Global
Chemicals

Deutsche Bank

24 March 2010

China Chemicals Tour

The growth engine continues to deliver

FITT Research

Fundamental, Industry, Thematic, Thought Leading
Deutsche Bank's Product Committee deems this report F.I.T.T for investors. We recently visited 16 European, US and Chinese chemical companies in China. Short-term trading is strong and confidence in the stimulus programme and management of the economy remain high. State support for petrochemicals is the long-term risk, but doing business in China is easier. Companies best positioned for growth have a growing consumer focus and/or orientation increasingly inland. Top picks for China are Linde, BASF & Bayer (Europe), Celanese & DuPont (US).

Fundamental: In-depth review of prospects for Western companies in China

Industry: Growing confidence over doing business in China

Thematic: Stimulus efforts shift inland and increasingly consumer focused

Thought leading: Many European (and US) names well positioned in China

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Fundamental: In-depth review of prospects for Western companies in China

Following our recent China Chemicals Tour we have provided an in-depth assessment of the prospects of the chemical and industrial gas industry in the region, with a focus on the exposures of various Western chemical companies under our coverage to identify short- and long-term growth prospects. In conclusion, most companies are currently experiencing record levels of demand and are also displaying continued confidence over the long-term growth prospects for the region. The differential between domestic demand (strong) and export markets (still weak) is noticeable and should continue to support those names building platforms to serve the growing domestic market. There are long-term issues for China (such as pollution control) which should actually create opportunities for Western chemical companies. Agriculture is another but the potential here is very long-term.

Industry: Growing confidence over doing business in China

Compared to our last two visits (2007, 2009) it is noticeable that Western companies are finding it easier to do business in the region. A greater confidence over intellectual property recognition is a noticeable shift and most companies are increasing local R&D – something the state is keen to encourage – with a view to tailoring product to the local market. A better understanding of governmental procedure is noted alongside a stronger focus from the state on environmental issues (and energy efficiency) which appears key in providing some Western players with on-going competitive edge over locals. What is clear is that companies with early strategies in China continue to leverage their advantage.

Thematic: Stimulus efforts shift inland and increasingly consumer focused

All companies felt that the stimulus package should continue to deliver support although the focus is shifting more towards stimulating consumer spending with the remainder of the fixed asset investment programme heavily weighted towards the inland regions (in an effort to bridge the inland/seaboard wealth gap in the country). Nearly all companies we met with felt that management of the economy is strong and expect only a modest slowdown in growth in H2 10 and 2011 (slowing bank lending, modest RMB appreciation). One long-term negative is the government's desire to increase self sufficiency coupled with investment support which are increasing basic petrochemicals investment (not always with economic logic) although it is more Japanese/Korean names that are exposed to this.

Thought leading: Many European (and US) names well positioned in China

Of the companies we met with, **Linde, BASF** and **Bayer** offer the best ways to play China in Europe while **DSM, Umicore** and increasingly **Air Liquide** are only just behind. In the US, **Celanese** and **DuPont** offer the best access China. We value companies using DCF or SOTP. Risks include global GDP slowdown, FX, oil.

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Companies featured

Air Liquide (AIRP.PA),EUR88.08			**Hold**
	2009A	2010E	2011E
DB EPS (EUR)	4.70	5.39	5.99
P/E (x)	14.8	16.3	14.7
EV/EBITDA (x)	7.7	8.5	7.7
AkzoNobel (AKZO.AS),EUR41.45			**Hold**
	2009A	2010E	2011E
DB EPS (EUR)	2.36	3.31	3.85
P/E (x)	15.2	12.5	10.8
EV/EBITA (x)	13.0	10.0	8.4
BASF (BASF.DE),EUR44.94			**Buy**
	2009A	2010E	2011E
DB EPS (EUR)	3.01	3.80	4.31
P/E (x)	10.5	11.8	10.4
EV/EBITA (x)	12.4	9.2	8.0
Bayer AG (BAYGn.DE),EUR50.10			**Buy**
	2009A	2010E	2011E
DB EPS (EUR)	3.64	4.45	4.77
P/E (x)	11.9	11.3	10.5
EV/EBITA (x)	17.1	9.8	8.9
DSM NV (DSMN.AS),EUR32.19			**Hold**
	2009A	2010E	2011E
DB EPS (EUR)	1.44	2.47	3.09
P/E (x)	17.3	13.0	10.4
EV/EBITA (x)	8.8	9.8	7.9
Linde (LING.DE),EUR88.68			**Buy**
	2009A	2010E	2011E
DB EPS (EUR)	4.55	6.38	7.62
P/E (x)	14.3	13.9	11.6
EV/EBITDA (x)	7.2	7.5	6.6
Syngenta (SYNN.VX),CHF296.50			**Buy**
	2009A	2010E	2011E
DB EPS (USD)	16.61	19.75	22.53
P/E (x)	13.8	14.2	12.5
EV/EBITA (x)	12.7	11.6	9.9
Umicore (UMI.BR),EUR24.62			**Sell**
	2009A	2010E	2011E
DB EPS (EUR)	0.73	1.27	1.64
P/E (x)	24.5	19.5	15.0
EV/EBITA (x)	13.2	13.4	10.5
Air Products & Chemicals (APD.N),USD75.54			**Hold**
	2009A	2010E	2011E
EPS (USD)	4.06	4.85	5.40
P/E (x)	14.9	15.6	14.0
EV/EBITDA (x)	7.5	7.9	7.4
Celanese Corp (CE.N),USD32.01			**Buy**
	2009A	2010E	2011E
EPS (USD)	1.70	2.90	3.40
P/E (x)	12.7	11.0	9.4
EV/EBITDA (x)	5.2	6.3	5.3
DuPont (DD.N),USD38.31			**Buy**
	2009A	2010E	2011E
EPS (USD)	2.04	2.30	2.65
P/E (x)	13.9	16.7	14.5
EV/EBITDA (x)	7.1	8.5	7.7
Praxair (PX.N),USD82.67			**Buy**
	2009A	2010E	2011E
EPS (USD)	3.99	4.55	5.10
P/E (x)	18.3	18.2	16.2
EV/EBITDA (x)	10.1	10.1	9.2
Sinofert Holdings Ltd (0297.HK),HKD4.54			**Buy**
	2008A	2009E	2010E
P/E (x)	17.6	–	24.0
EV/EBITDA (x)	13.1	–	10.5
Price/book (x)	1.7	2.1	1.9

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Investment thesis

Outlook and feedback from China Chemicals Tour

We recently spent a week visiting companies in China. We met with **BASF, Bayer, Linde, Air Liquide, DSM, Akzo Nobel, Air Products, Umicore, Syngenta, Celanese, Praxair, DuPont, Dow Chemical, CMAI, Sinofert** and **KP Biok**. Detailed feedback on each of these meetings is contained in this report from page 28 to 72 but we have provided a top-down summary of the key issues arising from the meetings below:

- **Demand is good – order books remain strong.** Most companies commented on the very strong start to 2010 that they have seen and where order books exist, demand appears strong looking into Q2 10.
- **Confidence over mid-term growth remains high.** Most companies have strong confidence in the management of the Chinese economy and have faith in the stimulus programme – this is an improvement from last year where some that we met with were more sceptical. Tangible benefits have been seen, particularly in regard of the fixed asset investment programmes and consumer stimulus subsidy efforts. Nearly all companies we met with believe that a modest revaluation of the RMB is likely in H2 10 alongside a cooling of the property market but with the central government in clear control of the banking system this will be done without a bubble bursting.
- **The stimulus programme is moving in-land and also more directed towards the consumer.** While the ambitious fixed asset investment programme remains it is clear that there are two trends happening in the stimulus programme. Firstly, the programme is now increasingly being directed towards the more inland regions in a bid to bridge some of the gap between wealth on the seaboard eastern regions and the inland regions. Secondly, the programme is increasingly looking to stimulate domestic demand as opposed to just fixed asset investment. Therefore infrastructure spend in the more built-up Eastern seaboard regions is unlikely to continue at the current rate – it is important to look for those companies able to follow the trend in-land and towards the consumer.
- **Moving toward local market solutions.** What is very noticeable for most companies is the development of local R&D centres over the past 1-2 years. In part this seems to be companies demonstrating a strong commitment towards the Chinese market but also this is a clear step into the direction of producing local market solution for the Chinese market. While these investments tend to be more development (and less research) in nature it is clear that with the strong education platform in China and growing intellectual property rights we would expect research in the region to steadily develop and possibly start to be the source for products to be used outside of the region.
- **The environmental focus of the Chinese should not be underestimated and is a key point of differentiation of Western companies.** Since our last visit in March 2009 it is clear that the state focus on pollution continues to increase. Energy efficiency is also becoming a bigger issue with most new chemical investments having to show compliance. The trend of the state on enforcing environmental regulation has also materially increased. This is for two reasons: 1) to increase the external perception of China, and 2) to improve scarce resources of energy such as gas, oil and electricity. Compliance by western companies remains very high but there continues to be growing feeling that local companies are also acting similarly – plant shutdowns of local players continues to occur. The opportunities here for Western companies remain immense not just in the area of water treatment and catalysts but also in plant design and technology which can minimise energy wastage and pollution.

- **Doing business in China becoming easier.** Most companies believe that intellectual property protection has improved materially which is supporting more confident R&D investment geared towards local markets. A stronger understanding of local government and less risk of energy shortages is also noted.
- **Industrial gas growth in China could continue to be >15%** for some time to come. Returns are going up despite high capital spend. Discipline appears strong with most names focusing on only selective industrial hubs in China. Despite the rise of some local players the companies continue to be successful in focusing on Tier 1 customers and large scale investments as they differentiate on energy efficiency, technology and service.
- **Export markets remain weak.** Growth is coming from domestic demand not export demand. It is clear that most companies exposed to export markets continue to see sales 15-20% below pre-crisis levels. Domestic markets continue to deliver new highs in sales with autos and construction very strong.
- **China's desire to remain independent remains high.** The country wants to reduce requirements on other countries for products and raw materials – it continues to look favourably on local manufacturing/investment into the country where new technologies can be used. Inland state investments will likely increase in petrochemicals, particularly in coal, and this may reduce any returns from basic petrochemical investments although specialist investment in more technical polymers (such as polyurethanes) should continue to provide opportunities for Western names as technology still offers substantial energy savings.
- **Overinvestment in basic chemicals may continue**. It is clear that the stimulus programme in 2009 has funded significant expansion plans in basic chemicals across much of the region. Given the scale of government commitment, some of these do not appear to have been done for economic reasons and so we see risks that some basic chemical chains will suffer structural oversupply. Fortunately most European names lack any real exposure to these areas but some Asian names are exposed (such as in Japan, Korea and Thailand). However, this does mean that if a company has not already put down a clear upstream investment base they may now struggle to make the investment case – the first-move advantage has gone in many areas of basic chemicals.
- **No longer the low-cost labour base – some migration to other Asian regions is being seen.** China as a low-cost labour destination generally holds true but we noticed for the first time some companies discussing the migrating of some customers to even lower cost labour regions (such as India and Bangladesh) in the areas of textiles and basic manufacturing.

In our view, China continues to present a major opportunity for many European (and US) chemical companies. Those who have moved early and built up relationships with the leading local companies are now moving the next stage of investment and increasingly tailoring product for the domestic Chinese market (as opposed to the re-export market). This is requiring greater participation of local workforce and greater R&D investment. Managing this versus RoCE remains the challenge for some but with experience in the region rising we see this as a mitigated risk for most.

Most companies appear confident over the government's improving ability to manage the economy and while some slowdown is expected through the coming quarters most believe that any sharp deceleration of growth will be avoided, although property in some regions remains a risk (more to sentiment that the economy given the high levels of equity in property ownership). The stimulus package continues to work well – the implementation and transparency of the package is materially above than seen in the Western world.

Both North American and European chemical companies are well represented in the region although at the margin the exposures and historic focus seem to be larger within the Europe names. This is typically a function of a greater desire (or need) to find growth outside of their domestic markets than US peers through the 1990s.

On companies, many major names are developing leading positions in the region. In Europe, the most immediate names with strong investment cases for China appear to be **BASF** (volume ramp-up, leveraging early mover position in Nanjing, new investment in the in-land regions), **Linde** (very strong platform across the region in both Engineering and Gas) and **Bayer** (strong investments in Caojing). **DSM** continues to well positioned to benefit from its strong focus on the consumer markets of vitamins and nutrition while we remain impressed with the speed in which **Air Liquide** has been able to develop its position in the region. **Umicore** offers a strong play on the long-term challenges in China around automotive emission control and energy management (batteries). On a company-by-company basis we have detailed in Figure 1 the exposures of the European names to China.

In North America, names with the strongest investment cases based around China appear to be **Celanese** and **DuPont** with **Praxair** displaying a strong focus on profitability and returns. **Celanese's** strength is based on the low-cost integrated complex in Nanjiing supporting their acetyls franchise. **DuPont** appears to expanding well through the growing consumer market but also has an interesting long-term opportunity in the agriculture markets through the Pioneer business. **Praxair** – like the European gas names – has done well in expanding with the tier one customer base (particularly in steel) and is strongly focused on profitability.

Figure 1: Estimated Chinese sales within the European and US chemical sector (%)

	2010E (%)	Comments
Air Liquide	4.5	Shown as a % of Gas sales. Strong growth from a small base over the past few years. Strong investment focus should now ensure this ratio increases
Airgas	<1.0	No China focus
Akzo Nobel	8.0	Focused on many areas of Chemicals and Coatings. ICI acquisition boosted regional presence, particularly in Decorative
Arkema	6.0	Growing exposure in the area
BASF	11.0	Significant Chinese exposure (% of sales shown based on the chemical businesses only)
Bayer	6.7	Growing exposure through the new Caojing facility for polycarbonate and polyurethanes. China is 16% of BMS sales
Celanese	9.0	Strong focus in the region (and Asia)
Clariant	5.0	Steadily growing exposure
Croda	2.0	Small exposure
Dow	8.0	This number is 2009 actual (pro-forma for Rohm & Haas)
DSM	11.0	Strong focus on the region through most business units
DuPont	7.0	Growing consumer focus
Givaudan	6.0	Significant Chinese exposure
ICL	11.0	Exposure highest in Bromine and then potash
Johnson Matthey	7.0	Growing exposure through catalysts
K+S	3.0	Relatively low exposure – mostly MoP
Lanxess	8.0	Exposure in the region across numerous businesses
Linde	8.0	Shown as a % of Gas sales. Strong exposure acquired from BOC
MA Industries	<1.0	Very small exposure
Monsanto	2.0	Limited exposure
Potash Corp	6.0	Exposure through potash sales
PPG	6.0	A strong focus historically
Praxair	3.0	Selective exposure but growing strongly
Rhodia	6.0	China is 25% of Asian exposure
Solvay	4.0	Fairly small Chinese focus
Syngenta	2.0	Small Chinese focus but long-term opportunities exist
Symrise	7.0	Significant Chinese exposure
Umicore	6.0	Growth in catalysts to continue
Yara	4.0	Only NPK for fruits and vegetables

Source: Deutsche Bank estimates and company information

Valuation

We value chemicals stocks using either DCF or sum-of-the-parts models. We use DCF as this correctly reflects the long-term growth potential of many of the chemical companies we cover. We also use sum-of-the-parts when we need to correctly ascribe values to very different business units within one company.

