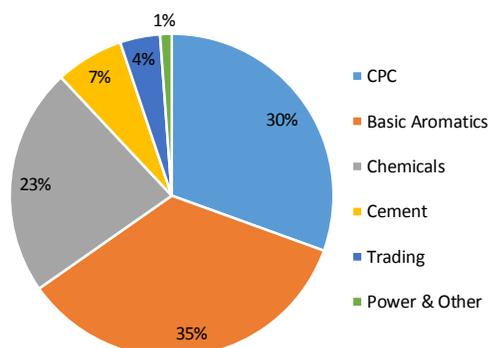
Why is this owner-operated company taking on inordinate amounts of debt to make acquisitions? In short, Mr. Reddy is running a private equity shop out of Hyderabad, and doing fairly well. Rain is investing in businesses with low operating leverage that earn a stable return over the business cycle and are protected by several barriers to entry. Pre-tax cost of capital for the two acquisitions has been 8.00% and 8.35% respectively for CII Carbon and RÜTGERS - since we do not know the returns for RÜTGERS yet, we must use CII as our primary study for returns on capital. From 2008-2012 CII Carbon has netted an average return of 13.3% (unlevered income) based on the acquisition price of US\$615 mln, accumulating US\$271 mln for shareholders in the process. Over the period, the company has grown its book value per share by an impressive Rs12.74/sh per year.

The €702 mln price for RÜTGERS equates to a trailing twelve month EV/EBITDA multiple of 5.6x, and 6.6x using the prior four year average EBITDA, both of which seem attractive given the quality of the business, complementary nature, and comparable company valuations. Despite having lower operating margins of 10-12% (EBITDA margin) than the CPC segment (+20% historically), the coal tar distillation business is more diverse with regards to the end use of its product (aluminum industry accounts for 17% of revenues), and less competitive due to regional markets (coal tar and CTP must be transported in liquid form or remelted adding significant expenses).

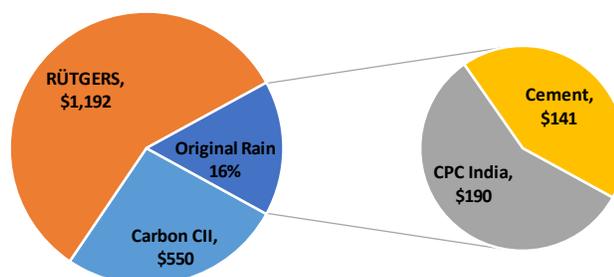
Why has an acquisition worth ~4x the company's market capitalization not EPS accretive? The drop in earnings in 2013 is attributable to lower margins in the CPC and cement segments. My CPC segment EBITDA for 2013 is US\$109 mln compared to US\$179 mln in 2012, and cement EBITDA of US\$8 mln will be 60% lower than 2012. The impact of ongoing tightness in the aluminum market on RÜTGERS is much more muted due to the diversity in its end products.

Post RÜTGERS, Rain's has now grown to ~US\$2 bln in revenues, with the "Original Rain" only accounting for ~16% of the business. Approximately 84% of the business is operated internationally and only the cement business (~7% of revenues) uses the Indian rupee as its functional currency.

Revenue by Product (% of Total, 2013E)



Revenue by Business Unit (US\$ mln, 2013E)



Source: Rain Industry filings and calculated figures

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Investor Concerns

Opacity of company and industry. One of the big surprises in researching Rain Industries was the limited amount of information available for the industry. Speaking with analysts covering oil refiners, steel manufacturers, and even aluminum manufacturers, the group had little knowledge of the ‘carbon industry’ within the aluminum supply chain – in fact no analyst I spoke with tracked prices of CPC, GPC, coal tar, or pitch. Benchmark prices for these commodities are not readily available without a subscription to industry specific consultants. Rain itself did not hold quarterly conference calls until acquiring RÜTGERS and still does not upload the transcripts to its website in order to prevent disclosure of key operating figures to industry participants. Rain does have sell-side coverage with three Indian brokers adding some transparency into the business but still provides limited operational information in its fillings. For the eager investor subsidiary level financials are available through the 212 Statement contained within the annual report and the bond prospectus for the company’s debt raise in 2012 provides great insight into RÜTGERS. Post RÜTGERS, Rain now reports the calcining and primary coal tar distilling operations together as ‘carbon operations’ making it relatively difficult to untangle the results.

Debt servicing. The company’s debt levels relative to its equity value is one of the key overhangs on the stock; however the disparity is much more a result of the company’s cheap equity than its use of debt. Rain’s debt service ratio measured by EBITDA/interest currently stands at 2.9x, and in a normal margin year I would expect it to be closer to 4.2x. Management intends to repay debt through internal cash generation and from proceeds raised through a U.S. listing of the carbon business once the earliest maturity bonds become callable in Dec-2014. The operations have the ability to generate ~US\$204 mln in unlevered free cash flows and ~US\$305 mln in operating cash flows providing a significant margin of safety with regards to the ability to service debt. Further, Rain has had a history of de-leveraging – from 2007 to 2012 Rain reduced its debt burden from US\$742 mln to US\$412 mln. Using another measure, Rain decreased its net debt/EBITDA ratio from 3.0x in 2008 to 1.9x by the end of 2012, currently it stands at 4.3x. It is important to note that while Rain employs leverage in its capital structure, the operations have very low leverage. The primary cost of raw materials is directly linked to production, majority of the facilities are company owned (no rent), and aside from salaried employees there are very few fixed-costs in the operating structure.

Currency. One of the caveats about investing in an Indian company is the exchange rate risk faced by foreign investors. Notably one of the most volatile currencies of late, the Rupee has fallen ~11% over the last twelve months and ~25% over the last five years. Rain however operates ~90% of its business in foreign currencies (U.S. dollar and Euros) providing a natural currency hedge for foreign investors buying the Indian listed stock. A 10% depreciation in the Rupee to Rs68.20/US\$ would increase my target by 7.3% to Rs190/sh, and a 10% appreciation in the Rupee to Rs55.80 would decrease my target by 7.3% to Rs164/sh.

Risk of fraud. Poor corporate governance practices and high levels of corruption amongst government officials are part of emerging market investing. Several factors help Rain avoid such problems: it is an owner-operated company providing alignment of interest with minority shareholders, despite operating a ~US\$2 bln revenue company the CEO takes home a salary of less than US\$500,000, majority of the operations are located overseas protecting it from government officials, and all operations are audited by one of the ‘big four’ accounting firms. Further Rain has raised over US\$1.3 bln from foreign investors, books that were run by Citigroup, Goldman Sachs, and Wells Fargo – three well-regarded investment banks. The acquisitions of U.S.– and European– based businesses combined with foreign debt raises have put Rain under a level of scrutiny that is rare for most emerging market companies.

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Industry Overview

	Rain Calcining Calcined Petroleum Coke	RÜTGERS Coal Tar Distillation & Downstream Chemicals
Process:	Heating green petroleum coke (GPC) in order to remove volatile material and produce calcined petroleum coke (CPC) for use in carbon anodes.	Distilling coal tar to remove moisture and hydrocarbons and further processing hydrocarbons into chemical products. The coal tar recovered from distillation is split into three main products :↓
Primary Yield & Customers:	Anode grade CPC, which represents approximately 77% of yield is consumed by the aluminum industry with the remaining lower grade material used in Titanium Dioxide production.	Primary distillation of coal tar yields three products: 1) CTP (48% of yield) - 80% is used by aluminum smelters and remaining by the graphite industry; 2) Naphthalene Oil (12% of yield) - used internally in downstream chemicals; 3) Aromatic Oils (40% of yield) - used as feedstock for carbon black oils and creosote oils.
Suppliers:	Oil refineries - approximately 130 refineries sell GPC globally and it typically accounts for 1-2% of their revenues.	Coal cokers (steel manufacturers) - RÜTGERS sources coal tar from 40 cokeries in Europe.
End Use Products:	4 tons of CPC is required for 10 tons of aluminum.	1 ton of CTP is required for 10 tons of aluminum. Aromatic oils (carbon blacks) are used in rubber products. Naphthalene based chemicals are used in various applications.
Drivers of Demand Growth:	Tied to aluminum demand - Increasing consumption rates in emerging markets, copper to aluminum substitution, wider use in consumer electronics, new applications, and increasing use in the transportation industry.	← CTP same as CPC. Aromatic oils and Naphthalene oils are used in a broad range of industries including adhesives, rubber, construction, wood preservation, plastics, paper, textiles, and electronics.
Industry Size:	Global CPC production is approximately 26 million tons with China and the U.S. producing 49% and 17% respectively. The Chinese market is largely self-sufficient due to its immense domestic aluminum needs and none of the big four calciners have facilities in China.	Global CTP production is approximately 6 million tons with China and Europe producing 48% and 14% respectively. Once again Chinese production is used to meet its domestic needs.
Rain's Size & Scale:	Rain is the second largest calciner globally with 2.1 mln ton capacity (post recent plant closure). Rain controls 8% global share, 16% ex-China share, and 36% of U.S. share.	RÜTGERS is the second largest coal tar distiller globally with 1.1 mln ton capacity (0.3 under construction). In the CTP market, RÜTGERS controls 8% of global share, 16% ex-China share, and 46% European share.
Key Competitors:	10 calciners globally. The largest CPC producer is Oxbow Calcining with an annual capacity of 2.6 mln tons. Other competitors are BP and Phillips66 with 1.4 mln and 1.1 mln tons capacity respectively.	Koppers is the largest coal tar distiller globally - operates primarily in the U.S. Himadri is the largest coal tar distiller in India.
Key Concerns:	Increasing use of sour (heavier) crude in North American refineries decreasing the supply of anode grade GPC.	Lower steel production in Europe decreasing the supply of coal tar in the region.

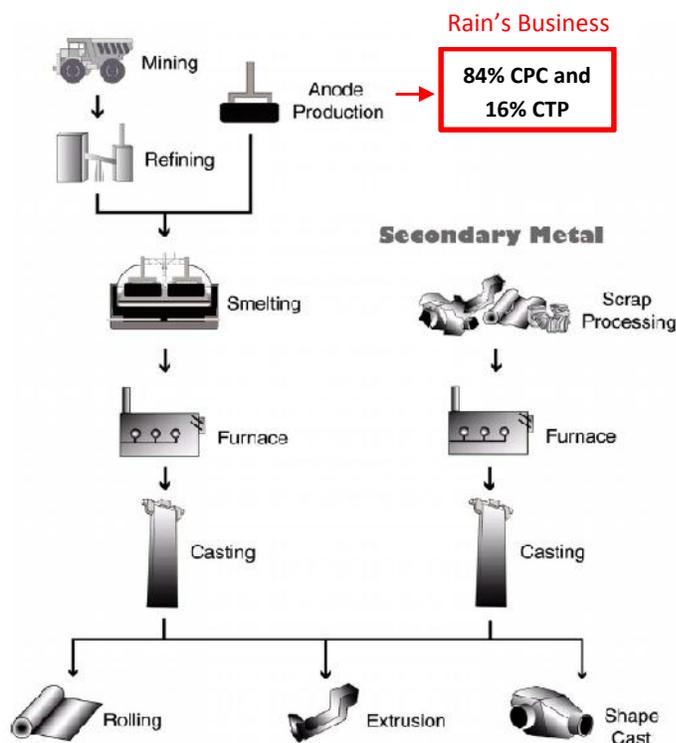
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Business Overview

Aluminum Supply Chain



Before diving into the operations of Rain Industries, it is helpful to have a broad understanding of where the business fits in the aluminum supply chain. Rain's two key products of CPC and CTP are used to produce carbon anodes (84% CPC and 16% CTP), which react with the oxygen in aluminum oxide (alumina) to produce liquid aluminum (see Appendix III for details). Most aluminum manufacturers will have on-site anode baking plants, however source CPC and CTP externally. With the acquisition of RÜTGERS, Rain does have the ability to move further down the supply-chain into anode production, but has not made any investments yet.

Calcined Petroleum Coke

Rain's CPC Business (30% of revenues). Rain operates 8 calcination facilities with a combined annual capacity of 2.1 million tons (after recent closure of the 0.4 mln ton Moundsville plant). This includes six plants in the U.S. with 1.5 million tons of annual capacity, a 0.6 million ton plant in India (largest in Asia), and a 20,000 ton plant in China.

Rain CII Carbon (RCC). In 2007, Rain acquired CII Carbon creating the second largest CPC producer in the world, the subsidiary is now called Rain CII Carbon. At the time, CII Carbon had seven facilities located in the U.S. with combined production capacity of 1.9 million tons, however the Moundsville plant (0.4 million ton capacity) will be closed in January 2014 due to EPA required upgrades expected to cost US\$50 mln. Moundsville was the oldest plant operated by RCC and the only plant located in West Virginia. Four of the six operating facilities in the U.S. co-generate energy through waste heat recovery plants with a combined capacity of approximately 100MW.

RCC sells CPC to more than 27 customers in 14 countries with relationships with many of its customers extending more than 15 years. Its customers cover transportation and freight expenses removing exposure to logistics and transportation costs. In 2011, only 27% of RCC's sales were generated from the U.S., while the remaining 73% were to Canada, Mexico, South America, Europe, Africa, Middle East, Australia, and India. RCC's largest customers and suppliers in 2011 were (this excludes Rain's Indian calcining operations):

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Top 5 Customer			Top 5 Suppliers		
	% of Revenue	Length of Relationship		% of Purchases	Length of Relationship
Rio Tinto Alcan	18%	Over 25 years	ConocoPhillips	31%	Over 20 years
Aluminerie Alouette Inc.	10%	Over 20 years	Motiva Enterprises	19%	Over 30 years
BHP Billiton	10%	Over 15 years	ExxonMobil	13%	Over 20 years
Norsk Hydro ASA	9%	Over 20 years	Marathon Ashland	12%	Over 20 years
CVG Venalum	9%	Over 10 years	Husky	9%	Over 10 years

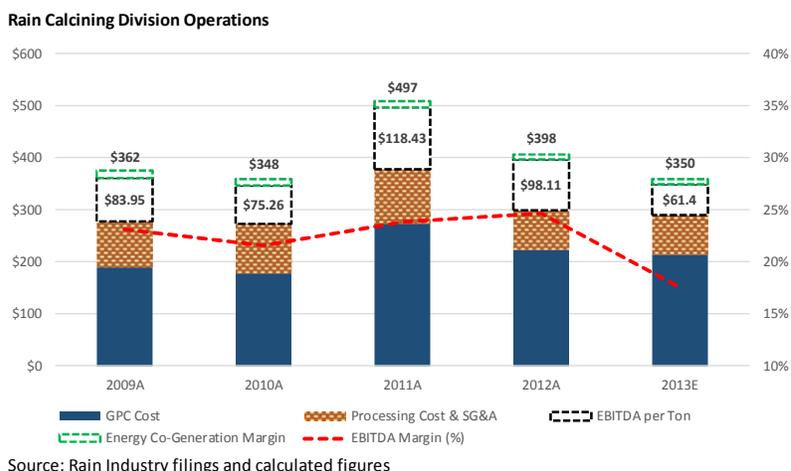
Although Rain is subject to significant supplier concentration – the top 2 suppliers account for 50% of GPC sourced and top 5 account for 84% – supply agreements are often longstanding and mutually beneficial relationships. Examples of these agreements include:

- I. In 2005 Rain purchased 800,000 tons of GPC that had built up at ConocoPhillips’ facilities. In return, the companies signed a 10-year agreement by which ConocoPhillips will provide Rain the option to purchase all anode-grade GPC produced at its refineries, subject to requirements for its existing calcining plants. The agreement provides ConocoPhillips a steady customers and peace of mind towards monetizing a by-product which accounts for less than 2% of its revenues. Price of GPC is based on third party benchmarks and adjusted monthly making it a fair deal for both parties.
- II. Rain’s Norco facility is integrated with a Motiva refinery. In return, Rain sells Motiva steam from its co-generation plant and leases the property from Motiva (the only leased facility in the U.S.).

Rain Vizag. The 580,000 ton CPC facility with 49MW of co-generation capacity is located at the Indian port city of Visakhapatnam. Built in 1998 by Mr. Jagan Mohan Reddy, the plant was Rain’s first foray in the calcining business.

Margins and business performance. The calcination business can be best described as a cost pass-through business with little processing and fixed costs. The price of CPC moves in tandem with GPC costs and with strategically located facilities, economies of scale, and consistent GPC supply, Rain is able to earn a steady margin. A historical look at the Rain’s calcining margins shows the business has been extremely stable, earning between 22-25% EBITDA margin from 2008-2012 before dropping to 18% in 2013E (from US\$118/ton to US\$61/ton currently; not including co-generation margins). Utilization rates have also been relatively stable, between 78% in 2009 to 87% in 2011.

In 2013, I expect CPC EBITDA to come in at US\$109 mln, 39% lower than 2012, and lowest since 2007. The drop can be attributed to lower CPC prices (-12%), lower volumes (-3%), and lower margins (-29%). Management does not see new or increasing competition as the main culprit for margin compression, but rather due to the continued weakness in the aluminum market and hence CPC demand. While sales growth will be limited, higher CPC prices or lower GPC costs should result in a normalization of profits back to US\$70-90/ton range (plus energy co-generation margins of ~US\$10-15/ton).



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Moats. What is protecting the Rain castle?

- i) **Long-standing supplier and customer contracts.** Sourcing GPC and meeting the quality standards of the aluminum industry customers in a cost effective manner are the two biggest challenges for new entrants in this market. Rain's long-standing supplier relationships (70% of supplier relationships exceed 25 year) and strategically located facilities work to preserve its market share.
- ii) **Strategically located facilities.** Four of Rain's facilities are located on ports with access to international waters, two are co-integrated with supplier refineries, and all are located in close proximity to suppliers or customers and in some cases both, providing a noteworthy cost advantage. Although transporting CPC is fairly simple with few logistical issues, cost of transporting CPC from China to North America is approximately \$60/ton (~15-20% of FOB CPC price) protecting the Western producers from Chinese exports.
- iii) **Size and scale.** Rain is the second largest pet coke calciner in the world, controlling 8% of global share. One key advantage of Rain's size and scale is that has the flexibility to move its shipments to areas with the strongest production. While the aluminum price has been volatile over the last three years, the rate of global production has been relatively stable and growing.
- iv) **Co-Generation Facilities.** Rain is the only large scale calciner that has invested in waste heat recovery plants to co-generate electricity. The five facilities help to lower Rain's energy consumption cost and will provide ~US\$10-15/ton in gross margins, a direct cost advantage over competitors.
- v) **Industry leading R&D.** Rain operates two pet coke labs and has presented over 15 technical papers on challenges faced by the industry since 2000. As an example of Rain's R&D work: In 2004, Rain, together with one of its customers Century Aluminum, began experimental work on the use of non-traditional anode coke (NTAC) technology. With the widening gap in anode grade GPC supply-demand, Rain expects to monetize the technology by lowering raw material costs – currently Rain uses approximately 10% NTACs in its CPC production.