Risks

For chemical companies the major risks include global slowdown in GDP, material strengthening of the $ and/or rising (and potentially volatile) raw material prices. Individual strategies for acquisitions and higher capex spending also present some risks.

For China specifically the risks are a material slowdown in GDP growth rates, greater price pressure from some local Chinese companies. Longer term, there are risks in China associated with congestion, air and water pollution and water and power shortage. These could constrain growth as well as provide opportunity for firms in related sectors.

China: Economic review

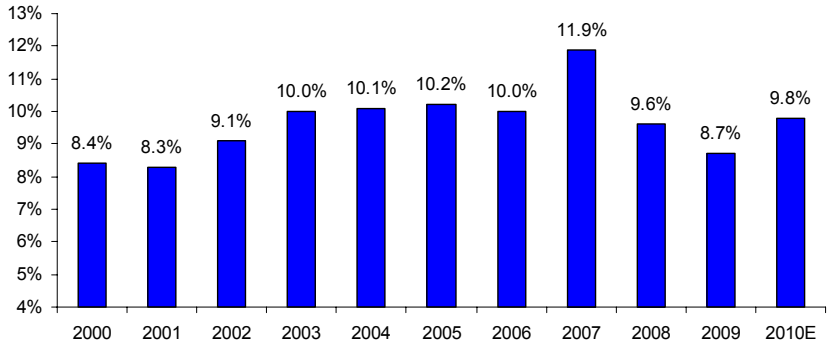
Chinese economy: A modest slowdown of growth expected

The Chinese economy, the world's third largest behind the US and Japan, was far less impacted by the global recession than the rest of the world's large economies. Supported by a 4 trillion RMB ($585 billion) government stimulus program, China's GDP growth slowed from a peak of 11.9% in 2007 to 8.7% in 2009. By contrast, US GDP contracted 2.4% in 2009 while Japan's GDP fell 5.1%. On our recent trip to China, we found strong demand growth underway in Q1, a slowing of bank lending and investment spending as the government seeks to slow inflation and deflate the build-up of an asset bubble in the property market and a number of longer-term shifts in the Chinese economy beginning to take shape.

Q1 is off to a strong start in China as the stimulus-led rebound in economic activity has continued from 2H09. Coupled with solid growth in domestic consumption as the Chinese consumer continues to exhibit an increasing amount of western-type behavior, Deutsche Bank's China economics team forecasts China's Q1 GDP will increase a robust 12%. While there were notes of caution in our discussions with US and European chemical and industrial gas companies over the inevitable slowing of government stimulus, we found utilization strikingly high across a wide cross section of chemical and industrial gas markets, evidence we believe which suggests sustainability to demand growth even as stimulus effects wear off. While China's GDP growth will moderate from Q1 levels, Deutsche Bank's China economics team forecasts GDP will grow at a healthy 9.8% in 2010.

With strong near-term growth have come increased inflation concerns. China's CPI rose a greater-than-expected 2.7% YoY in February, an acceleration from January's 1.5%, and the fastest rise in more than a year. Meanwhile China's PPI rose 5.4% YoY in February, an acceleration from the 4.3% posted in January and December's 1.7%, the first increase since December 2008. In addition, a strong surge in exports (+45.7% YoY in February) has simultaneously added upward pressure to the value of the RMB. With increasing concern that China's economy will overheat and asset bubbles will build, the government has responded with a number of measures to help moderate the pace of growth. These have included the gradual withdrawal of stimulus policies put in place last year and a tightening of bank lending standards. Results have started to be seen. Growth in bank lending and investment spending slowed in February with fixed asset investment growth of 26.6% in January-February the slowest growth rate in a year and down from the 30.5% expansion for all of 2009. Meanwhile new bank loans totaled 700 billion RMB ($103 billion) in February versus 1.4 trillion RMB in January and 1.1 trillion RMB in February 2009.

Figure 2: China's GDP growth is forecasted to rebound to a solid 9.8% in 2010E



Source: Deutsche Bank Global Markets Research estimates, International Monetary Fund

While China's economy is rebounding from its (modest) slowdown, it is also changing in nature. During the past decade exports and, to a lesser degree, housing have driven China's growth. However, these growth drivers are increasingly squeezed by RMB revaluation, rising labor costs, and increasing penetration of home ownership. In response, Chinese policy is shifting to support domestic consumption and services while cooling the property market. While the outlook for subsidized infrastructure investment remains strong (though down from the robust pace of the last 2-3 years), we expect decreasing capital spending and fixed asset investment incentives will be replaced by increased spending on healthcare, labor protection, education, media, and other consumption-focused measures.

Key elements of the near-term economic outlook, policy environment, and economic metamorphosis which we expect will impact the outlook for investors in China chemical assets include the following:

Near-term economic outlook

- Despite the challenges of an uneven global economic recovery, we believe China, with its large foreign exchange reserves, growing middle class and government stimulus efforts, is well positioned to return to near the 10% compound growth rate it posted from 2003-08. Deutsche Bank's China economics team forecasts that China's GDP will increase 9.8% in 2010 and 9.3% in 2011 (vs. 9.6% in 2008 and 8.7% in 2009)
- Most western chemical and industrial gas facilities are operating at high rates of utilizations. With Deutsche Bank's China economics team forecasting China Q1 GDP of 12%, we expect western companies chemicals and industrial gas volumes will show strong growth
- There are no signs yet of a slowdown, with the Asia composite leading indicator (typically leading by 3 months) still rising at an accelerated pace
- Underpinned by strong wage growth and pricing power, Deutsche Bank's China economics team recently raised its 2010 retail sales growth forecast to 17% (vs. 15.5% previously)
- Inflation is rising, with China's CPI accelerating to +2.7% YoY in Feb (vs. +1.5% in Jan) and PPI accelerating to +5.4% YoY in Feb (vs. +4.3%). Deutsche Bank's China economics team sees rising pressure for an increase in interest rates over the next 1-2 months. With a negative real interest rate now negative, depositor behavior is under close observation for rising inflation expectations
- China's Industrial production was up a strong 20.7% YoY in Jan-Feb (vs. 18% in Q409). With power production growth up 25% in Jan-Feb, strong industrial production looks likely to support Deutsche Bank's China economics team Q1 GDP growth forecast 12%
- Exports continue to surge, rising 46% YoY in February. Deutsche Bank's China economics team forecast is for above-consensus export growth of 30% in 2010 (vs. 15%)
- Retail sales accelerated to a strong 17.9% increase in January-February. This historically high level has added to calls for caution regarding any additional stimulation of consumer spending
- Government efforts to moderate growth are taking hold. Within the railway and agriculture industries, fixed asset investment growth decelerated to 21.8% in January-February versus 50% in December. Total urban fixed asset investment growth of 26.6% YoY in January-February was down vs. 30.5% in 2009 but up vs. December's 20% (which was distorted by accounting). Real estate investment continued to accelerate, however, rising 31% in January-February, vs. +25% in Q409
- With the central government budget now envisaging a 2.7% decline in infrastructure spending for 2010, and the Ministry of Finance having singled out railways, highways,

and airports for scaling back, we expect lending for local infrastructure fixed asset investment will slow. As a result, Deutsche Bank's China economics team has lowered its has lowered its infrastructure fixed asset investment forecast to 0%

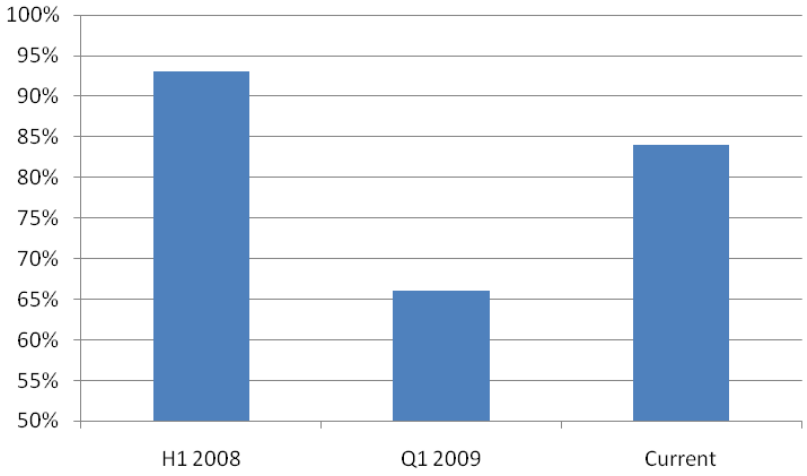
Figure 3: Deutsche Bank's China economics team fixed asset investment (FAI) growth forecasts (% change YoY)

	2009 Weights	2007	2008	2009	2010F
Total FAI		24.8%	25.9%	30.1%	19.0%
Real estate	21.5%	32%	25%	19%	20%
By developers	13.9%	32%	20%	18%	18%
Econ housing	0.7%	23%	21%	20%	60%
Rural & housing	6.9%	32%	33%	23%	20%
Agriculture	3.4%	24%	63%	50%	35%
Mining	4.0%	26%	40%	18%	20%
Manufacturing	32.6%	31%	31%	26%	23%
Infrastructure	11.2%	17%	20%	48%	0%
Railways	3.1%	14%	90%	68%	2%
Roads	5.2%	4%	2%	40%	-8%
Waterways	0.7%	2%	6%	38%	12%
Subway	0.9%	26%	21%	60%	19%
Air transport	0.3%	28%	-2%	3%	48%
Others	0.9%		37%	48%	0%
Utilities	7.0%	10%	18%	43%	15%
Public services	12.5%	20%	29%	43%	20%
Others	7.9%	16%	23%	29%	20%

Source: Deutsche Bank, CEIC

- With capacity utilization across the manufacturing sector having rebounded strongly since early 2009, we expect previous peak levels (92%) will be realized within the next 2-3 quarters. Coupled with the current strong recovery in exports, Deutsche Bank's China economics team has raised its manufacturing fixed asset investment growth forecast 300bps to 23%, reflecting strong capital spending expectations

Figure 4: Average capacity utilization rate of China's export-related sectors

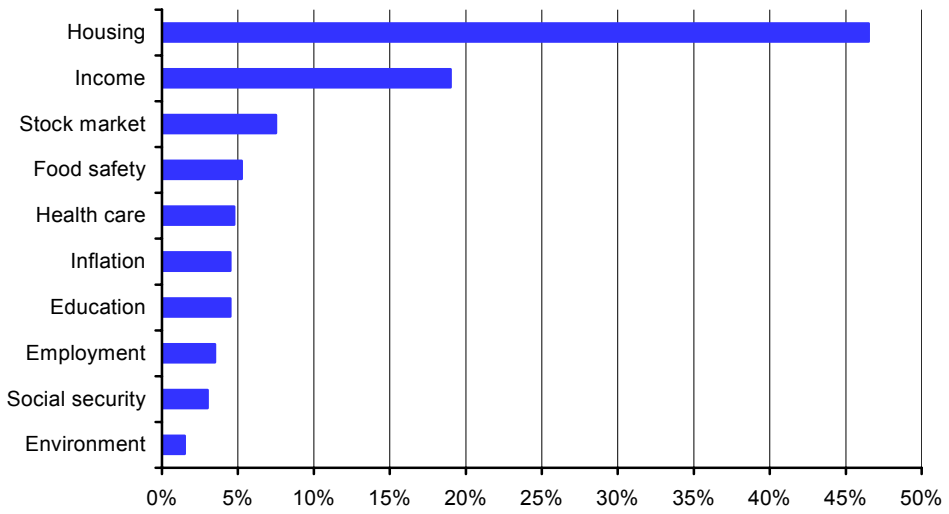


Source: Deutsche Bank survey of 45 companies, including those in the export manufacturing, marine and air transport sectors.

Policy environment

- With growth data continuing to surprise to the upside, concerns that sectors of the economy may overheat are adding to pressure for tightening in monetary and fiscal policy. Deutsche Bank's China economics team expects 2-3 more hikes to reserve rate requirements in 2010, changes to exchange rate policy to begin in 1H10, and limits to local project financing to grow
- Despite pulling back in 2009, China's current account surplus has remained historically high, increasing pressure for RMB appreciation
- Growing concern over unaffordable housing increases risk for a Q1 2010 pricing correction in real estate. Deutsche Bank's China economics team expects bank credit tightening to drive a property price drop in major cities in Q2. Supporting this, Premier Wen recently responded to public concern by vowing that the government would "resolutely" curb the housing prices in some cities. Among the steps that could be taken are a further increase in down-payment ratios for first and second homes, the narrowing of the interest rate discount for mortgages for both first and second homes, and the introduction of a property tax in selected cities. Recently, China's Ministry of Land and Resources increased the down payment required from developers purchasing land from local government to at least 50% from 20-30%.