Key Concerns:

Supply of GPC. The key concern for calciners is the availability of anode grade GPC. The quality of GPC is dependent on the crude feed; sweet crudes tend to produce pet coke with low-sulfur content apt for anode production, whereas sour crudes, as such from the oil sands, produce high-sulfur pet coke used as replacement fuel in coal plants. With the increasing supply of heavier Canadian crudes, North American refiners have adapted their facilities to process cheaper heavy oils – this in turn has resulted in a widening gap between anode-grade GPC supply and demand. Rain manages the risk by entering into supply contracts and has held longstanding relationships with suppliers. Rain is also working on increasing its use of NTACs.

Competition from Integrated Refiners. Though refiners would seem like the perfect candidate for expanding into the calcining business, several factors make it relatively uneconomical: i) refiners must maintain a flexible crude feed in order to take advantage of sweet and sour crude spreads, limiting their control over the quality of petroleum coke produced; ii) specialized calciners source coke from several different refineries to meet the quality requirements set forth by their customers, it would be tough for refiners to forge relationships with their competitors; and iii) fuel and anode grade pet coke make up 1-2% of a refiners' revenues, it simply isn't worth the headache.

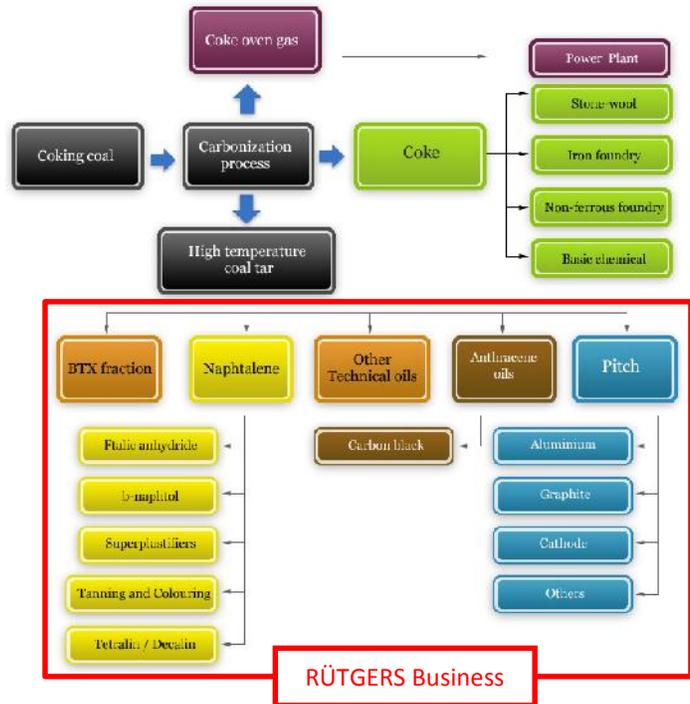
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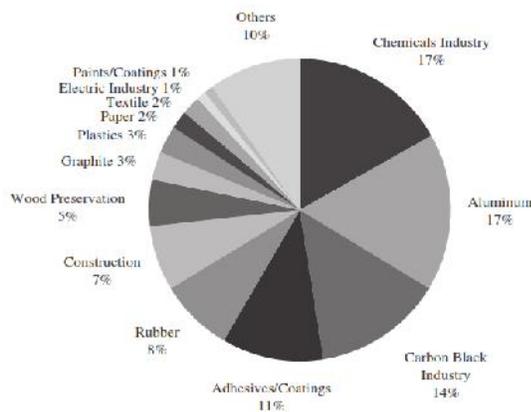
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Coal Tar Distillation

RÜTGERS produces a wide range of coal tar distilled products with various different applications. Again the chart on the right provides a basic understanding of where the business fits within different supply-chains and the chart below shows RÜTGERS revenue breakdown by end user for FY2011.



RÜTGERS Revenue by End Use (FY2011)

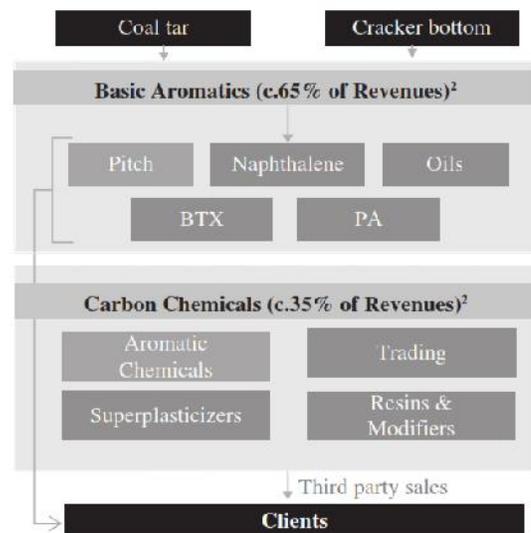


RÜTGERS Business (58% of revenues). RÜTGERS coal tar distillation business can be grouped into two categories: i) the primary distillation business (59% of sales); and ii) processing of hydrocarbons recovered from primary distillation into downstream chemicals (41% of sales). Primary distillation includes CTP (48% of yield), naphthalene oil (12% of yield) and aromatic oils (40% of yield). RÜTGERS downstream chemicals produce resins and modifiers, aromatic chemicals, and superplasticizers.

RÜTGERS has eight networked production facilities in Germany, Belgium, The Netherlands, Poland and Canada. Each one of the facilities is strategically located to facilitate logistics and near coking plants where coal tar is produced. A 9th facility with about 300,000 tons of distillation capacity is under construction (expected to be operational in early 2015) in Russia with its JV partner, Severstal, a steel manufacturer that will supply 180,000 tons of coal tar. Rain will also add a 36,000 ton naphthalene processing plant at the facility.

RÜTGERS transportation fleet includes one deep sea icebreaker, two barges, and approximately 350 rail cars with RÜTGERS' own terminals and connection of European sites with regional sourcing pools.

RÜTGERS is also one of the limited partners in Arsol Aromatics GmbH & Co. KG, holding 22.03% interest. Arsol Aromatics, a BTX processor, is one of RÜTGERS' top customers accounting for approximately 10% of revenues.



Stock Price: Rs36.00/sh
Market Cap (mln): Rs12,108/\$195

Enterprise Value (mln): Rs83,784/\$1,351
2013E EBITDA (mln): Rs15,695/\$267

2013E EV/EBITDA: 5.1x
2013E P/E: 2.7x

Basic Aromatics (Primary Coal Tar Distillation; 35% of total revenues)

CTP (48% of Primary Yield)	Naphthalene Oil (12% of Primary Yield)	Aromatic Oils (40% of Primary Yield)
<ul style="list-style-type: none"> •Primary Use: aluminum smelters, graphite industry. •Process: heating coal tar to remove moisture and hydrocarbons. •Size & scale: 1.1 mln ton capacity controlling 8% market share, second largest globally and largest in Europe. •Key competitors: Koppers is the largest coal tar distiller globally, operates primarily in the U.S. 	<ul style="list-style-type: none"> •Primary Use: downstream chemical products. •Process: recovered from coal tar distillation. •Size & scale: 128k ton capacity, global leader, RÜTGERS controls over 50% of European supply and 10% of global market. Russian JV is expected to add another 36k tons. •Key competitors: Koppers, DEZA, Nalon and Bilbaina. 	<ul style="list-style-type: none"> •Primary Users: feedstock for carbon black oils and creosote oils. •Process: recovered from coal tar distillation. •Size & scale: same as CTP. •Key competitors: same as CTP.

The other two business lines that constitute RÜTGERS' Basic Aromatics business are BTX (Benzene, Toluene, and Xylene) and PA (Phthalic Anhydride), which combined generate less than 20% of Basic Aromatics revenues.

Downstream Chemicals (23% of total revenues)

Superplasticizers	Produced in Candiac plant in Canada
<ul style="list-style-type: none"> •Raw input of naphthalene oils derived from primary coal tar distillation at its Hamilton facility. •Primarily used in the construction industry as additives for concrete. •Leading supplier of PNS-based superplasticizers in North America, producing approximately 50k tons per year. 	
Resins & Modifiers	
<ul style="list-style-type: none"> •Over 10 different raw materials used, with ability to source portion of them internally. •Sells Resins under the brand name NOVARES and Modifiers under KMC and RUETASOLV. •Market leader in resins with 12% of global market share, and focused on niche applications for modifiers. 	
Aromatic Chemicals	Integrated with Castrop-Rauxel plant, largest coal tar distillation plant in the world
<ul style="list-style-type: none"> •Raw input of carbon oils sourced from coal tar distillation, as opposed to a petrochemical-based feedstock. •Primarily used in the paper and dye industries. •Limited market data, but RÜTGERS believes it is a global market leader outside of China. 	

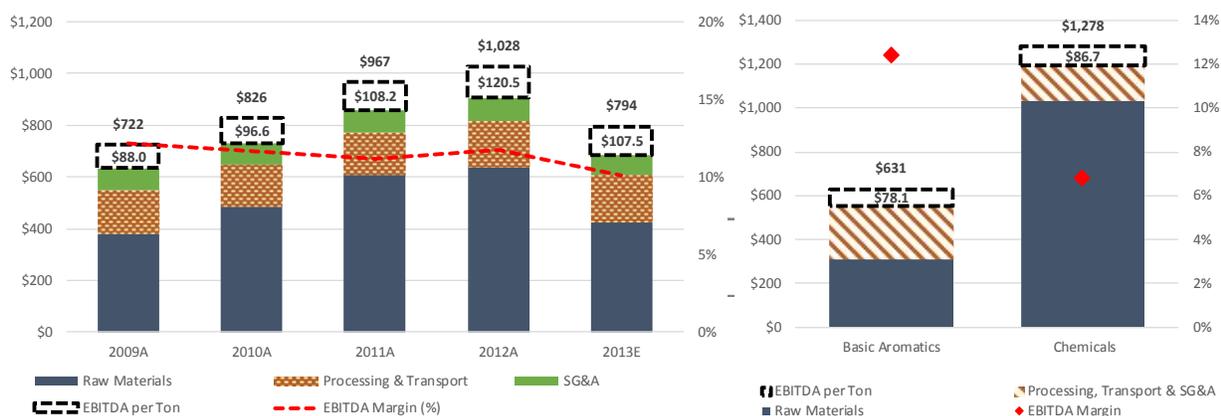
Margins and business performance. RÜTGERS' cost structure is very similar to the calcining business, where the operator earns a stable margin for sourcing and refining coal tar, and is able to pass-through input cost changes to the customer. Earnings have been extremely stable for the business, ranging from 11%-12% EBITDA margin historically before falling to 10% in 2013. On a per ton basis the company has expanded its margin from €88/t to €120/t from 2009-2012 on back of: i) increasing chemicals prices (chemicals prices are based off fuel oil prices as oil-based production is most prevalent in the industry, whereas RÜTGERS is able to use coal tar derived hydrocarbons as its primary input), ii) higher primary distillation utilization rates through improved logistics and flexibility to shift volumes to higher production areas; and iii) higher chemical capacity utilization through outsourcing of raw materials.

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RÜTGERS Margin History (Based on per ton of Primary Distillation; Left); RÜTGERS 2013 Operations of Basic Aromatics and Chemicals (Right)



Source: Rain CII Carbon bond prospectus and calculated estimates

Moats. What is protecting the RÜTGERS castle?

- i) **Long-standing customer and supplier relationships.** 90% of RÜTGERS' supply is based on long-standing contracts and its relationships with most of these suppliers exceeds 10 years. On the customer side, RÜTGERS has been serving the aluminum and chemicals industry for 160 years, developing brand power and mutually beneficial relationships along the way.
- ii) **Strategically Located Facilities.** All of RÜTGERS facilities have direct or indirect access to overseas distribution through RÜTGERS' rail network and are located in close proximity to steel manufacturing plants from which RÜTGERS sources coal tar.
- iii) **Size and scale.** RÜTGERS is the largest coal tar distiller in Europe, controlling 46% of European CTP production. Both these materials have largely regional markets due to the costs associated in either keeping the materials in liquid form during transportation or heating upon delivery to liquefy them. With facilities in Europe, North America, and Russia (under construction), RÜTGERS is well positioned to serve the Western hemisphere and Middle East through the Black sea, providing flexibility to shift its volumes to higher production areas depending on the relative production cost advantage. It takes 7 days for a vessel to go from Europe to North America versus 20 days for China to North America once again providing a significant cost advantage from Chinese exports.
- iv) **Vertical Integration.** RÜTGERS has continuously expanded its downstream chemicals portfolio, increasing the segment's revenue from 29% in 2009 to 35% in 2011; downstream operations source raw materials from primary distillation or via RÜTGERS' trading division. RÜTGERS' newest Russian JV partner will secure a steady 180,000 ton supply of coal tar from Severstal's steel plants. Lastly, RÜTGERS maintains 22.03% ownership in Arsol Aromatics, one of its largest customers.
- v) **R&D in Products and Logistics.** RÜTGERS holds 15 patents and 24 trademarks. It's most important trademarks are CARBORES, NOVARES and NOVABOOST. RÜTGERS' distribution channel specializes in transporting coal tar and CTP, which i) require specialized vessels heated to 220°C in order to prevent the materials from solidifying; ii) coal tar and CTP are considered hazardous materials and subject to various regulatory requirements.

Key Concerns: Raw Materials Supply. RÜTGERS sources raw materials from steel producers in Europe, which over the last decade have experienced increasing competition from emerging markets resulting in lower overall production in the region. RÜTGERS is actively managing supply-side risk through its strategically located facilities, relationships with major steel makers, and recent JV with a supplier in Severstal. Overall RÜTGERS sources coal tar from 40 different cokeries and believes its partners are on the low end of the cost curve limiting supply risk.

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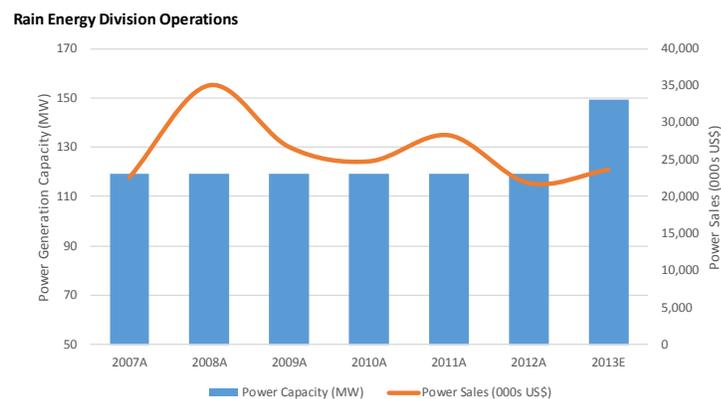
Cement, Power, and Trading

Cement (7% of revenues). Rain's original cement business now only accounts for about 7% of total revenues. Rain operates 2 cement plants with 3.5 million ton annual capacity; utilization rates peaked in 2008 when the segment was operating at full capacity and currently stand around 60%. Margins for the segment are currently compressed to say the least, with broad market oversupply resulting in low prices and low utilization rates, and the depreciating rupee increasing energy costs.



Source: Rain Industry filings and calculated figures

Further while the overall Indian cement demand has grown at 6-7% over the recent years, Andhra Pradesh has actually experienced shrinking demand due to a political war in the state halting industrial activity. Rain expects utilization to improve in the coming years with relatively stable demand growth and curbing of supply growth after 22.5% CAGR from 2009-2012. EBITDA for the segment has averaged Rs1.0 bln from 2007-2013E, only falling below Rs1.0 bln in 2010 prior to the current year. This year EBITDA is expected to come in at Rs0.5 bln, 75% below peak profits reached in 2009. The segment is now debt free and cash flows can be used pay out a dividend without having to repatriate foreign earnings.



Source: Rain Industry filings and calculated figures

utility to generate the electricity, Rain's 70% margin means it is well positioned at the bottom end of the energy generation cost curve. In 2013, Rain completed its latest 30MW co-generation facility at its Lake Charles plant. The power plant is expected to cost ~US\$94 mln to build, will generate US\$16-18 mln in annual revenues (selling 87% capacity). Using the bottom end of the range of US\$16 mln, the plant will earn a ~10% return on asset, impressive for a low cost, stable business, with a 20-year sales agreement.

Waste-heat Recovery (1% of revenues). Rain is able to co-generate energy through waste heat recovered in the calcining process. Currently Rain co-generates energy at five of its eight plants with a combined generation capacity of approximately 125MW. Energy operations are extremely stable (generally Rain qualifies as a co-producer and sells power to local utilities at their cost of production), and margins are high and steady (approximately 70% EBITDA margin). Since the price of sales is normally the cost of the

Trading (4% of revenues). Both Rain and RÜTGERS have trading divisions in their respective markets. While the segment will contribute to the bottom line, their primary objective is to manage raw materials supply and establish a foothold in their respective markets.

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Following the Cash

Profitability

“There are two concepts we can hold to with confidence: - Rule No. 1: Most things will prove to be cyclical. – Rule No. 2: Some of the greatest opportunities for gain and loss come when other people forget Rule No. 1.”

Table Shows Consolidated EBITDA with RÜTGERS from 2009 Going Forward

EBITDA (US\$ mln)	2007	2008	2009	2010	2011	2012	2013E
CPC	22.0	191.4	142.5	136.6	229.1	179.3	109.3
Coal Tar + Chem	n.a.	n.a.	87.8	108.5	129.6	132.8	133.0
Cement	33.3	42.7	46.4	18.4	42.3	23.1	8.6
Power	14.4	26.7	20.7	17.9	21.2	15.3	16.2
Total	69.7	260.9	297.4	281.3	422.2	347.4	267.1

Source: Rain Industry filings

Rain reports its financial results under ‘Carbon’ segment (CPC and coal tar distilling excluding chemicals), Chemicals segment, and Cement segment, making it difficult to interpret the individual business unit performance within the carbon segment. However based on benchmark commodity prices and management comments, I believe it’s the CPC business that is suffering in 2013 (discussion below). Going forward monitoring the performance of the individual segments will become increasingly cumbersome as prior year comparisons will no longer be available.

Profitability. Despite the lack of a catastrophe in financial markets or broad economy, Rain is currently at trough earnings. This may not seem intuitive, but Rain’s primary CPC and RÜTGERS businesses are very resilient, operating under a low -fixed and -operating cost structure (raw materials account for 50-70% of COGS). The drop in CPC profitability is due to lower selling prices and a margin squeeze caused by a pullback in aluminum prices and a tight supply of anode-grade GPC production. The 39% drop in profitability is the largest drop for the CPC segment and profits are currently at their lowest levels since the CII Carbon acquisition in 2007. CPC margins are expected to normalize through either increasing prices or lower GPC costs.