Figure 5: Issues of top public concern in China (% of respondents)



Source: Deutsche Bank China macroeconomics team, Sina.com

- Fiscal policy likely to shift focus toward consumption-improving measures, including social safety nets (such as health care, pension, and labor protection), income distribution, support for urbanization, and services such as travel, education, and media
- Local China government debt risk is a frequently raised issue, but likely manageable by international standards. Although local government debt as a percent of revenue has risen from 20% in 2007 to 60% in 2009, the ratio of interest payments to income is modest by international standards. Measured this way China's local governments debt position is more modest than the OECD and roughly half that of the US or India
- Focus on income distribution driving higher consumption medium term. With the income ratio between the highest 10% and lowest 10% in China having risen from 7.3x in 1988 to 23x in 2007, a widening gap is believed to be restraining consumption spending. Efforts to address this are expected to include increased subsidies for agriculture, adjustments to pension benefit increases, increased pressure on wage growth in monopoly industries (such as telecom, power, transport, water, gas, and utilities), higher minimum wages, and reforms to the personal tax system

Economic shifts

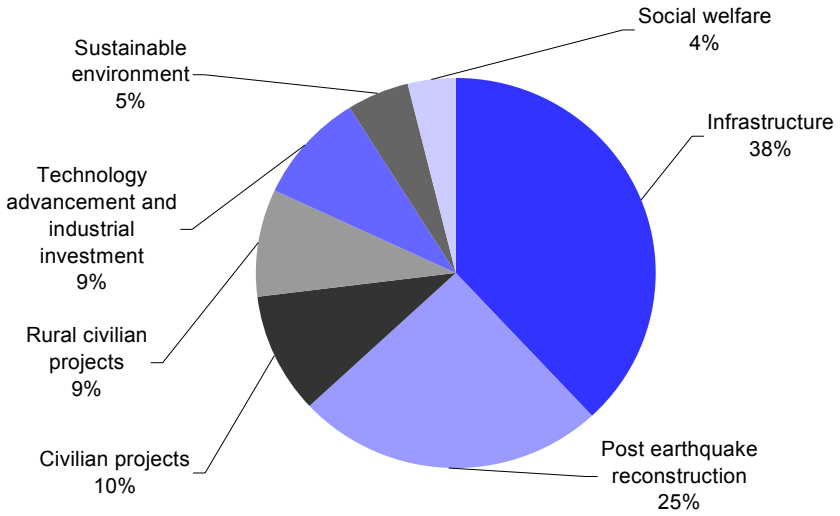
- Historically China's growth has been driven by exports (+22% CAGR over 30yrs) and housing (+31% CAGR over 10yrs, since 1999 housing privatization reform). The result was strong demand for manufactured goods and construction materials
- We expect productivity growth and government incentives for R&D will drive a continued shift in China's exports mix away from primary products toward higher-end manufactured products
- We expect domestic consumption will continue to rise as a share of China's GDP from its current 40% toward 60% over the next decade
- With China forecasted to have 100 cities where population exceeds 3 million people by 2020, strong infrastructure construction looks likely to continue in order to support these growing population centers. For example, China has announced that it intends to quadruple its total subway mileage (from under 1,000 kilometers to over 3,000) by 2015
- Spending on healthcare is likely to continue to rise. Deutsche Bank's China economics team forecasts China's expenditures on national healthcare will rise sevenfold from 2008 to 2018, a 23% CAGR

Stimulus plan – shifting the focus inland and to the consumer

In November 2008 the Chinese government announced a 4 trillion RMB ($585 billion) economic stimulus package designed to help shield China from the effects of the global recession. In March 2009 China's National Development and Reform Commission announced a revision of the stimulus and published a breakdown of how the funds would be spent. This infrastructure-focused stimulus plan, which will run through 2010, was focused on enhancing China's long-term competitiveness with higher expenditures on education and research and development and investments in new highway and high speed rail lines. In total 38% of the stimulus plan was focused on public infrastructure projects and 25% focused on reconstruction related to the May 2008 Sichuan earthquake.

While the programme continues we note that the focus is now shifting away from fixed asset investment and more towards stimulation domestic demand (ie the consumer) through support to healthcare, pensions, direct spending subsidies etc. In addition, of the remaining fixed asset investment the majority is now expected to be invested inland in a bid to bride the wealth gap between the inland provinces and the wealthier Eastern regions.

Figure 6: China's 4 trillion RMB ($585B) stimulus plan is focused on infrastructure



Source: Zhang Ping National Development Reform Commission press conference March 6, 2009

Other issues

Intellectual Property – While protecting intellectual property is still a key issue for U.S. and European companies, the level of concern is less than it was a few years ago. This is due to managements' greater confidence and increased experience in protecting their intellectual property and managing intellectual property issues in China as well as better enforcement and support from the government As evidence of this increased confidence, as well as a recognition of the significant opportunities in China over the next 10-plus years, chemical companies are extending their R&D efforts in China with substantial investments. Most companies have now opened R&D centers in Shanghai. BASF already has 7 R&D sites in China.

Wage Inflation/Turnover – Wage inflation and employee turnover in China are much less of a problem than they were a year or two ago. This is a function of the economic downturn coinciding with Western companies' multi-year efforts to enhance their focus on career development, building relationships with their local Chinese employees based on trust and placing more local Chinese in management positions.

Environment – China's economic growth has occurred at the expense of the environment. For years there was a great deal of rhetoric from the government on the need to improve environmental performance and energy efficiency. However, enforcement of environmental laws was lax as the focus was on growth but this appears to be changing. The tipping point in 2008 was the elevation of the state environmental protection agency to a ministry level (the Ministry of Environmental Protection). Previously, state environmental protection agency had reported into a ministry. With this elevation, the government appears to have begun converting its rhetoric on enhancing its focus on environmental, health and safety, to action. While growth at any cost was the government's agenda a few years ago, sustainable growth with a balance between growth and environmental, health and safety issues appears to be government's focus today. This is manifesting itself most directly in stricter enforcement of environmental laws and the adoption of Western regulations for future development

Power – There appear to be few issues with power availability but energy efficiency for new inland investment appears to be key.

Engineering and Construction– Engineering and construction resources are no longer tight. As such, major projects are proceeding on or close to schedule. On the cost side, most Western companies operating in China have adopted low cost country sourcing models with a large proportion of the design, engineering, fabricating and construction activity done in China by local Chinese engineers and companies. As a result, all in costs to build in China are roughly 20-30% less than costs in the U.S. and Europe

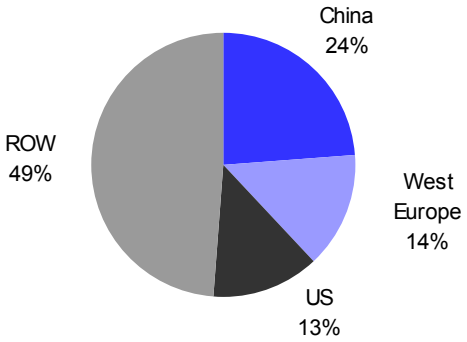
Customers in China – Similar to the Chinese economy, Western chemical companies are shifting their orientation to domestic oriented-customers and away from export-oriented industries. Coupled with Western chemical companies enhanced focus on doing as much as possible locally (people, R&D, engineering, construction), US and European chemical companies are acting more like Chinese companies with their associated lower cost structure and greater business efficiency

Petrochemicals in China

Capacity growth set to continue in China

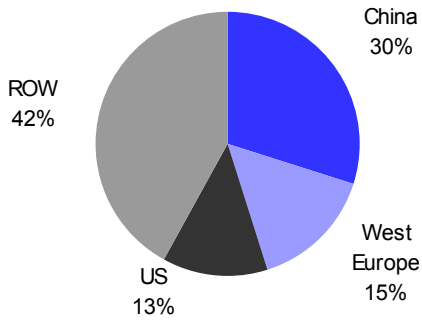
China has emerged as a global petrochemical giant. China is the largest petrochemical market in the world in terms of both production capacity and consumption. In 2009, China accounted for 24% of global petrochemical production capacity and 30% of total global petrochemical consumption.

Figure 7: Global petrochemical production capacity, 2009 (mt)



Source: Deutsche Bank estimates and CMAI

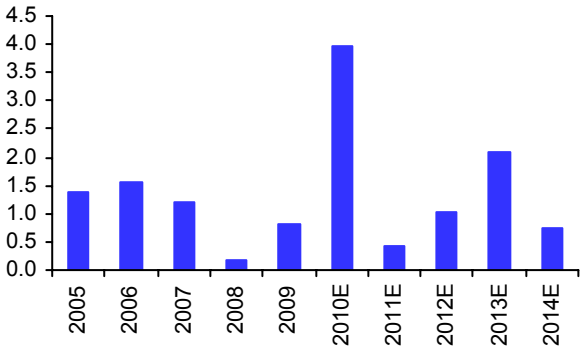
Figure 8: Global petrochemical consumption, 2009 (mt)



Source: Deutsche Bank estimates and CMAI

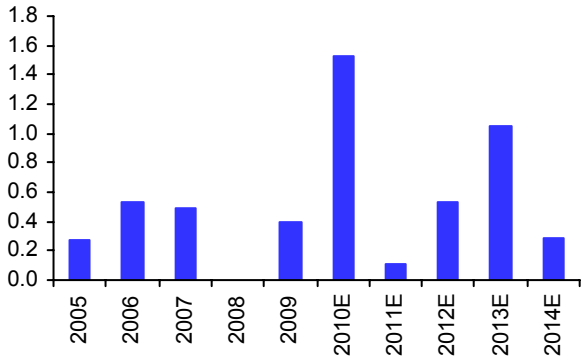
China ethylene capacity will rise an estimated 74% in 2010-2014. While a wave of new, low-cost, capacity coming on stream in the Middle East has captured investors' attention, a similar trend is also occurring in China. We expect China to add 4 million metric tons of ethylene capacity in 2010, an increase of 36% vs. 2009, and 37% of worldwide ethylene capacity additions. Looking ahead, several new projects have been announced over the past 24 months as various local governments race to build new ethylene capacity with the aim of promoting local economic development. Tianjin, Guangdong, Shanghai, Shaanxi, Hebei, Jiangsu, Zhejiang all plan to invest in ethylene and derivative complexes in the next 4-5 years. Collectively, these greenfield projects account for over 7.5 million metric tons of ethylene capacity in the next five years, equivalent to 5% of current global ethylene capacity. By 2014, we estimate that China will have increased its ethylene capacity by 74% from 2009 levels. This implies a global ethylene market share (by capacity) of 12% in 2014 versus 8% in 2009.

Figure 9: Chinese ethylene capacity is expanding rapidly in 2010 (mt)



Source: CMAI

Figure 10: Chinese HDPE capacity is also expanding at a rapid pace in 2010E (mt)



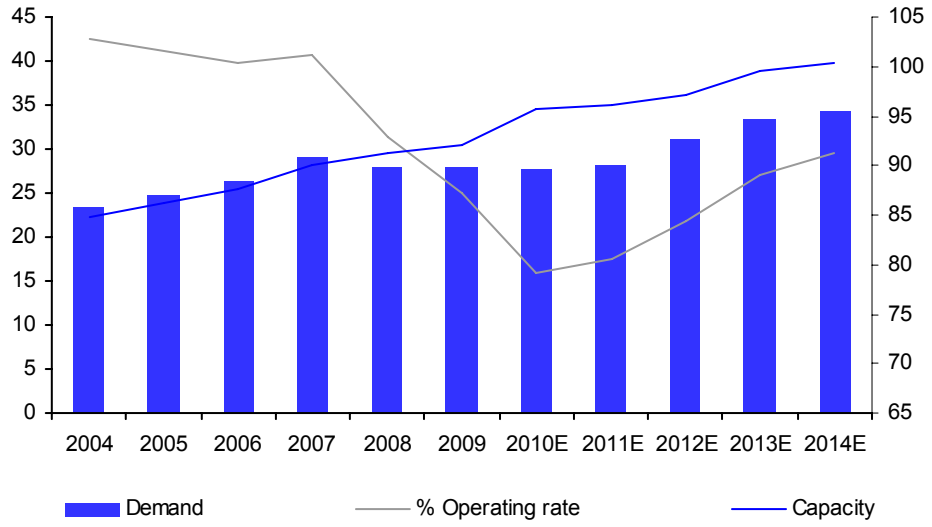
Source: CMAI

China polyethylene capacity to double by 2014. Mirroring the growth in ethylene capacity. we expect China to add 0.4 million metric tons of high density polyethylene (HDPE) capacity in 2010, an increase of 44% vs. 2009, and 39% of worldwide HDPE capacity additions in 2010. By 2014, we estimate China will have increased its HDPE capacity by 102% from 2009 levels. This implies a global market share (by capacity) of 15% in 2014 versus 9% in 2009.

Robust ethylene demand expected to continue. The significant number of new ethylene and derivative projects planned in China over the next five years are designed to take advantage of the strong demand that is expected to result from China's continued rapid economic growth. We expect Chinese ethylene demand to grow by nearly 20% in 2010, following an 11% increase in 2009, with derivative demand led by HDPE) up 26%, and linear low density polyethylene (LLDPE), up 19%

Asia region to remain in cyclical trough in 2010-2013. Driven by rapid capacity growth in China as well as the Middle East, we expect the ethylene industry in the Northeast Asia region will remain in a cyclical trough for the next three years with ethylene operating rates dropping to ~80% in 2010-11 from 85% in 2009. Beginning 2013, the stage is set for margin recovery as strengthening ethylene demand catches up to the high level of global capacity.

Figure 11: Ethylene operating rates in Northeast Asia are poised to recover by 2013 (millions of m.t.)



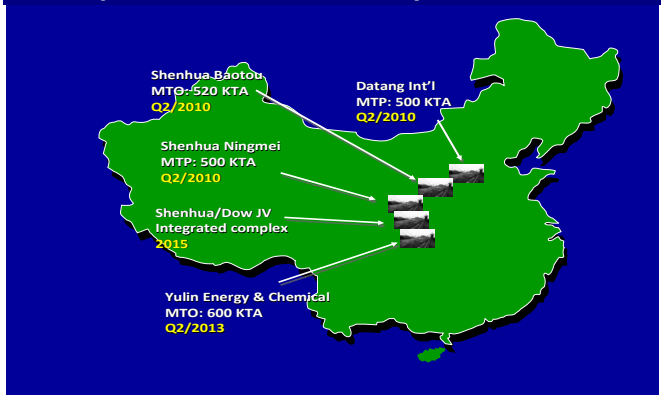
Source: Deutsche Bank, CMAI

Investments in China are increasingly moving inland. New petrochemical investments in China are increasingly looking to be made inland. This represents a shift from past years when investments in China were focused in the eastern part of the country. This shift to China's interior is primarily due to the regions abundant coal reserves and the Chinese government's national agenda of balancing the inequality of urban/coastal and rural/interior income. While some investments will be done as joint ventures with Western companies, the majority will be done by 100% owned Chinese companies with the backing of state funding which may often be driven by the state desire to build scale and increase self-sufficiency rather than for pure economic reasons.

Figure 12: New ethylene crackers planned in China are more geographically dispersed

Source: CMAI

Figure 13: Coal to olefin projects are focused in the interior provinces, near rich coal deposits



Source: CMAI

A heavy schedule of large ethylene construction projects, plus capacity creep. There are 8 large-scale ethylene crackers under construction in China with start-up planned from 2010-13. In addition, there is substantial brownfield capacity being added as well from normal capacity creep (productivity enhancements, modest capital investments). We expect Chinese ethylene production to grow by a conservative 0.6 million m.t over the next 2 years on the back of capacity creep alone.