RÜTGERS is far less exposed to aluminum with approximately 17% of revenues sold to the aluminum industry and hence will not be impacted to the same degree as CPC. One avenue for increased profitability is management’s expectation that EBITDA margins for the chemicals division will normalize around 10-12%, currently at ~8%.

The cement segment is also at its historical lows in profitability, however it is a business of much lower quality – there are low barriers to entry and no product differentiation. The recent influx of capacity demonstrates this point quite well, Rain estimates that 55 mln tons of capacity were added in South India between 2009 and 2012, for a CAGR of 22.5%. Nevertheless, a recovery is expected with no significant expansion projects going forward and a recovery in the South Indian cement demand.

The power business has experienced a decrease in profitability since its peak in 2008, but this is due to lower electricity prices in the cheap shale gas era. The operations remain steady and resilient, positioned at the bottom of the electricity generation cost curve.

Aluminum and Energy Prices. The relationship between aluminum prices and oil prices is not an obvious one, however energy accounts for ~25% of aluminum generation cost and carbon for another ~15%. Both these inputs are impacted by natural resource prices ranging from natural gas and coal to CPC and pitch. The recent pullback in aluminum prices, which have fallen 25% over the last two years while energy costs have remained stable, has put significant margin pressure on smelters. Though aluminum prices are not central to the investment thesis, several factors provide comfort of limited downside from current levels: i) in China, the largest aluminum production

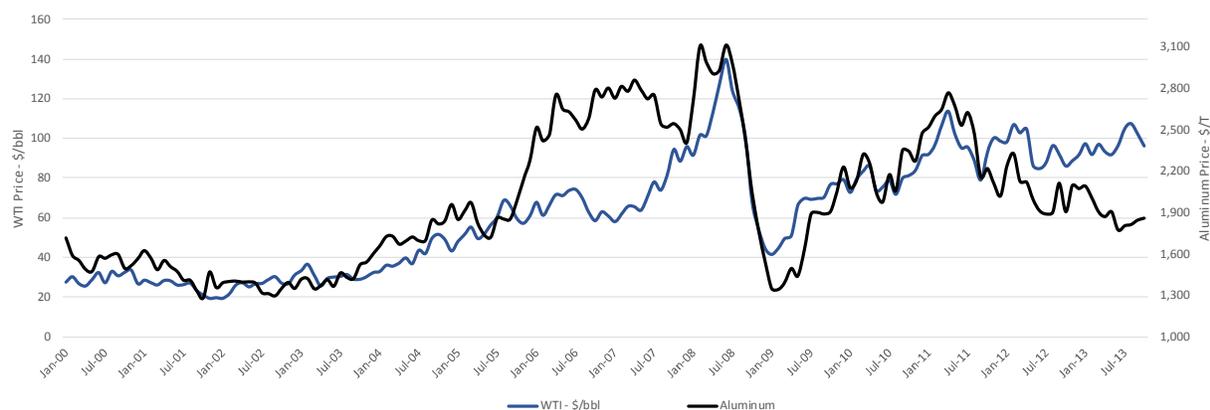
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globally, it is estimated that approximately 35% of smelters will end up losing money in 2013; ii) the resilience in production is explained by fixed overhead costs of ~US\$200-250/ton to be incurred by smelters even if they were to temporarily shut-down their facility making operating at breakeven or small losses the more economical option; iii) there have been closures of approximately 1-1.5 mln ton capacity of high-cost smelters in China that were offset by new plants coming online in the Middle East.

Aluminum and Crude Oil Prices (Jan-2000 to Oct-2013)



Source: Bloomberg

Although it is impossible to predict when the business will return to normal profitability, I think the last 6-year period is a reasonable sample for a complete business cycle including a financial market disaster in 2008, halt in global industrial activity in 2009, recovery period in 2010-2012, and margin deterioration in 2013.

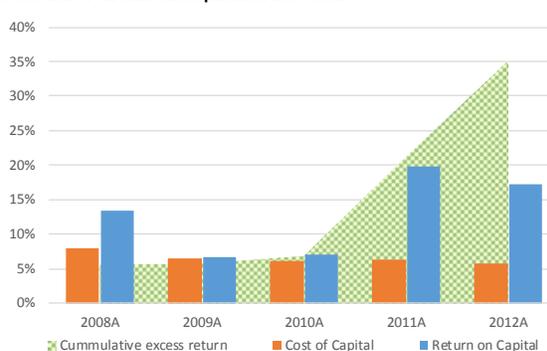
Use of Cash

A Look at CII Carbon. In 2007 Rain purchased CII Carbon for US\$615 mln. Since the acquisition, CII Carbon has earned US\$271 mln in net income, US\$343 mln in CFO (pre-interest), and US\$162 free cash flow (after accounting for all capital expenditures including US\$65 mln for the Lake Charles waste heat recovery plant completed in 2013). Return on capital employed has also been impressive of 13.3% (unlevered income) from 2008 to 2012 versus the cost of capital of 8%.

Net Return of CII Carbon Acquisition in US\$



Net Return of CII Carbon Acquisition in Percent



Source: Rain CII Carbon bond prospectus and calculated estimates

Another simple measure for the return of capital employed by Rain can be seen through the growth of book value per share. While the absolute book value is distorted by historical figures and accounting practices, the growth in the book value largely reflects cash generated by the business (Rain's acquisitions have been made using debt leaving the book value unchanged). From 2008 to 2012 the company increased its book value by an impressive Rs12.75 per year through internally generated cash flows.

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Past Record. Aside from the two acquisitions, Rain has been fairly disciplined in its capital use. The company has been increasing its cash balance, repaying debt, and returning capital to shareholders through dividends and buybacks. The increase in capital expenditures in 2012 is related to construction of the co-generation facility at Lake Charles (~US\$65 mln) and in 2007/2008 the company completed a brownfield 1.5 mln tons cement capacity expansion (~US\$70 mln).

Table Shows Cash Flows for Rain Excluding RÜTGERS from 2007-2012

Cash Flows (US\$ mln)	2007	2008	2009	2010	2011	2012
CFO before wc changes	62.0	253.4	169.9	132.1	298.7	266.4
CFO after wc changes	116.4	89.2	215.1	69.5	232.7	333.0
Capex	-53.7	-39.9	-9.4	-15.7	-31.1	-96.5
Unlevered free cash flow	62.7	49.2	205.7	53.8	201.7	236.6
Investments	-468.1	1.4	12.0	-10.5	3.6	24.4
Net change in debt	464.1	24.2	-146.7	48.7	1.1	566.0
Interest Cost	-76.2	-51.9	-50.1	-42.3	-45.7	-45.2
Dividend	-7.0	-5.4	-7.0	-6.6	-8.1	-8.0
Share buy-back	0.0	-4.1	0.0	0.0	-2.9	-5.0
Net Change in Cash	-\$19	\$36	\$16	\$11	\$152	\$768

Source: Rain Industry filings and calculated figures

RÜTGERS also has a stable history of cash generation and low capital requirements.

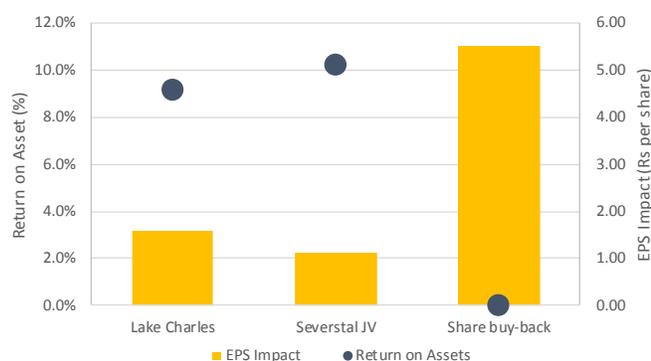
Table Shows Cash Flows for RÜTGERS from 2009-2012

Cash Flows (EUR mln)	2009	2010	2011	2012
CFO before wc changes	65.0	69.5	83.7	80.2
CFO after wc changes	76.1	66.6	98.0	68.3
Capex - Maintenance	-5.3	-12.3	-21.1	-8.4
Unlevered free cash flow (EUR)	70.8	54.3	76.9	59.9
Unlevered free cash flow (US\$)	98.7	72.0	107.1	77.3

Source: Rain CII Carbon bond prospectus

Current Projects. I am always critical of companies trading at low valuations and not aggressively repurchasing their stock. While Rain has returned 12% of net income in dividends and share buy-backs over the last five years, its depressed valuation of 2.5x earnings provides an extreme example of the buy-back dilemma. For example, looking at Rain's recent projects – the US\$95 mln co-generation project (now complete) and US\$65 mln coal tar distillation JV (expected to be fully operational in early 2015) will add roughly Rs1.60 and Rs1.10 per share respective – however a US\$50 mln share buy-back program could increase EPS by Rs5.50 (buying shares at Rs50/sh).

Project ROA and EPS Accretion Comparison



Source: Calculated figures

Despite the accretive impact of a buy-back program, Rain is focused on long-term capital allocation in low-risk and complementary businesses rather than focusing on short-term valuation changes. Lake Charles co-generation facility will provide the ~US\$30/ton margin to the calcining plant while operating on the low end of the energy generation cost curve. Whereas the Severstal JV will secure raw coal tar supply and provide access to some of the lowest cost aluminum smelting facilities in the world in the Middle East.

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Management

Management and Holdings. The Rain Group traces its origins back to the early 1970's when it was incorporated as Tadpatry Cements by Mr. Radhakrishna Reddy and several partners. In the mid-80's the company changed its names to Priya Cement Ltd. and a member of the Reddy family has always been at the helm ever since. As a minority shareholder the alignment of interest of the management team to your interest is of utmost importance in an investment. One easy gauge of management's entrenched interest in the business is the value of their holdings, relative to their salary. Rain's CEO, Jagan Mohan Reddy takes home a modest annual salary of ~US\$500,000, which is practically insignificant compared to the family ownership in the business worth ~US\$80 mln (even at its depressed valuation).

Another indication that minority shareholders are investing with management is that while completing the CII Carbon acquisition in 2007, Jagan Mohan Reddy injected ~US\$20 mln cash into the company through exercising 25 mln share warrants at a price of Rs40/sh. To fund this share purchase, Mr. Reddy assumed personal loans.

In terms of the businesses acquired, Rain does not actively manage operations and functions as a holding company. While Jagan Mohan Reddy has been in the calcining industry for nearly two decades, management teams of CII Carbon and RÜTGERS were retained to manage operations. On the company's conference calls, all three operators are available to answer questions on their respective businesses. Historically Rain has not used stock-options or share-based compensation to incentivize management (limiting dilution and short-term focused decision making), but does have a cash bonus program.

Start of Rain Calcining. Rain Calcining Limited was started by Mr. Jagan Mohan Reddy as he first became interested in aluminum while completing his Bachelor's degree in Industrial Engineering. Seeing the various applications of the metal in the Western world and underutilization in developing Asian countries he was keen on the commodity's future, however unsure how to take advantage. Reddy didn't see fit entering the smelting business, which requires significant upfront capital and profitability swung with the aluminum price. Raw materials mining and fabrication exhibited similar qualities and the three business were often vertically integrated within large companies. While the carbon business was a niche market dominated by a few large players, Reddy saw the opportunity in a business with low capital intensity and little operating leverage – it just happened that his home state is located next to the Indian bauxite deposits of Orissa (one of the fastest growing production regions globally) and NALCO's existing 500,000 ton smelting plant. The port of Visakhapatnum would be chosen as the host site allowing Rain to serve Middle Eastern and Asian smelters. Though the plant was built with a single kiln and 300,000 ton calcining capacity, knowing the importance of additional margins gained through a waste heat recovery facility, a co-generation facility suitable for two kilns was built (the plant burnt fuel grade pet coke until the second kiln was installed in 2005). In 2007, Rain Calcining Ltd. and Priya Cement Ltd. (his father's company) joined hands to form 'Rain Commodities' in order to have the financial capacity to acquire CII Carbon.

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Valuation

Sum-of-the-Parts

By now I hope I have been able to convey that Rain is a high quality business that should continue to earn profits at similar rates to its past, if not better. So what is the right price for this business? Using what I believe are fairly modest assumptions highlighted in the “Normal Ops” scenario below that represents the business’s earnings capacity over a full business cycle, and a 10% discount rate, I arrive at the following valuations Rain’s individual business units→

Overall, Rain is worth in the ball park of Rs177/sh, or 4.9x its current share price of Rs36/sh. This does not include any future capacity growth, upside for margin expansion, increases in sales price, or value for the tax shield provided by the company’s current debt levels. It is rare to find this level of mispricing in a business without assuming exponential growth rates or indefinite periods of peak profitability.

Even using the “Tight Margin” scenario across all business segments, Rain should still be worth roughly Rs72/sh, or 80% more than its current price, providing little downside.

DCF Derived Sum-of-the-Parts

Operating Assets	Rs mln	Rs/sh	US\$ mln
Calcining Business	54,287	161.40	876
Basic Aromatics	39,181	116.49	632
Chemicals	17,997	53.51	290
Cement	6,369	18.94	103
Power	5,054	15.03	82
Total	122,888	365.36	1,982
Financial Assets			
Cash (2014E)	23,321	69.34	376
Growth Capex - 2yr	(4,650)	(13.83)	(75)
Total Debt	(82,026)	(243.87)	(1,323)
NAV	59,533	177.00	960
Shares Outstanding	336.3		
EPS (Rs)	₹ 26.80	Target P/E:	6.6x

Source: Calculated figures

The management team is well aware about its depressed valuation and plan to de-leverage the corporate structure and pursue a U.S. listing for the carbon business when appropriate to help realize the company’s value. Since the earliest bonds due in 2018 do not become callable until Dec-2014, management has stated it would have little use for cash raised from a spin-co listing until then. On the more promotional side, Rain has started hosting quarterly conference calls and is now covered by three Indian brokers shedding some light on the business.

Earnings Scenarios. The “Tight Margin” scenario is most similar with the business’s performance in 2013, the “Low Utilization” emulates an economic slowdown where utilization drops but margins remain stable, and the “Normal Ops” is the business’s earning capacity over an entire business cycle, accounting for peak and trough years. Operating highlights of the scenarios are provided below:

Earnings Scenarios

	Tight Margin	Low Utilization	Normal Ops	5-Year Low	5-Year High	5-Year Avg
CPC Capacity (available)	2,075,000	2,075,000	2,075,000	2,169,000	2,285,000	2,214,850
Utilization	81%	75%	82%	78%	87%	82%
EBITDA per Ton	\$65	\$90	\$90	\$61	\$118	\$87
Energy Co-Generation Margin	\$11	\$11	\$13	\$8	\$12	\$10
Coal Tar Distillation Capacity	1,255,000	1,255,000	1,255,000	990,000	1,060,000	1,032,000
Utilization	75%	72%	80%	72%	86%	81%
EBITDA per Ton	€80	€100	€100	€84	€121	€99
Chemicals Sales	300	250	330	n.a.	n.a.	n.a.
EBITDA per Ton	€88	€130	€130	n.a.	n.a.	n.a.
Cement Capacity	3,500,000	3,500,000	3,500,000	2,900,000	3,500,000	3,380,000
Utilization	60%	60%	70%	61%	82%	68%
EBITDA per Ton	200	550	550	231	886	572
EPS (Rs @ current FX)	₹ 15.35	₹ 21.81	₹ 26.80	₹ 13.48	₹ 34.22	₹ 21.40
EBITDA (US\$ mln)	\$267	\$338	\$387	\$267	\$422	\$324
P/E	2.3x	1.7x	1.3x	2.7x	1.1x	1.7x
EV/EBITDA	5.1x	4.0x	3.5x	5.1x	3.2x	4.2x
EBITDA/Interest Coverage	2.9x	3.7x	4.2x	2.9x	4.6x	3.5x

Source: Calculated figures and historical filings

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2013E P/E: 2.7x

Comps Analysis

RÜTGERS Comps. While comparative valuations for the calcining business are not available (key competitors are private companies or integrated refiners), RÜTGERS does have two publicly traded competitors with similar operations in Koppers Holdings Inc. (NYSE:KOP) and Himadri Chemicals & Industries Ltd. (BSE:500184).

Koppers operates two different businesses: a coal tar distillation business with integration into downstream chemicals (approximately 2/3rd of revenues) and a wood treatment business. Similar to RÜTGERS, the company has improved profitability since the bottom of the cycle, earning US\$155 mln in EBITDA in 2012 versus US\$123 mln in 2009. For twelve months ending Sep-2013, the company earned US\$147 mln in EBITDA and currently trades at 8.0x on an EV/EBITDA basis and 16.6x P/E.

Himadri is the largest coal tar distiller in India with integration into downstream chemicals production. The company boasted stellar growth in profitability with EBITDA increasing from Rs1.4 bln in 2009 to Rs2.2 bln in 2012, however profits fell to Rs1.2 bln for FY ending Jun-2013. Management has cited 2013 as “the most challenging year” in the company’s existence due to a shortfall of raw materials, volatility in exchange rates, and Chinese dumping in the carbon black market. The drop in profits for Himadri while RÜTGERS and Koppers remain relatively unaffected shows the regional nature of the coal tar market. Despite these challenges, Himadri trades at 16.1x on an EV/EBITDA basis using FY13 earnings and 11.1x EV/EBITDA using average five year EBITDA.

Comps Valuation. Using normalized earnings (including the 20% coal tar distilling capacity expansion and the co-generation facility completed this year) with what I believe are fairly conservative multiples for Rain’s various business units, I arrive at a value of Rs207/sh. I believe the last 5-year period is an appropriate sample for a complete business cycle including a global financial crisis disaster in 2009, recovery period in 2010-2012, and margin deterioration in 2013.

Historical Profitability and EV/EBITDA Derived Target

EBITDA	Local Currency (mln)						@ Rs 62/\$; \$1.37/€	Normal Ops		Rs mln	US\$ mln
	FY09	FY10	FY11	FY12	FY13E	Avg 5 Yr	Avg 5 Yr		Mult.	EV	EV
Calcining Business (US\$)	142	137	229	179	109	159	9,879	9,457	6.0x	56,742	\$915
RÜTGERS CTP + Chem (€)	63	82	93	103	100	88	7,487	12,172	6.0x	73,031	\$1,178
Cement (Rs)	2,020	840	1,976	1,264	494	1,319	1,319	1,348	4.0x	5,390	\$87
Power (US\$)	21	18	21	15	16	18	1,128	1,003	6.0x	6,018	\$97
Total							19,813	23,979	5.9x	141,181	\$2,277
Working Capital								26,381	0.0x	\$0	\$0
Cash & Equivalents								10,350	1.0x	10,350	\$167
Total Debt								-82,026	1.0x	-82,026	-\$1,323
Total Value										69,505	\$1,121
Number of Shares Outstanding										336.3	
Value/Sh (INR)										Rs 207	

Source: Rain Industry filings and calculated figures

Appendix I: Brief History of the Aluminum Industry

Aluminum Demand. Aluminum’s light weight, strength, moderate melting point, ductility, conductivity, and corrosion resistance earned it the label of the “magic metal” from the beginning. However due to high production costs, early applications were in military use where light weight and strength were of the upmost importance and costs could be subsidized by governments.