Figure 14: Greenfield ethylene crackers in China

Project name/location	Group/parent	Capacity (ktpa)	Completion
Heilong	Daqing PC	600	Q1 13
Liaoning	Fushun PC	800	Q2 12
Liaoning	Panjin	450	Q1 10
Baotou, Inner Mongolia	Baotou Shenhua	260	Q2 10
Chengdu	Sichuan PC	800	Q1 13
Wuhan	Sinopec	800	Q1 13
Tianjin	Tianjin PC	1,000	Q1 10
Ningbo	ZRCC	1,000	Q2 10
Total		**5,710**	

Source: Deutsche Bank estimates, CMAI

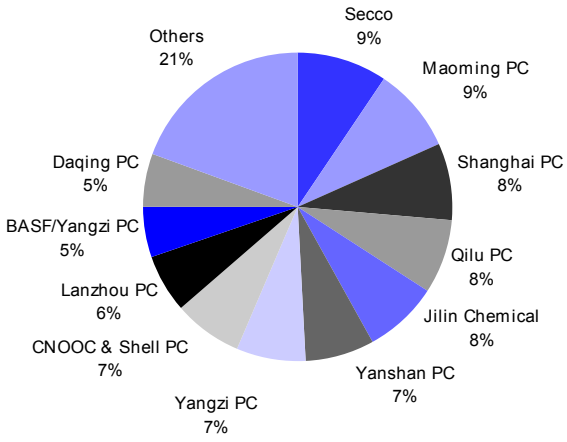
Figure 15: Ethylene capacity creep in China

Project name/location	Original capacity (ktpa)	New capacity (ktpa)	Additions (ktpa)	% increase	time of completion
BASF YPC Nanjing	600	750	150	25%	H2 10
CNOOC & Shell PC, Huizhou	800	950	150	19%	H2 10
Secco, Shanghai	900	1200	300	33%	Q4 09
Total	**2300**	**2900**	**600**	**26%**	

Source: Deutsche Bank estimates, CMAI

Despite heavy investment Chinese self-sufficiency unlikely to rise above 50% in the foreseeable future. Despite large investments in China by many Western and domestic companies (we forecast China's ethylene capacity will increase 74% by 2014) we estimate that the current Chinese level of 50% self sufficiency in petrochemicals is unlikely to increase beyond the 55-60% level. This implies imported chemicals products into the region should continue to increase (we estimate by around 5-6% per annum). China will thus remain a primary destination for ethylene derivative exports from the Middle East. In 2010, we also expect North America to remain an exporter of ethylene derivatives to China due to the region's relative feedstock cost advantage (ethane vs. naphtha).

Figure 16: Top ethylene producers in China by company (2009)



Source: Deutsche Bank, CMAI

Figure 17: Top ethylene producers in China by shareholder (2009)

Rank	Company	Annual Capacity (-000- Metric Tons)	% of total
1	SINOPEC	5,600	50%
2	CNPC	2,766	25%
3	BP	525	5%
4	Shanghai PC	488	4%
5	Royal Dutch/Shell	400	4%
6	CNOOC	360	3%
7	Private Investors	307	3%
8	BASF SE	300	3%
9	Liaoning Huajin Tongda	160	1%
10	Saudi Aramco	67	1%
11	Exxon Mobil Corp.	67	1%
	Total	11,040	**99%**

Source: CMAI

Coal-to-chemicals projects are advancing. As a result of China's reliance on imported oil, several major coal-based chemical projects are under development in the interior of the country. Three coal-based ethylene projects are currently under construction: Baotou Shenhua, Datang International Power, and Shenhua Ningmei. All are expected to be completed in 2010. For some of the coal-to-chemical projects, the desire to build may outweigh their economics as many of these investments are supported by infrastructure development in the interior. Nevertheless we estimate that most of these projects are economically viable when crude prices are above $40/bbl long-term. In addition, Dow is working on an $8-10 billion coal-to-chemicals project in Shaanxi province in central China in partnership with the Shenhua Group, China's largest coal company. In addition to a world-scale ethylene cracker, this project would make advanced stage chemical products such as polyurethanes, epoxies and acrylics. The project is "progressing well" with the feasibility study on track to be completed in 2010. We estimate the project is viable at an oil price of $50/bbl. The project would be able to ship its products on Shenhua's private railroad to the east coast for transport. However, given the location of the project in the interior of the country the long-term goal is for the plant to supply the economy in central China. If this project moves forward, it would be the largest foreign invested projected in China.

Foreign investments in China are on the rise. Western petrochemical producers continue to maneuver to gain a presence in the Chinese market via JV projects with local producers, some of which are coal-to-chemicals projects. While the government's domestic growth objectives will support an on-going drive by Western names to invest in the region, with local Chinese companies increasingly looking to invest on their own, Western companies will have to show differentiated technical skills in order to attract the major local partners and the necessary government approvals. While new opportunities in coal-to-chemicals appear to present the most attractive entry points for Western companies into the Chinese market, we continue to believe that coal-based chemicals investments could be problematic as many of these opportunities are tied to the economic prospects of an inland province which may lack the infrastructure to export products to higher growth regions of China.

China expansion could prolong profitability downturn. The risk for the global olefins industry remains that an enthusiastic Chinese build program, in concert with the massive expansion occurring in the Middle East, could result in prolonged margin pressure beyond 2012. It is worth noting that over the next 2 years the rate of petrochemical expansion in China is greater than that of Saudi Arabia. If China continues to expand ethylene capacity aggressively, the companies that would "lose" would be those very heavily tied to imports into China, including Japanese and other Asian petrochemical producers.

Figure 18: Ethylene capacity additions by key country

Country	2009	2010E	2011E	2012E	2013E	2014E	Total	% of total
China	813	3982	415	1033	2075	742	9,060	32%
Saudi Arabia	2642	1858	1925	600	0	0	7,025	25%
Iran	330	500	0	458	0	0	1,288	5%
Qatar	0	1191	109	0	0	0	1,300	5%
United Arab Emirates	0	700	700	0	0	750	2,150	8%
Kuwait	743	0	0	0	0	0	743	3%
Asia/Middle East total	**4,528**	**8,231**	**3,149**	**2,091**	**2,075**	**1,492**	**21,566**	**76%**
RoW	(1,621)	2,439	1,752	280	2,105	1,700	6,655	24%
World	**2,907**	**10,669**	**4,901**	**2,371**	**4,180**	**3,192**	**28,220**	**100%**

Source: Deutsche Bank, CMAI

Figure 19: High density polyethylene capacity additions by key country

Country	2009	2010E	2011E	2012E	2013E	2014E	Total	% of total
China	396	1,527	112	533	1,049	293	3,910	32%
Saudi Arabia	583	784	1,016	550	---	---	2,933	24%
Iran	550	275	---	300	---	---	1,125	9%
Qatar	---	175	175	---	---	---	350	3%
United Arab Emirates	---	180	180	---	---	270	630	5%
Kuwait	75	75	---	---	---	---	150	1%
Asia/Middle East total	**1,604**	**3,016**	**1,483**	**1,383**	**1,049**	**563**	**9,098**	**74%**
RoW	544	944	481	155	485	520	3,129	26%
World	**2,149**	**3,959**	**1,964**	**1,538**	**1,534**	**1,083**	**12,227**	**100%**

Source: Deutsche Bank, CMAI

Industrial gases summary

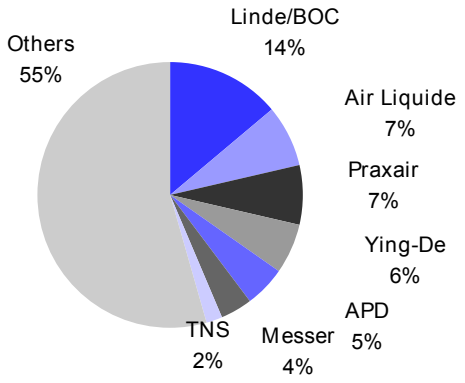
We met with Air Liquide, Linde, Air Products and Praxair in China. The feedback on the individual meetings is continued on pages 27 to 71 but below we have provided a summary of the key issues for the industrial gases industry within China.

Disciplined growth continues

Strong growth continues, returns going higher. All of the major gas names are focusing heavily on China, although some names are still playing catch-up (Air Products, no longer Air Liquide). The consensus opinion from the industrial gases companies is that the China region should offer around 15-20% growth in 2010-2011. While there was some hesitation from clients in signing new orders through 2009 it is clear that this has recovered strongly over the past six months with client enquiries now above pre-crisis levels – order books are strong. Competition on a contract-by-contract basis remains high but investment discipline seems to persist – each company feels that investment opportunities remain high and that given the large number of industrial basins in the region there is room for everyone. No single company is present across all of the major hubs within China although some appear slightly stronger (Linde/BOC). Returns in China seem to have troughed – we should now start to see the region provide improvements as plants that have come on-stream in the last three years reach full capacity.

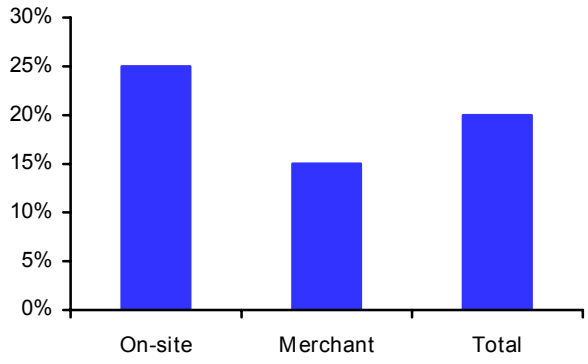
Strategies appear similar – focusing on niche strengths. Linde (through the acquisition of BOC), ahead of Air Liquide and Praxair while Air Products remains 4th is how the league table for the international companies reads in China based upon current market position. Linde appears to have developed profitable relationships fastest but all four names now have similar strategies in China and are looking to target the best customers (refining/petrochemical) selectively piggybacking profitable projects and building local barriers to entry to gain economies of scale. Linde seems to have the strongest customer relationships, Praxair has a slightly larger steel bias, APD a high electronics focus (although the Airgas deal may make them capital constrained in the coming years). Air Liquide remains the one to watch as it has built a very strong asset base in a relatively short period of time – with the CEO targeting a number one position in the region its clear that the group's deep pockets means it can commit more to region than many others.

Figure 20: 2010E China industrial gas market share



Source: Deutsche Bank estimates, Spiritus Consulting

Figure 21: Long-term growth rates by gas distribution

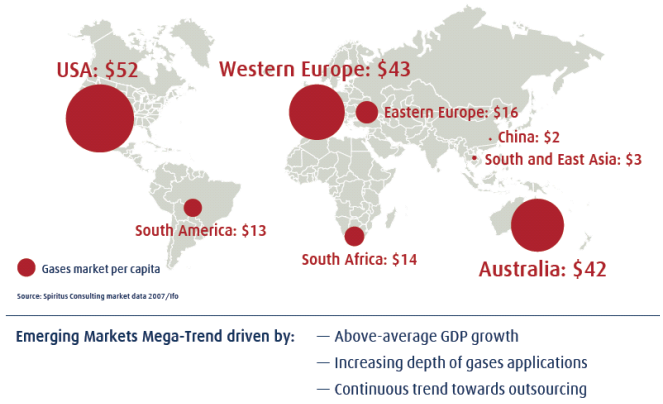


Source: Deutsche Bank estimates

Following our meetings with all major western players (please see later for individual company sections) we note eight key points overleaf in respect of the Chinese industrial gas market:

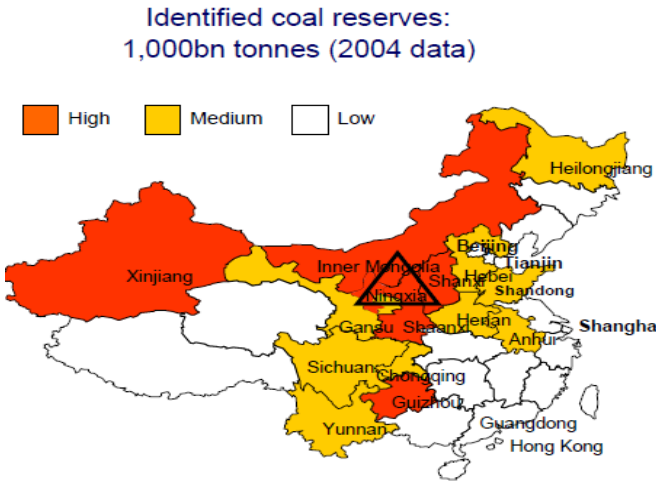
Point 1: Strong growth rates continue within China – outlook remains good despite current weakness. From all the gas companies the message appears the same – current gas demand has recovered strongly through 2009 with demand now at above pre-crisis levels. Order books remain very strong for new large on-site investments and 2010 and 2011 look likely to be record years for the number of on-sites coming on-stream. Merchant gas pricing has remained disciplined increased in many regions which further supports on-site economics. Cylinders remain less attractive as it is dominated by smaller local players (other than highly specialised gases) but relative to 2009 we note that some are looking to invest selectively.

Figure 22: Gas consumption in China remains very low



Source: Linde

Figure 23: China coal reserves are huge and offer lots of potential for gas demand



Source: Air Liquide

Point 2: Outsourcing by customers still provides longer-term potential. Currently, approximately 50% of the Chinese gas market remains under captive production. As technologies evolve and customer plants require updating and enlarging we expect outsourcing to continue and drive additional growth opportunities for gas companies. The cultural trend within China to "own your own assets" persists but nonetheless the selective sale of customer plants and/or new over-the-fence agreements is still occurring. Those with the early move into China – who have the best "customer relationships" – continue to benefit most from this trend. By product we note that outsourcing in the more basic oxygen and nitrogen areas seems to be exceeding that of the hydrogen market.

Point 3: New on-site investments are starting to move in-land. In line with many other industrial companies there is a growing awareness that the incremental material investment for the industry will come from the inland regions – where a greater proportion of the stimulus programme is being spent. Key for many names is to pick the region where they can be a larger industrial hub developed as opposed to an isolated chemical investment. We note recent announcements (e.g. Praxair and Linde working with BASF in Chongqing) supporting this trend. However, key for gas companies is to pick the areas that could become new industrial hubs rather than stand-alone investments.

Point 4: Increasing the focus on local engineering to lower construction costs. The large players all want to keep down construction costs through local sourcing. Most major names now use local manufacturing facilities (such as AL and Linde) to lower costs – an ASU (air separation unit) can be sourced up to 30% cheaper – and also lower lead times. It is not uncommon for the majors to source up to 100% of their ASU needs inside China and companies are now considering exporting product from China to the rest of the world.

Point 5: Contract bidding remains competitive; the focus on customer relationships remains high. Large on-site contracts with international majors remain fiercely contested, due to their lower risk and strategic nature. However, we see little sign of any price cutting or breakdown in RoCE discipline. In many cases the ability to offer a lower price to the customer is a function of using better technology or innovation for other product streams within the gas chains rather than offering the same solution for a lower price. 'Soft' criteria such as customer relationships, local government access and regional knowledge are increasingly critical in contract bidding – this is further supporting gas companies' desires to move quickly into new regions to create early barriers to entry. All of the major players appear keen to focus on China but it is increasingly clear that most names prefer to focus on specific regions and/or industry groups. Most believe that their ability to bid on more contracts is still currently constrained by their own sales/engineering capacity or capex budgets.