Post WWII, aluminum consumption grew at a CAGR of 10% from 1945-1972 as applications expanded into building materials, electrics, basic foils and the aircraft industry. In the early 1970’s, six industrialized countries consumed approximately 60% of global production with the U.S. leading the way at 36% and Japan at 10%.

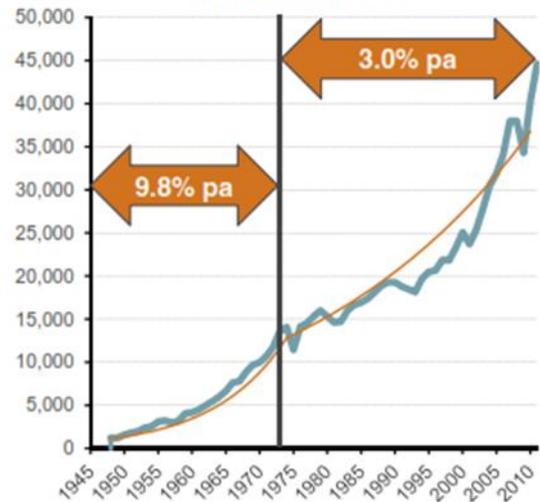
The most prominent change in aluminum consumption over the past four decades has been the rise of China. China accounted for 2% of global consumption in the early 1970s, that share has now risen to 40% while the U.S. has dropped to 11%. Over the last decade, Chinese consumption has grown at a CAGR of 17% and not far behind was India growing at 10%.

Looking forward, several favourable trends in aluminum consumption: i) copper to aluminum substitution in overhead cables, electronics, battery cables, wire harnesses and air conditioners; ii) wider use of aluminum in consumer electronics; and iii) new applications such as solar paneling and wind farms. However the key driver of the aluminum story will be consumption in emerging markets. Developed nations consume around 20 kg of aluminum per capita, but developing nations are considerably behind with India at 2 kg per person, Brazil and Thailand at 5 kg, and Malaysia and China at 10 kg.

Aluminum Supply. In the early 1970’s, supply of aluminum was controlled by the “six majors” – Alcoa, Alcan, Reynolds, Kaiser, Pechiney and Alusuisse – with a combined production capacity of 73%. The six were also integrated into bauxite and alumina production combining for 60% and 80% of their respective capacity. Prices for aluminum were gradually declining with increasing economies of scale and stable energy prices.

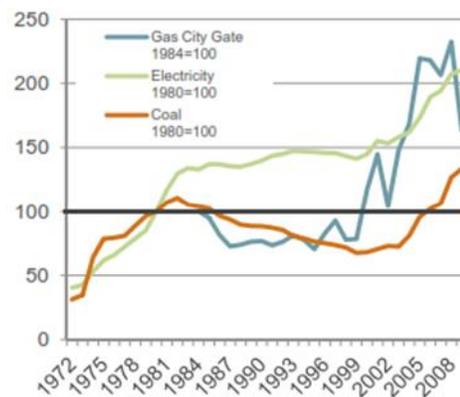
The energy shocks of the 1970’s would be one of the key events in reshaping the aluminum industry. While energy costs had been stable globally for decades, growing consumption from developing economies along with supply-shocks pushed up prices of oil and related commodities. Countries dependent on fossil fuel generated electricity started to experience significant inflation in electricity prices and a divergence between global energy costs emerged. Aluminum smelting is an electricity intensive process and electricity prices would become one of the primary determinants of international competitiveness. Following the energy shocks,

Aluminum Demand Growth (1945-2010)
Growth Pace



Source: World Aluminum Organization

Prices of Coal, Gas & Electricity (1972-2009)



Source: World Aluminum Organization

Stock Price: Rs36.00/sh

Enterprise Value (mln): Rs83,784/\$1,351

2013E EV/EBITDA: 5.1x

Market Cap (mln): Rs12,108/\$195

2013E EBITDA (mln): Rs15,695/\$267

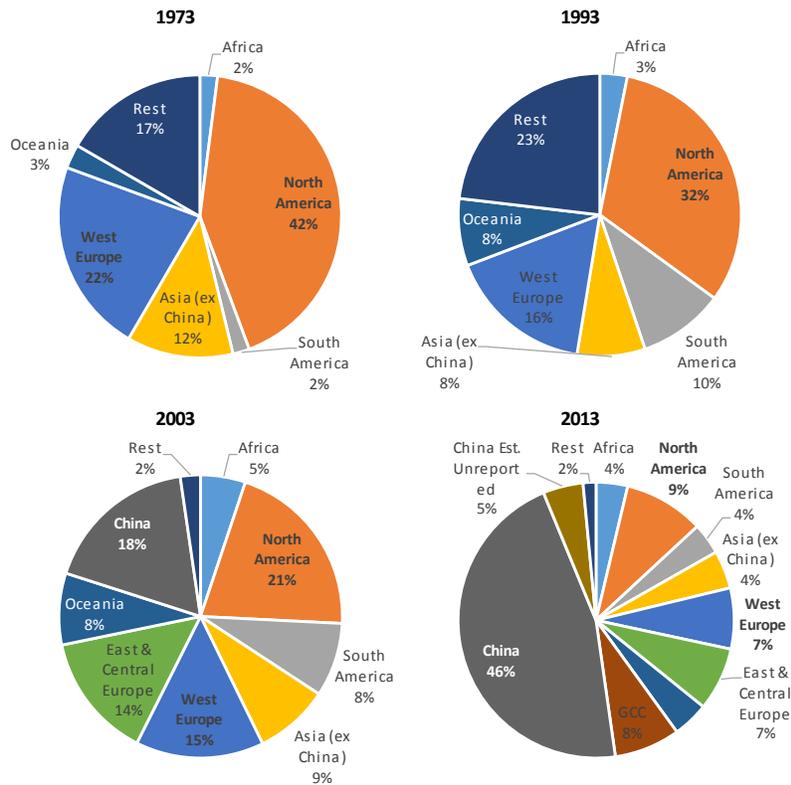
2013E P/E: 2.7x

aluminum manufacturing shifted from countries such as Japan, U.S., and Western Europe to lower cost regions such as Australia, Canada, Middle East, Russia, and China.

The second key change to aluminum supply was the arrival of new state-owned enterprises (SOEs). While private companies could not enter the highly consolidated and integrated industry, SOEs could establish economic scale and gain ownership of mineral resources. According to the OECD, "Aluminum Industry: Energy Aspects of Structural Change", 1983, 46% of primary aluminum production was controlled by government ownership in the early 1980s.

By the early 2010s, share of the "six majors" in aluminum production had fallen to 38% from 73% four decades ago. No company controls more than 9% of global capacity.

Aluminum Production over the Last Four Decades



Source: International Aluminum Institute

Stock Price: Rs36.00/sh

Enterprise Value (mln): Rs83,784/\$1,351

2013E EV/EBITDA: 5.1x

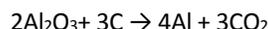
Market Cap (mln): Rs12,108/\$195

2013E EBITDA (mln): Rs15,695/\$267

2013E P/E: 2.7x

Appendix II: Aluminum Anode Production

The Smelting Process. Aluminum is produced electrolytically using the Hall-Heroult process. Alumina (Al₂O₃) powder is dissolved in a molten bath of sodium aluminum fluoride known as cryolite. The temperature of operation in modern cells is ~950-960°C. Electrical current is passed between carbon anodes and a carbon cathode in the cell, reducing alumina to aluminum metal that deposits on the cathode surface. Carbon anodes are consumed in this process, generating CO₂ gas. The basic chemical reaction is:



The energy required to produce 1 kg of aluminum is typically 12.5-14 DCkwhr. Aluminum smelting is energy-intensive and access to competitively-priced electric power is critical for low-cost production.

Carbon Anode Production. Carbon anodes are essential to the production of aluminum, as described in “The Smelting Process” above.

Anodes used in the Hall-Heroult aluminum process are made from calcined petroleum coke (CPC) and coal tar pitch. Most smelters maintain an anode plant. A handful of standalone anode plants supply pre-baked anodes to smelters without plants and to those who need anodes because of production shortfalls or maintenance shutdowns.

Pre-baked carbon anodes made from CPC are used to produce aluminum. In addition to CPC and coal tar pitch, spent anodes or “butts” are used in the anode recipe. A typical breakdown is 67% CPC, 20% butts and 13% coal tar pitch. Green anodes are produced first and baked in large furnaces to a final temperature of approximately 1150°C. They are then rodded and used in electrolysis cells. Anodes are consumed in the process and must be replaced every 20-30 days, depending on the size and cell design.

CPC quality directly influences anode quality and performance. Smelters set critical quality parameters such as sulfur and trace metal impurities (vanadium, nickel, calcium, iron, silicon and sodium). CPC physical properties such as bulk density, real density and particle size are also important when making anodes. Because of its lower thermal expansion coefficient, CPC with a sponge coke structure is favored over a shot coke structure.