Point 6: 'Local' Chinese gas companies slowly closing the gap but still not generally competitive in large-scale investments. There are numerous smaller local industrial gas players which have, historically, caused problems for the major players through constant price cutting and ill-disciplined investment. While these players still remain highly competitive in smaller plain vanilla gas plant offerings, all of the majors noted that many local players are now showing signs of improving discipline. A greater focus on product pricing including capital costs as opposed to pricing based on variable cash costs is noted (although we note that some local names do appear to be offering more relaxed take-or-pay threshold levels on some smaller vanilla on-site investments). The recent stabilisation of merchant gas pricing in some regions (following several years of steady declines) is perhaps indicative of this improving trend. Local players continue to compete in the on-site business but for most the size of their competitive offering remains materially below that of a Western company (world-scale on-site plants now available up to 3000tpd compared to locals offering around 1000tpd) ensuring that for the larger investments Western companies will continue to dominate. In addition, as the region increases its focus on environmental issues and energy consumption the use of more expensive Western plants often recoup its cost in higher operating efficiencies. Nonetheless we continue to note that the differential between these two sets of companies has closed in the last few years.

Point 7: On-site contracts not being challenged – the business model is holding up. All companies were keen to stress that the take-or-pay on-site business model held up well in H1 09 even for those customers in some difficulties. While customer requests to renegotiate the terms of on-site contracts is a common occurrence, the rate of re-negotiation enquiries in 2009 was not materially higher than normal. Gas companies generally do not change contract terms, but it can happen if the gas company can get something better in return through changed pricing structure, changing for services etc.

Point 8: Reliable energy supplies – no problems experienced with 'brown-outs'. Fears over the lack of sustainable supply of electricity have been an issue for gas companies in the past but the proliferation of 'brown-outs' has been very low in the past few years. Companies feel that they have been successful in explaining to local governments the requirement for continuous energy supply, particularly if the gas product services are integrated into chemical/refining facilities.

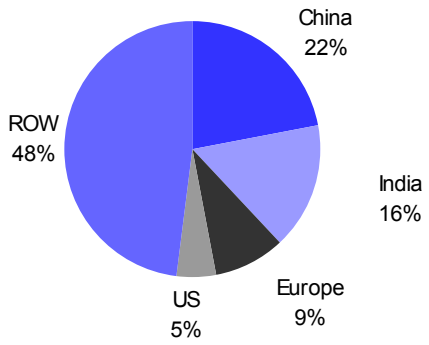
China agriculture outlook

We met with numerous companies exposed to the agriculture chain in China, including Bayer, Syngenta, DuPont, KP Biok, BASF and Sinofert. The feedback on the individual meetings is continued on pages 27 to 71 but below we have provided a summary of the key issues for China.

Long-term potential

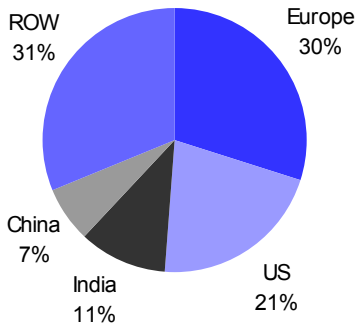
Population growth underpins the long-term demand in the region for agriculture. China's problems are clear in that they remain short of food. At the moment, China accounts for 22% of the world's population (1.3bn) yet only possess 7% of the world's arable land. This alone is a major headache for the country but added to the growing desire in the region for higher quality food (meat, fruit etc) then the long-term squeeze on supply is only likely to continue. Along with energy the Chinese government remains keen to ensure that they can safeguard food supply in the future. Investment into infrastructure in Latin America has been one key pillar of this strategy but higher investment in domestic production is also very important.

Figure 24: China is 22% of world population



Source: Syngenta

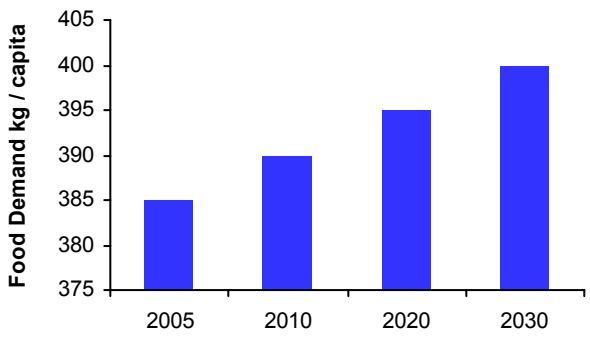
Figure 25: World's arable land



Source: Syngenta

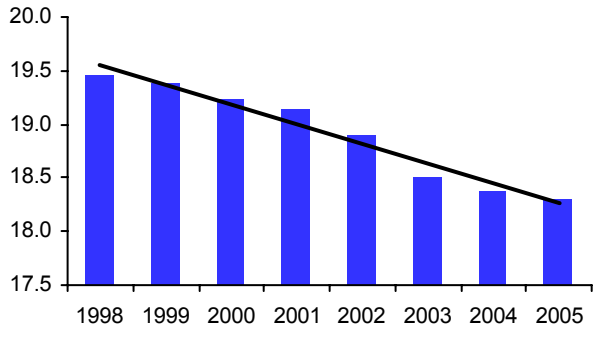
Acreage has actually been declining in China. Despite the pressure on food supply cultivated land in China is undergoing a steady decline due in part to urbanisation but also a migration of the workforce over the past decade to the cities.

Figure 26: Food demand is increasing



Source: Syngenta

Figure 27: Total cultivated land area has been declining in China



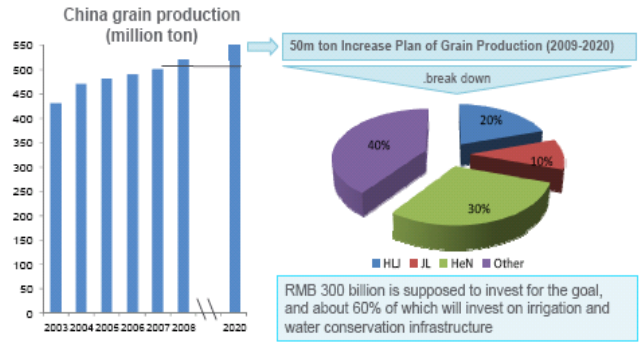
Source: Syngenta. Scale is 100mioMu

Government subsidies continue to target to double average farm incomes by 2020. As part of the stimulus programme the government is keen to support in-land economies which are heavily weighted towards agriculture. Therefore supporting farm incomes not only supports self-sufficiency but also creating wealth in-land and partially helps to answer the problems of the wealth gap between the in-land regions and the Eastern seaboard regions. The state is supporting farmers through four measures:

- Active fixed asset investment in in-land infrastructure, such as water control/irrigation, distribution etc.
- Price support mechanisms which guarantee a minimum price for rice and other crops.
- Subsidies through the upgrading of machinery, such as the efforts to replace old motorised machinery thereby improving efficiency and maximising yield.
- Subsidies to support in-land economies through the stimulus of consumer demand (subsidies given for white good purchasing etc) to further support household wealth for farmers.

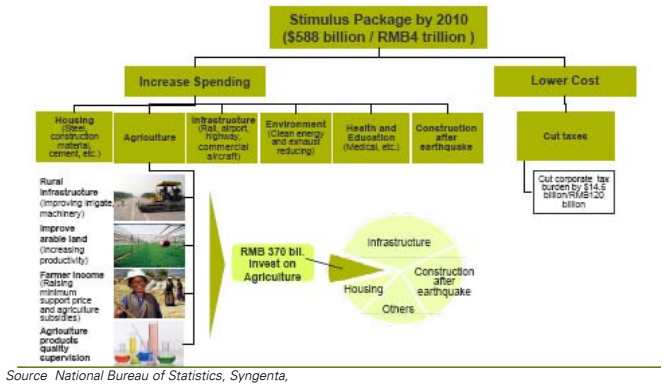
In total these efforts should provide at least RMD 370bn of support in the coming years although most of the companies that we met with felt that the investment number is likely to be substantially higher. All of these efforts underpin the government's public target to double net farm incomes by 2020 from the current level of RMB 4,500 per annum (Figure 32).

Figure 28: Grain production in China is forecast to increase



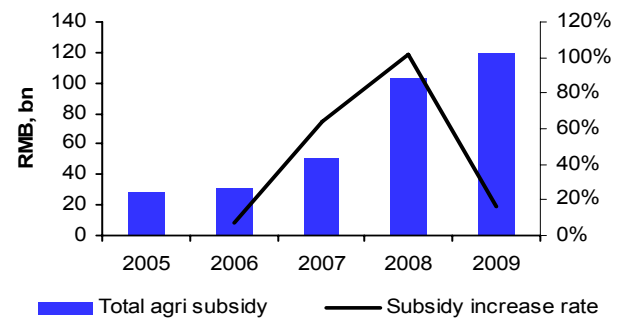
Source National Bureau of Statistics, Syngenta,

Figure 29: Agriculture is a key part of the subsidy programme



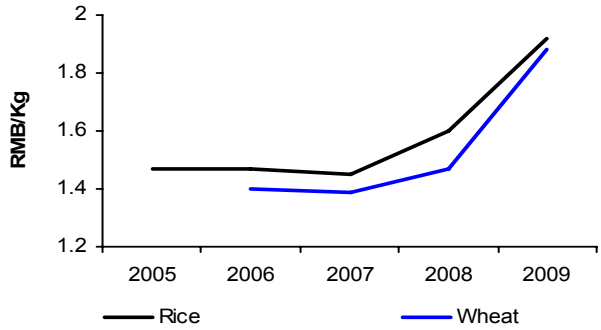
Source National Bureau of Statistics, Syngenta,

Figure 30: Increasing agriculture subsidies



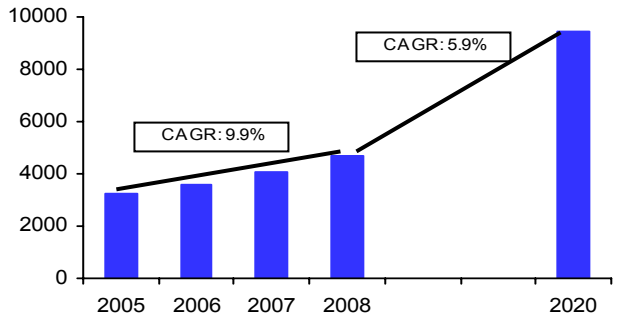
Source National Bureau of Statistics, Syngenta,

Figure 31: Increasing minimum support price



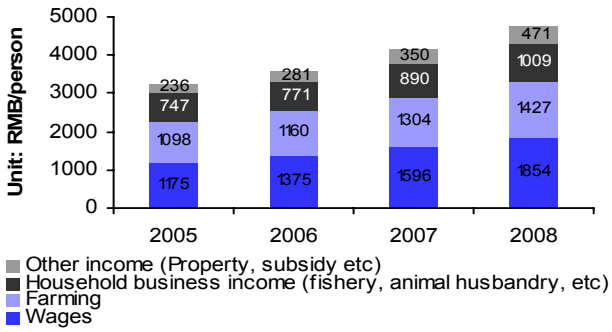
Source National Bureau of Statistics, Syngenta,

Figure 32: Per capita income of farmer (RMB)



Source National Bureau of Statistics, Syngenta,

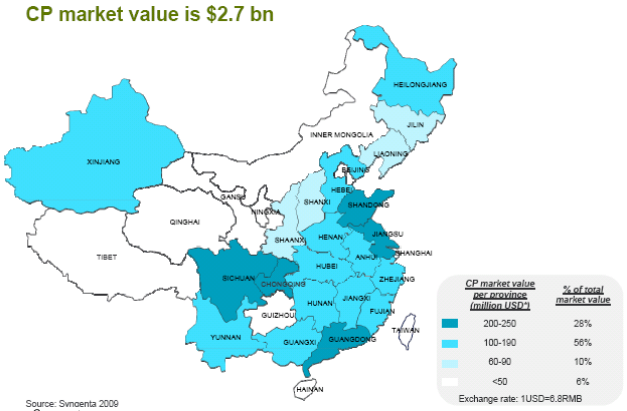
Figure 33: Wage income important to rural households



Source National Bureau of Statistics, Syngenta,

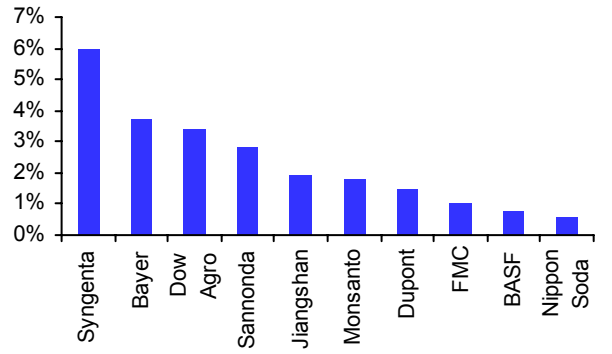
Crop protection market is a $2.7bn market, but focused on lower value generics at the moment. The crop protection market is highly fragmented in China with Syngenta the largest player in the region with approximately 6% market share. The multinational companies have approximately 25% market share in total implying a strong exposure for local companies. Generic agrochemicals are the largest part of the market – understandable given the low farm income level and often low levels of farmer education. There are around 500 active ingredient manufacturers in the region and over 2500 local formulators of agrochemical product.

Figure 34: The Crop Protection market in China is worth $2.7bn at the moment



Source: Syngenta

Figure 35: Syngenta is the largest player in China in crop protection but still only has 6% market share



Source: Syngenta

State is likely to be very involved in the expansion of technologies in the crop markets. The issue for China in the future remains to safeguard the production of food. While the country is clearly actively courting the use of greater technologies to improve yield we remain of the view that the control of the seed market and use of some GM technologies may take time as the government wants to be able to take a stronger lead in the control of the technologies surrounding the agriculture industry. For most companies to be successful it is clear that the strategy around tier one agrochemicals and also to leverage seed biotech technologies this will have to be done with the consent of the government to ensure 'buy-in'. Syngenta (and DuPont) appear to have leading relationshipa in this regard. Strong agbiotech penetration is likely to be some way off as the state does not want to give away control of crops – the creation of JVs with state entities may be the only way forward for some.

Regional regulation is increasing. A common problem over the past decade for agrochemical producers has been the protection of their IP and products alongside quality control. It is clear as with many end-users the government is increasingly enforcing these rules. Syngenta management noted that while their rates of litigation against copying/theft have not decreased in the last few years, their ability to enforce rulings has increased sharply.