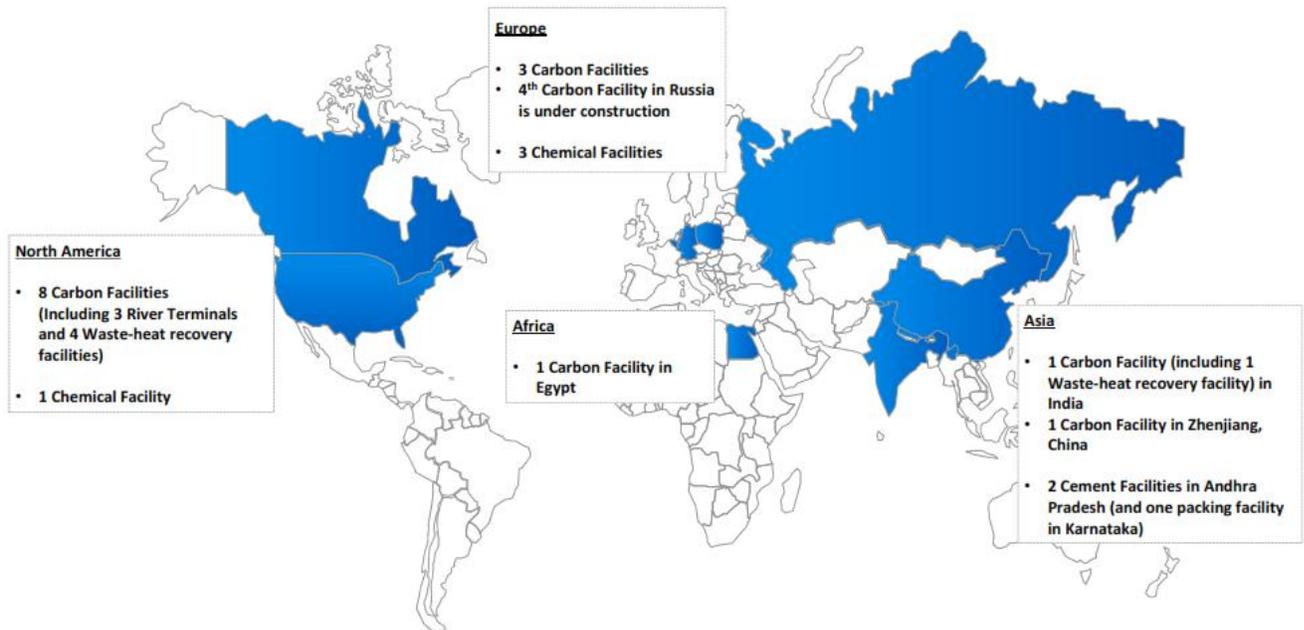
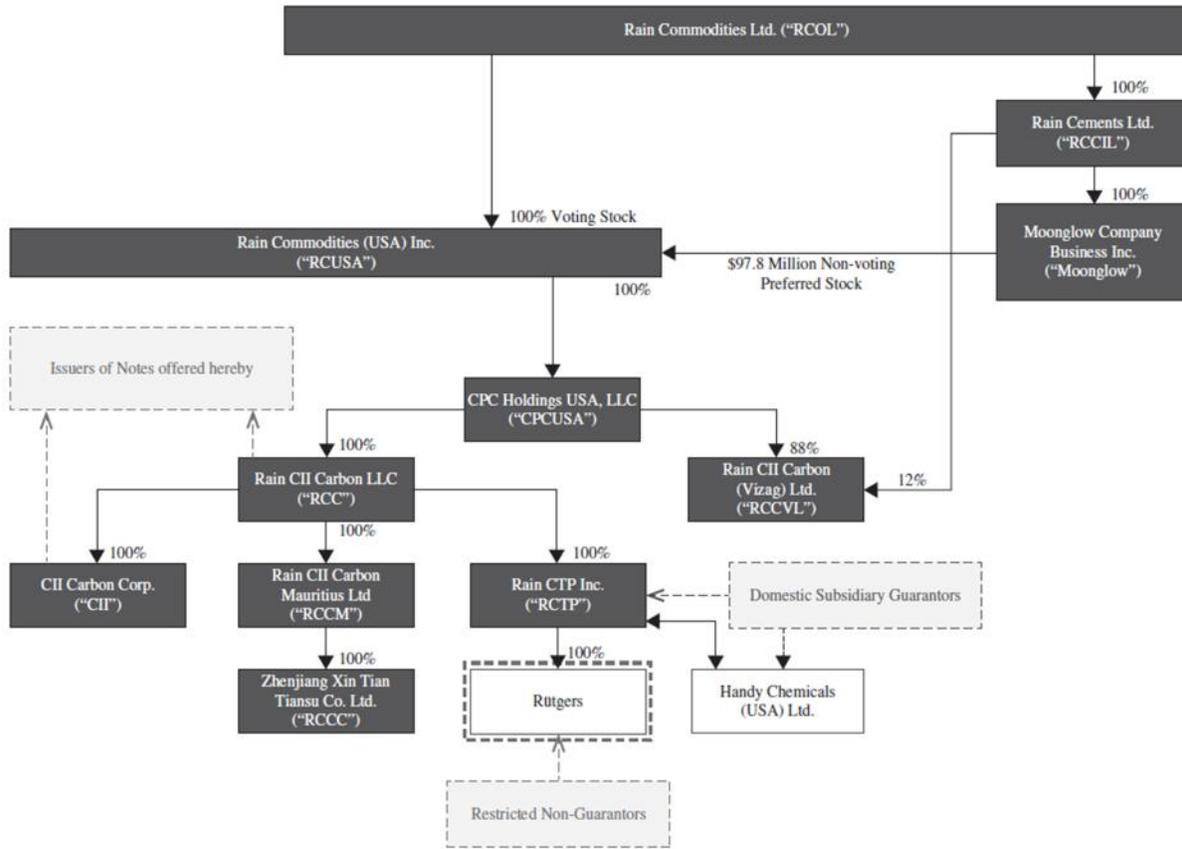
A modern 300kt/yr smelter produces approximately 500 anodes per day, so consistent CPC quality from shipment to shipment is very important. Many green petroleum cokes sold to the fuel market are unsuitable for making anodes due to their high impurity levels and undesirable structure.

Stock Price: Rs36.00/sh
 Market Cap (mln): Rs12,108/\$195

Enterprise Value (mln): Rs83,784/\$1,351
 2013E EBITDA (mln): Rs15,695/\$267

2013E EV/EBITDA: 5.1x
 2013E P/E: 2.7x

Appendix III: Corporate Structure & Facilities



Stock Price: Rs36.00/sh

Enterprise Value (mln): Rs83,784/\$1,351

2013E EV/EBITDA: 5.1x

Market Cap (mln): Rs12,108/\$195

2013E EBITDA (mln): Rs15,695/\$267

2013E P/E: 2.7x

Rain Calcining Facilities

Plant	Comments	Capacity	Power	Commissioning
Chalmette, Louisiana	Adjacent aluminum smelter; deep-water terminal	1 kiln, 230k ton/yr	19 MW	1968
Gramercy, Louisiana	Adjacent aluminum smelter; deep-water terminal	1 kiln, 230k ton/yr	210 klbs per hour steam generation	1979; first waste-heat recovery plant
Lake Charles, Louisiana	Located on Calcasieu ship channel; deep-water terminal	2 kilns, 400k ton/yr	30 MW	1979
Moundsville, West Virginia	Sits between two large coal-fired stations; dedicated barge dock facility. Closed Nov-2013	2 kilns, 420k ton/yr		1957
Norco, Louisiana	Plant-within-a-plant (Motiva Norco refinery); provides rail or truck shipments	1 kiln, 230k ton/yr	230 klb per hour steam generation	1965
Purvis, Mississippi	Focused on specialty applications (liquid carbon paste); provides rail or truck shipments	1 kiln, 70k ton/yr		1959
Robinson, Illinois	Adjacent to Marathon refinery, formerly owned; direct rail shipments by Union Carbide	2 kilns; 315k ton/yr		1958
Visakhapatnam, India	Located along Eastern coast – strategically between suppliers and customers	2 kilns 580k ton/yr	49.5 MW	1998
Zhenjiang, China	Vertical shaft furnace; material shipped by truck	1 vertical shaft furnace 20k ton/yr		2008

RÜTGERS Production facilities

Plant	Comments	Capacity	Segment
Castrop-Rauxel, Germany	Largest Coal tar distillation plant in the world; dedicated river port and sea, rail and road access	500k ton/yr	Coal Tar
Zelzate, Belgium	Integrated downstream production operations; sea and road access	300k ton/yr	Coal Tar
Hamilton, Canada	Only Coal Tar distillation facility in Canada; sea, rail, and road access	260k ton/yr	Coal Tar
Cherepovets, Russia	JV with Severstal; will supply pitch to North Atlantic, Russia and Middle East; sea, rail and road access. Expected completion in early 2015	300k ton/yr	Coal Tar
Duisburg, Germany	Downstream resins production; dedicated river port		Chemicals
Uithoorn, Netherlands	Downstream resins production		Chemicals
Candiac, Canada	Downstream superplasticizer		Chemicals
Hanau, Germany	Impregnated wood products		Chemicals
Kedzierzyn-Kozle, Poland	Soft Pitch production; serves as hub for Eastern Europe		Chemicals