China automotive outlook

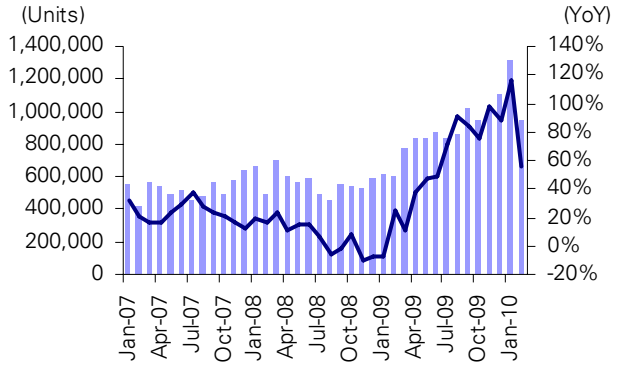
The automotive sector remains a material end-user for the chemicals industry and within China is a key driver of growth. In this section below we have looked in detail at the automotive market in China. The text below is provided in conjunction with our Chinese autos analyst Vincent Ha (vincent.ha@db.com, 852 2203 6247).

A strong recovery occurred through 2009

In 2009, China PV sales grew by 53% year-on-year to 10.33m units. While the consensus view is that 2009 sales boom was triggered by the government's stimulus package, especially the 5% purchase tax cut for sub-1.6L PVs, the extent of PV sales boost is still far ahead of market expectations. For instance, we have seen quarter-on-quarter growth in Q2 09 (at 27.3%) and Q3 09 (at 6.8%) that totally bucks the historical seasonality pattern. The strong momentum continued through Q4 09 with a sequential sales increase of 14%.

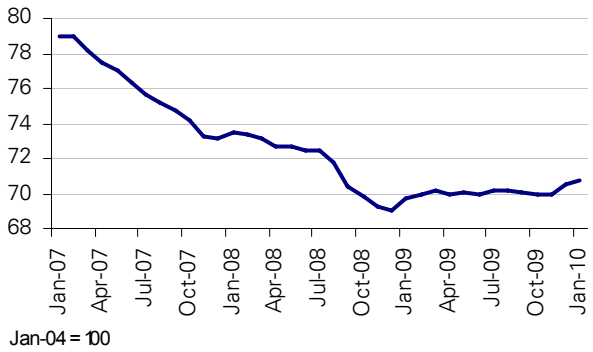
In addition, unlike in earlier years when there were declining trends in ASPs, China auto prices have been resilient in 2009. In other words, even considering the 5% purchase tax cut being applied to smaller PVs, the actual upfront purchasing cost is not significantly lower than last year, despite the increasing fuel price trend. Against such a backdrop, auto enterprise sales and profit trends continue to improve, with further support being provided by some easing of raw material costs.

Figure 36: China monthly PV sales trend



Source: China Association of Automobile Manufacturers (CAAM)

Figure 37: PV price index



Source: Cheshi.com

Recovery driven by stimulus plan. Strong PV sales growth in 2009 was driven by a slew of measures announced in December 2008 and January 2009 which included the abolition of flat-rate road maintenance fees collected from auto owners (although replaced by an RMB0.8/L increase in fuel consumption tax to RMB1.0/L), a reduction in purchase tax rate for passenger vehicles with engine size of 1.6L and below from 10% to 5%, and RMB5bn of one-time subsidies to farmers who scrap their three-wheelers or low-speed trucks and replace them with light trucks or minibuses with engine size of less than 1.3L. These measures encouraged the adoption of smaller vehicles resulting in significant increase in PV sales through 2009. In particular, the abolition of road maintenance fees and the replacement of fuel consumption tax lead to meaningful savings in car-keeping costs, particularly for small car owners.

Stimulus plan will continue through 2010 albeit with some modifications. In December 2009, The China State Council released details regarding the modifications to the 2009 auto stimulus packages for 2010. In brief, there are four main points envisaged in the revised auto sector plan

- The effective purchase tax rate for sub-1.6L passenger vehicle (PV) raised from 5% to 7.5% in 2010
- Scrapping subsidies' also raised to RMB5,000-18,000/vehicle in 2010 (from RMB3,000-6,000 in 2009)
- The rural subsidy scheme to continue in 2010
- The number of pilot testing cities for new energy vehicle subsidies (for public transportation vehicles) to be increased from 13 to 20. In addition, 5 cities will be selected to pilot-test privately-owned new energy vehicle subsidies

These modifications to the stimulus plan may be concerning but this is unlikely to have a significant impact on the PV sales and we view them as only a slight negative for the PV sector as explained below:

- Lowered purchase tax benefit is a slight negative but unlikely to derail PV demand momentum
- Since the scrapping subsidy measures are more aimed toward mid/light duty commercial vehicles (CV), incremental benefit to PV would still be limited
- The extension of rural subsidies is well within expectation, and bear in mind that sedans/SUVs/MPVs are not within the eligibility range. Hence the incremental impact would also be limited
- The impact on the private new energy demand depends on the amount to be subsidized (which is not announced yet) and we do not expect any immediate spike in new energy vehicle sales because of this

Conclusion: Government's support is likely to continue. We view the modifications as a slight negative for the PV sector however these measures still suggest a continuation of stimulative policies (despite slightly higher effective purchase taxes). We expect PV sales to continue to grow driven by stimulative policies and increasing GDP per capita in 2nd/3rd-tier regions (approx. $3,000 per capita) that will support significantly higher vehicle penetration rates.

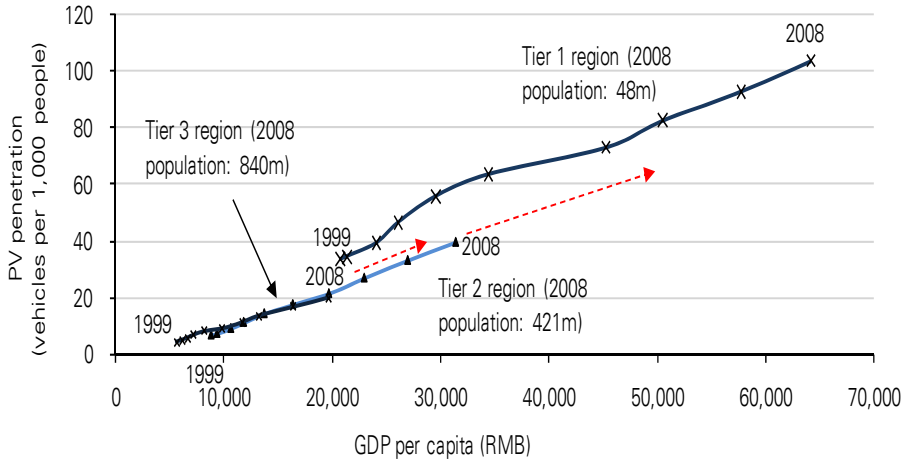
Expect further growth for 2010

Risk of negative growth does not seem imminent. We used to worry about the possibility that PV demand in China had been pulled forward from 2010 into 2009 because of the government's stimulus package, and because there appeared to be risks of negative growth, particularly in 2H10 due to the high base in 2H09. However, after our recent trip to China, we reiterate our confidence in our 2010 growth forecasts largely due to the increasing vehicle penetration in 2nd/3rd tier cities alongside the on-going stimulus plans.

Increasing contributions from 2nd/3rd-tier regions: Sales momentum in Chinese auto manufacturers like Dongfeng (HKD 11.50, Buy), and Geely (HKD 4.07, Hold), has been driven by sales growth in 3rd-tier cities. For instance, Dongfeng recorded strong PV sales momentum with January 2010 sales up 129.4% YoY (10.2% MoM) to 166, 282 mainly driven by its Nissan JVs, which has 55% of its dealerships in 3rd-tier cities. As these areas have a large population base, and their GDP per capita reaching close to US$ 3,000/year in 2009, we believe that customers there will become a core driver to support growth over the next few years.

We expect PV sales to grow by 12.4% in 2010 and 12.5% in 2011. We expect the pace of PV sales growth in 2010 to slow on high base. However, we expect growth to remain positive as we believe the penetration rate growth will accelerate in 2nd/3rd tier regions: we expect China PV penetration to grow by 72bps to 3.7% in 2009, 82bps to 4.5% in 2010, and 91bps to 5.4% in 2011. We do not see our forecast as excessive because our penetration growth forecast is still well below Japan/Korea's PV penetration growth of at least 1ppt during their accelerated growth period. For commercial vehicle (CV) sales, we expect that CV sales growth will normalize in 2010/11 on stable economic growth.

Figure 38: PV penetration growth trend in China (1999-2008)



Source: China Statistical Yearbook, Deutsche Bank

Figure 39: DB's Chinese auto sales volume forecast

	Passenger vehicle sales (m units)	YoY	Commercial vehicle sales (m units)	YoY	Total auto sales (m units)	YoY
2006	5.18	30.0%	2.04	14.2%	7.22	25.1%
2007	6.30	21.7%	2.49	22.2%	8.79	21.8%
2008	6.76	7.3%	2.58	3.5%	9.34	6.2%
2009	10.33	52.9%	3.31	28.4%	13.64	46.1%
2010E	11.62	12.4%	3.60	8.6%	15.22	11.5%
2011E	13.06	12.5%	3.95	9.7%	17.01	11.8%

Source: CAAM, Deutsche Bank

Early 2010 trends support our view. Chinese PV sales continued the 2009 momentum in first two months of 2010 with the January 2010 PV sales increasing 116% year-on-year to approximately 1.32m - 19% above the December 2009 driven by solid consumer demand, benefit from the stimulus packages as well as deferred demand and orders carried forward into January and some pre-buying ahead of the Lunar new year holidays. The scorching January pace however could not continue into February with the sales declining 28% month-on-month but still significantly above (+55%) year-on-year. The month-on-month weakness in February was largely attributed to the timing of Lunar new year holidays resulting in some pre-buying in January ahead of the new year holidays. The year-on-year comparisons will become increasingly tougher going forward (particularly in H2 10), however we still expect 12.4% growth in 2010 PV sales.

European companies

(Tim Jones, Head of Deutsche Bank European Chemicals Research and co-ordinator for Deutsche Bank Global Chemicals Research)

BASF (Buy, Target: Euro 51). Leveraging an early move advantage

We met with Dr Martin Brudermuller (Board Member with responsibility for Asia) and Dr Blumenberg (President of BASF-YPC Co Ltd). We visited the Nanjing site (four hours from Shanghai) where BASF has its main integrated Verbund facility.

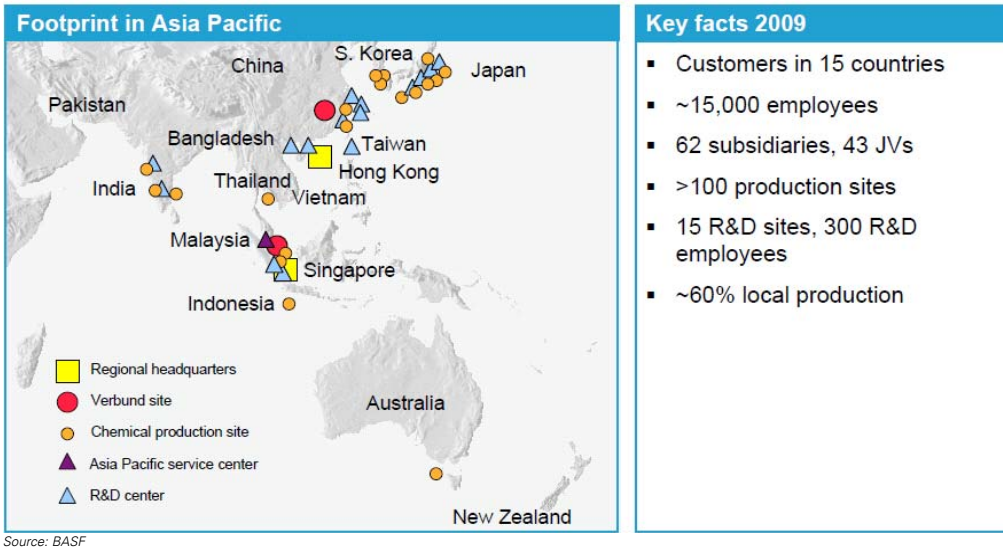
Asia is already the largest market for chemicals (accounting for 39% of demand) but BASF expects this to continue to increase with demand in the region accounting for 47% of global demand by 2020. For Asia as a whole BASF continues to target 20% of group sales and EBIT from the region by 2010 (the region actually accounted for 22% of sales in 2009 and 23% of EBIT). BASF has several targets for 2020 for Asia, including 70% of sales to be made locally (currently at 60%), to double sales by 2020 (implying 7-8% annual growth), and to earn a premium on its cost of capital in the region. The company estimates that in the highly fragmented Asian market they have approximately 9% market share and is the largest chemical company in the region.

BASF has been in China since 1885 and sales in 2009 were Euro 4.1bn – this country accounted for 10% of BASF group sales (ex Oil & Gas). While no EBIT numbers are released on a country level the region was profitable in 2009. Sales in China have grown by an average of 19% per annum since 2003.

Management stated that demand so far in 2010 has been very strong with very little impact seen from the Lunar New Year holidays. Order book strength stretches into April underpinning the likely quick sell-out of the Nanjiing expansion (due Q2 10). Confidence from management in the stimulus programme is noticeably higher than 12m ago – when we last met with management in March 09 there were the most bearish by far. Customer inventory levels are seen to be balanced with little evidence of excessive re-stocking.

Strong investment focus on the Asian and Chinese regions. BASF remains committed to the region and has already created a strong R&D network across the Asian region to capitalise on developing products for the local markets. BASF already has 15 R&D centres in the region. Capex remains high with the company having spent Euro 5.2bn in the region since 1999 with Euro 2bn now planned 2010-2014 (around 30% of group capex for the chemical businesses). Major investments in the region over that time have been Kautan (Malaysia), Nanjing (China) and Caojing (China) with the two large planned investments being Nanjing (expansion) and Chongqing (an MDI plant in 2014). Regional management continues to target to earn a premium on its cost of capital although accepts that given the build-up nature of the Chinese region this rate of return is not currently being achieved within China.

Figure 40: BASF has a strong production network in Asia and China



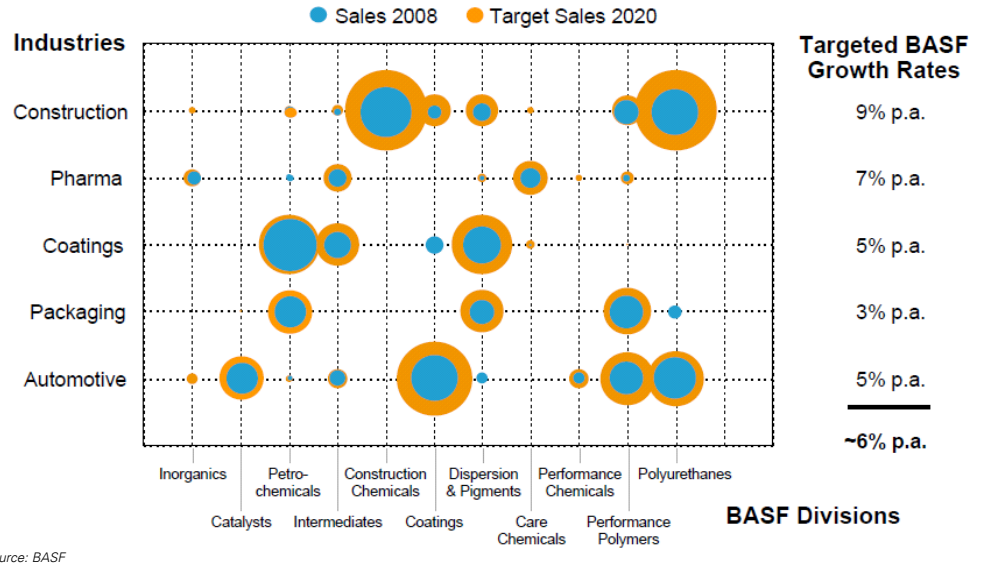
Source: BASF

Strong positioning in China supported by first-move advantage. BASF has undoubtedly outmanoeuvred some of the competition through its early participation in China. This has allowed it to successfully capitalise on some of its strong relationships with both Chinese officials and local companies (such as Sinopec). We believe that this 'intangible' strength of BASF should not be underestimated in China and should continue to ensure that BASF is able to construct on-time, have better access to competitive raw materials, and experience a lower risk of delays in receiving the necessary local and national governmental approvals. We believe that BASF – relative to many chemical peers – offers lower-risk leverage to China.

Shifting the focus closer to the consumer (and away from commodities) and starting to move in-land. BASF management believes (and we agree) that the straight bulk chemical markets will become more competitive within the coming years and that large-scale upstream investments (that are not integrated into downstream specialty products) make limited economic sense. This view is underpinned by the large planned expansions of Chinese ethylene crackers over the next few years (see figures 10 to 11) alongside the planned expansions in Middle Eastern crackers. Instead, the company will focus on developing more value-added products that are back integrated into current manufacturing (such as specialty plastics, specialty chemicals, catalysts, etc) and have high barriers to entry (either through capital, technology or customer relationship). As a result, management sees little reason for BASF to invest in another large integrated petrochemicals site at this stage (as already seen in Nanjing) so has no intention of expanding into coal to chemicals or anything similar. The steady expansion of the Pudong (near Shanghai) specialties plant is an example of this strategy. BASF is planning an MDI facility in 2014 at Chongqing which is a big move into the in-land regions of China where we would expect a disproportionate amount of the government stimulus effort to continue to be invested. Interestingly, BASF is not involved in the basic chemical lines in this industrial area, but focusing on MDI which is a high barrier-to-entry product.

New customer focus groups developed. Within chemicals, management expects the strongest growth in specialties and intermediates (not basic chemicals) as these products will be increasingly used to provide product for the Chinese market as opposed to being used for exports – this is supported by a growing 'middle class' in China. The requirement to have local production (and R&D) supporting more tailored products is also increasing which remains central to BASF's strategy in leveraging its local production base. Central to this is the new initiative based on five customer target groups (Figure 41) and the on-going commitment to increasing investing in local market product development.

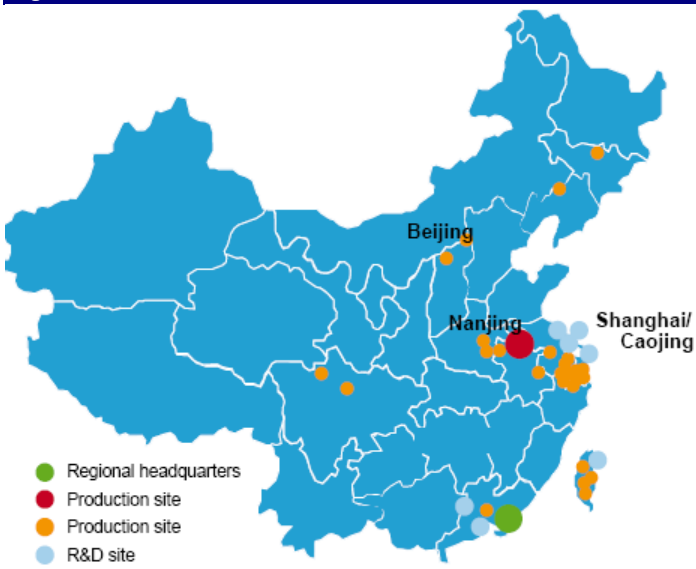
Figure 41: The five industry target groups



Source: BASF

Main investments in China are at Nanjing and Caojing. The company's major investment (50:50) with Sinopec at YPC (Nanjing) which started up early 2005 is now being expanded due to the strong demand experienced in the region from the current 600kt/pa to 750kt/pa – this should be performed with very little disruption to the existing operations and completed through Q2 2010. BASF's other major investment is at Caojing (within the impressive Shanghai Chemical Industry Park ('SCIP')) near Shanghai although operations here have proved more problematic. The 100% owned THF (plastics) unit came on-stream in early 2005 but now due to lack of economic viability has been dismantled. In addition the $1bn (joint-ventured with Huntsman) Polyurethanes MDI unit that came on-stream in H2 06 did have teething troubles through 2007 although it is has been running fine for the past two years

Figure 42: BASF has numerous sites in China but is focused on Nanjing and Caojing



BASF in Greater China

- 19 wholly-owned companies
- 10 joint-ventures
- 29 production sites
- About 6,300 employees
- 55% local production

Source: BASF

Reliable partners at Nanjing, good access to raw materials. To date the China Nanjing investment has operated very smoothly. BASF has been able to ensure reliable feedstock from local refineries (Jinling, YPC), good port access at Nanjing and also access to the West-East natural gas pipeline (sponsored by Petrochina and the Chinese government). This seems to have been a model JV story so far with BASF clearly having developed some very strong local relationships along the way.

Figure 43: Nanjing site expansion is planned for Q2 10

Nanjing site

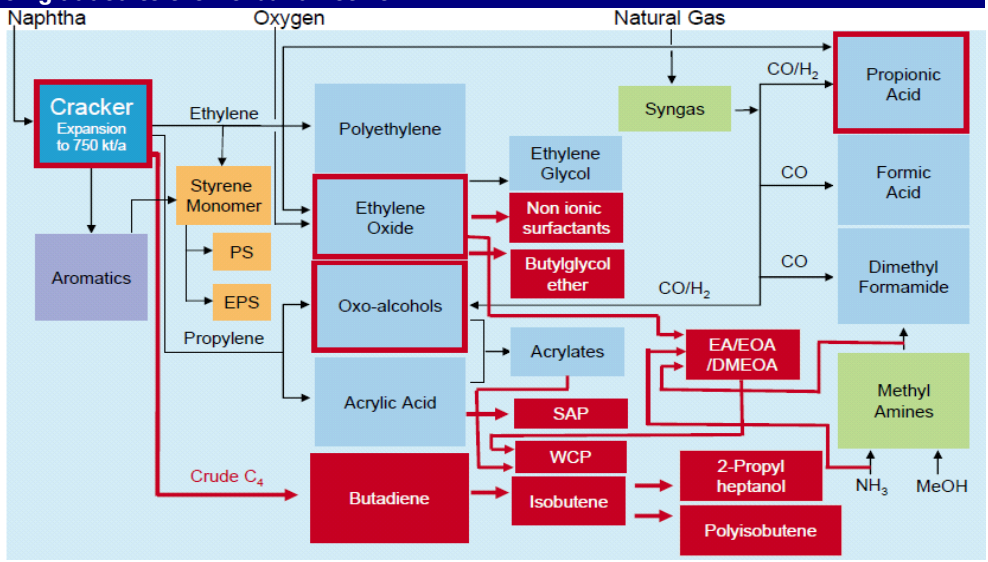
Key facts

- 50–50 joint venture with Sinopec
- $2.9 billion investment to date
- Capacity: ~ 2.0 million metric tons of sales products/year
- 600,000 mt steam cracker and 9 downstream plants
- Commercial start-up: June 2005
- Expansion of steam cracker and investment in additional downstream plants of $1.4 billion

Source: BASF

Nanjing expansion programme Q2 10. The Nanjing site continues to operate at a very high level – we estimate current utilisation rates above 95% – and is indicative of the fact that the Chinese region remains short of basic chemicals and remains a strong importer. This ensures that low cost local facilities like those in Nanjing can remain at a high operating rate even in global recessions. As shown below in Figure 44 the site will be expanded with a cracker enlargement to 750kt (from 600kt) but that several other product chains will be added. The total cost will be $1.4bn. In general these are less commoditised products that are less susceptible to negative impact from low-cost Middle Eastern supply.

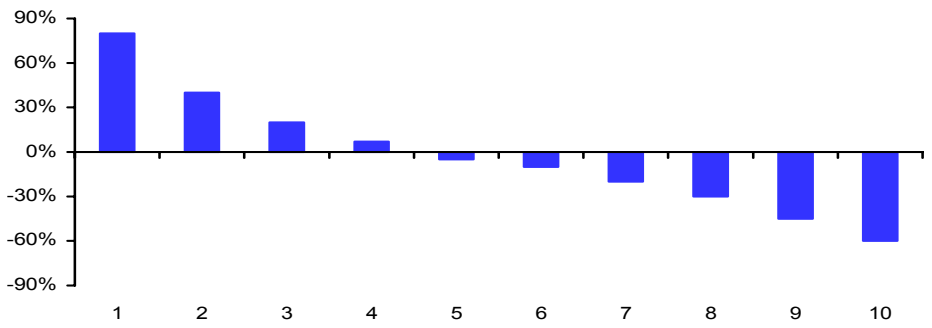
Figure 44: The expansion of the Nanjing site will result in some new product lines being added to the Verbund network



Source: BASF. New product lines shown in dark shading

Middle Eastern expansions will only be competitive within 4 processing steps from the ethylene cracker. For the ethylene products, Middle East production is highly competitive in international markets. However, with the natural gas based raw material cost being the only real benefit of the Middle Eastern producer (many other processes can be more expensive such as construction, engineering, shipping, insurance etc) the overall advantage of this region will slowly erode as we proceed down the chemical chain. As detailed in Figure 45, we estimate that by 4 processing steps downstream from the cracker, the cost benefit of a Middle Eastern producer is effectively eroded by these extra costs. As a result, there seems no logic for the Middle East to expand much further downstream (unless it is for domestic demand) which limits the risk to BASF's Nanjing downstream investments.

Figure 45: Middle East becomes uncompetitive 4 processing steps from the cracker



Average percentage cost advantage/(disadvantage) of a Middle Eastern plant compared to a European plant at each processing step downstream of the ethylene cracker. This comparison is based on product delivered to a European customer

Source: Deutsche Bank estimates.

Management has experienced limited issues in relation to employee turnover, engineering access and power outages. . The current employee turnover rate for BASF in China is running at approximately 5-6% per annum which we see as below the 12-14% industry average. A strong local brand name and an active policy to increase the level of "locals" in senior management positions are helping in this regard. 95% of BASF's Asian employees are "locals" while 55% of Asian management are "locals". Management has re-iterated its previous comments that they continue to see very limited problems with access to construction in China and feel that their strong track record in the region and strong JV relationships continues to support a greater ability to get things done in the region. Finally, BASF has experienced no issues with energy shortages ('brown-outs') at their plants but with a policy of maintaining back-up generators at all main sites the risk of disruption remains low.

Improving recognition of intellectual property within China. Lower recognition of intellectual property has historically been a problem in China and a key factor preventing many companies (particularly more downstream names) making material technology based investments into China. However, BASF has experienced very limited problems in this area and see three key issues in supporting this trend: 1) credible JV partners (like Sinopec) do not pose any threat in respect of intellectual property due to their own reputational risk, 2) Chinese officials are acutely aware that this remains a key stumbling block for many Western companies to invest in the region which has already resulted in a step-change in the legal awareness of intellectual property within the region, and 3) Chinese state entities are increasingly looking to develop their own R&D so are also pushing for more protection.

Cost cutting and restructuring continues in the Asian and Chinese businesses. While Asia and China remain key growth regions for BASF we were pleased to note that the group-wide focus on cost management and capital efficiency are also being implemented in these regions. The NEXT programme (operational excellence) is being implemented across the region with targeted Euro 130m of benefits by 2012 with 40% having already been achieved.

Bayer (Buy, Target: Euro 60): A leading low-cost position for MaterialScience

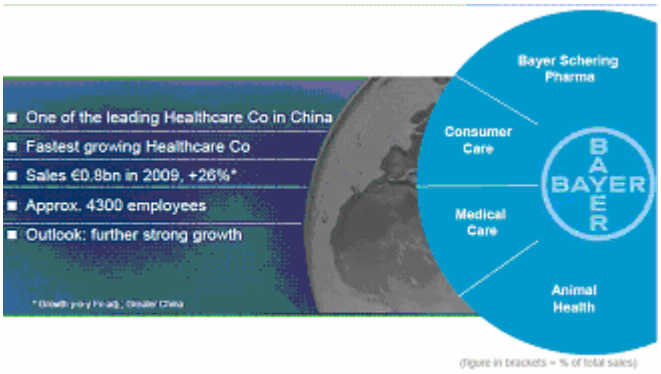
We met with Dr Michael Koenig, Chairman of Bayer China and President of Bayer MaterialScience China. While they are based at the head offices in Shanghai we visited them at the Shanghai Chemical Industrial Park (SCIP) one hour outside Shanghai where Bayer has now mostly completed its state-of-the-art polyurethane and polycarbonate facilities.

Our meeting focused on the MaterialScience business but it is worth adding that China is Bayer's 3rd largest market with 2009 group sales in China up 4% year-on-year (ex FX) to Euro 2.1bn (this equates to 6.7% of total company sales). BMS generated 16% of its 2009 sales in China with sales broadly flat year-on-year in 2009 (prices down around 10%, volumes up).

Bayer is now the largest Healthcare company in China – 2009 sales increased 26% year-on-year (ex FX) to Euro 800m and it currently employs 4,500 people. The CropScience business is currently small (Euro 100m sales in 2009) but there remains some strong longer-term potential. Bayer employs more than 7,500 people in China across all business units.

Current demand is very strong with limited slowdown seen around Lunar New Year holidays and record demand seen in the key polymer chains. The facilities for PU and PC in the region are operating at very high rates.

Figure 46: Summary of Healthcare in China



Source:: Bayer

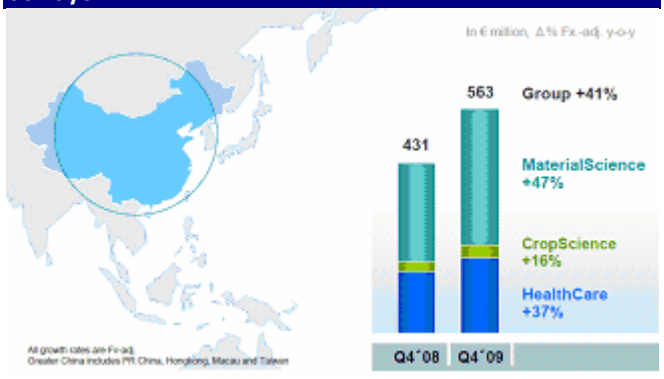
Figure 47: Summary of CropScience in China

Source:: Bayer

Figure 48: Bayer has delivered strong growth in the China over the past five years

Source:: Bayer

Figure 49: China has recovered to above pre-crisis levels at Bayer



Source: Bayer

Bayer's China strategy based primarily on MaterialScience. Bayer is basing its China strategy on the impressive SCIP Park at Caojing, south of Shanghai. The company has now mostly built world-scale facilities for its MaterialScience division in the area of Polycarbonate and Polyurethanes (both MDI and TDI). This is a dominant world-scale facility with state-of-the-art low-cost production. The site also has space to expand in the future for relatively low investment. The company is building a dominant position within this key global market.

High capex investment now mostly complete. Bayer will have invested Euro 2.1bn in SCIP by 2012 with Euro 1.5-1.6bn having already been done as at the end of 2009. This park offers proximity to fast growth customer industries, strong local business partners for gases, and other chemicals (Chlorine) and also excellent infrastructure and distribution alongside reliable energy supplies. BMS China delivered sales of over Euro 1bn in 2009 (16% of BMS global sales) and this site is the company's largest single investment outside of Germany. We estimate that China has accounted for over 50% of MaterialScience capex over the past two years and likely to remain at this level in 2010.

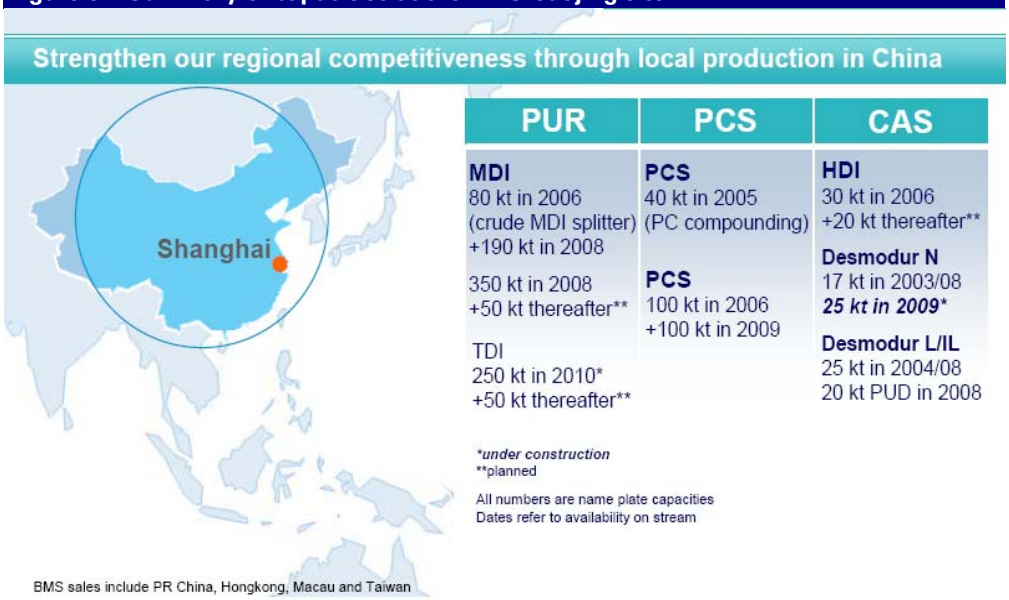
Figure 50: The SCIP park and the Bayer site

- Proximity to fast growing customer industries
- Strategic local business partners
  - Additional external chlorine supply
  - Supply of industrial gases (H_2, O_2, CO, N_2) via pipeline
  - Tank farm services
- Excellent infrastructure
  - Feedstock availability to efficiently operate world-scale facilities
  - Raw materials delivered by ship, truck and pipeline
  - Proximity to major domestic and international transport routes
- Proximity to competitors allows temporary volume transfer agreements (e.g. MDI, TDI)
- Reliable energy supply

Source: Bayer

Large expansions almost completed in Polyurethanes and Polycarbonate. For the Euro 2.1bn investment, Bayer will get a China-wide presence in polyurethanes (PU), paint raw materials and polycarbonate (PC). PC production in China will supplement the already established site in Thailand. Bayer brought on-stream the 350kt facility for MDI PU (7% world capacity) in 2008. A 250kt TDI PU facility is due to be completed in 2010 (12% of current world capacity) although it is only expected to be able to fully supply the market by mid 2011. De-bottlenecking could easily add 50-100kt of TDI capacity. A further 100kt PC unit was brought on-stream in 2009 (3% of current world supply). These are bold low-cost expansions and will further strengthen the company's global number 1 positions in PU and PC (28% and 25% market share respectively) and provide Bayer with the strongest market position in China. It is worth noting that these facilities are very flexible and unlike some large scale chemical sites utilisation/supply/shutdowns can be adjusted in a few days emphasising Bayer's increased flexibility in managing its cost base.

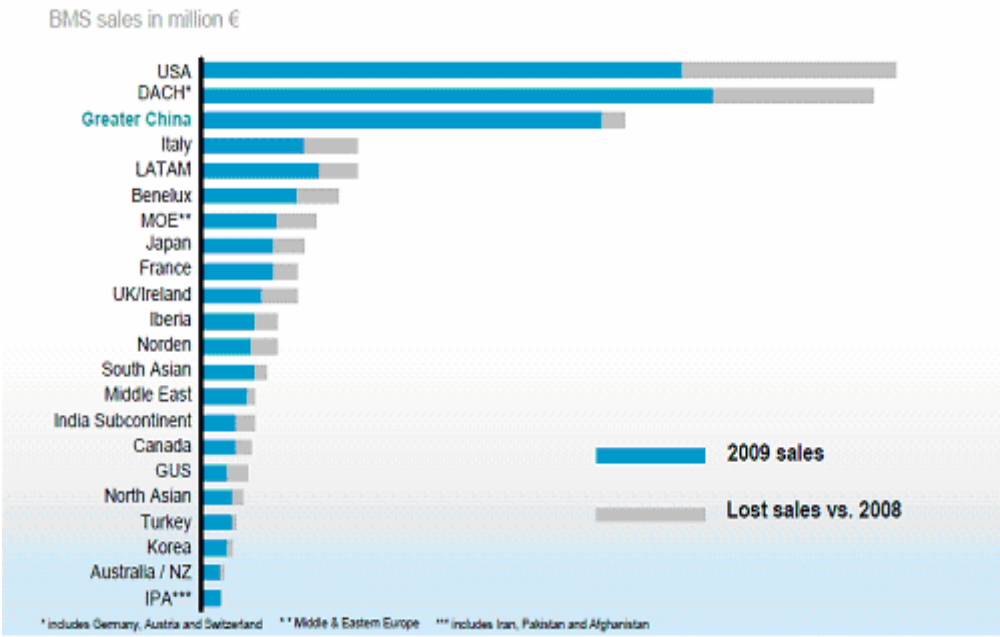
Figure 51: Summary of capacities at the BMS Caojing site



Source: Bayer

Chinese market – strongest growth markets for PU and PC. We estimate that despite the weakness in global demand, the Chinese market will continue to be the leading market for these key products. Normalised demand growth is likely to be at least 8-10% per annum in PU and 10-15% in PC although 2009 was somewhat below trend. It is worth noting that the Chinese stimulus package provides strong opportunities for the products that Bayer is producing at this site as it is focused on construction. China is currently the largest global market for PC (accounting for nearly 30% of world demand) and management expects it to be the largest global market for PU by 2015 (we suspect it will be earlier than this as it already accounts for approximately 20% of world demand).

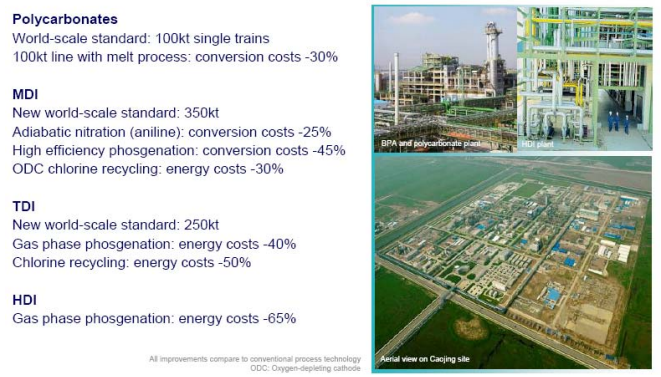
Figure 52: China is nearly the largest region for BMS



Source: Bayer

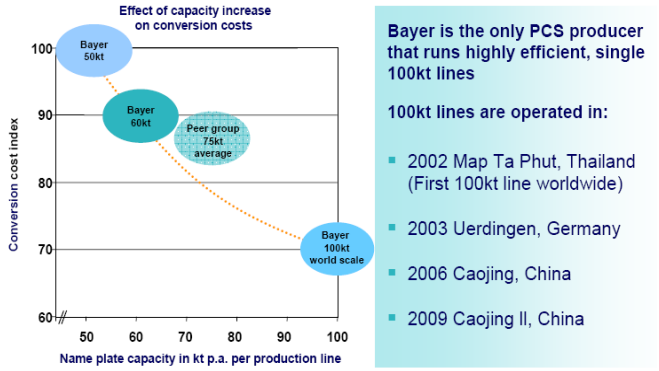
Low-cost production potential in China will increase the pressure on competitors. As highlighted in Figure 53 and Figure 54, Bayer has strong technology in its new facilities which should provide it with strong cost advantage over the average of its polycarbonate and polyurethane competitors. In addition, with the site physically located to the largest growth market there is also advantage here in distribution. Bayer is clearly giving its competitors headaches. We expect this low-cost production to result in some further rationalisation of TDI PU and possibly MDI PU capacity in the global market over the next few years.

Figure 53: State-of-the-art technology leads to improved cost position in MDI and TDI polyurethane production



Source: Bayer

Figure 54: World-scale Polycarbonate facilities offer strong cost advantage to Bayer



Source: Bayer

The SCIP facility should provide a material contribution to Bayer MaterialScience ('BMS') and Bayer group EBITDA. Management is targeting sales from this investment of approximately Euro 2bn (which equates to 23% of 2010E BMS sales and 6.4% of Bayer group sales). Current BMS sales in China are just over Euro 1bn. We believe that the site should easily be able to generate significantly higher margins that the long-term target for BMS in a good economic environment which is '>18% EBITDA margins' and so estimate at least 25-30% in a more normalised environment. While this may take several years to come to fruition we note that this would imply EBITDA of at least Euro 500-600m from this investment. With an estimated Euro 2.1bn of investment we believe that this investment will easily earn a premium on the company's cost of capital.

Figure 55: Summary of numbers for Bayer Caojing site

Financials (Euro)	Numbers	Notes
Sales	2bn	Bayer target
Investment	2.1bn	Bayer target
DB estimated EBITDA margin	>25-30%	
DB estimated EBITDA	500-600m	
Annual depreciation	200m	10 year straight line depreciation
DB estimated EBIT	300-400m	
Implied RoCE on gross assets	15-20%	Above group average and cost of capital

Source: Deutsche Bank estimates, Bayer

Relationships expanded. In-line with several companies who have been in the region for a while Bayer is now looking to expand downstream and is fast looking at developing further PU system houses (that effectively provide a more tailored specialty product to the customer) and compounding facilities for the PC business. In addition, like many other companies, Bayer appears to have developed an excellent relationship with the Chinese government. For example, Bayer has set up a special training academy for Chinese nationals to help get as many as possible to senior roles in its and other chemical operations on the Caojing site. It also provides transport for its workers from Shanghai to the site and intends to reduce the level of expatriates from 5-8% to 1-2% once the Caojing expansion is completed.

Further expansion possible with minimal disruption and low cost. The site in Caojing offers the company the ability to further expand long-term with minimal disruption to current production – all the infrastructure has been built on the assumption of a long-term expansion. In PC, the site could easily double the existing planned PC capacity (from 200kt to 400kt – a further 200kt is equivalent to 6% of current world capacity). In TDI and MDI polyurethanes similar expansion potential exists (westwards nearer to the sea) with the potential for double the current planned TDI and MDI capacities.

Bayer currently has no plans to invest in-land as they feel that the cost advantage they enjoy at the current site more than offsets any arguments to start to investment in-land.

DSM (Hold, Target: Euro 36): Focusing on local R&D and consumer growth

We met with Weiming Jiang, President of DSM China, at DSM's new headquarters in Shanghai. With a background in biotechnology, he was keen to stress the growth potential for DSM in China and intends to focus strongly on further improving the businesses top-line momentum. With a changing attitude within the company towards increasing the awareness of technology and improving cross-selling he believes that there is a lot more scope for DSM to leverage its strong technological platforms and reduce its reliance on straight forward manufacturing. DSM has already built a strong platform in the region and offers a full spectrum of product to the region from Nutrition, Pharma, Performance Materials and Polymer Intermediates.

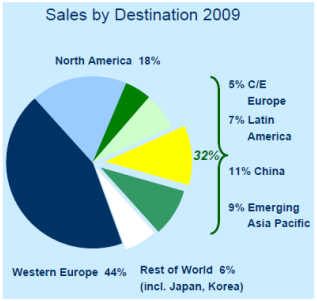
DSM first began trading with China in 1963 with a trading license for urea. The company's first representative office was opened in 1993 with the first production facility opened in 1995.

In 2009, DSM China delivered sales of $1.2bn (11% of group sales) and while this was only a 3% increase year-on-year this was primarily due to the sharp fall in Q1 09 (down 35% year-on-year). The company is targeting $1.5bn by 2010 (which is already the annualised Q4 09 figure). Management provided no EBIT numbers for the region (EBIT is done by business unit not by country within the group) but they noted that theoretical profitability of DSM in China is similar to the group average. Management noted that approximately 15-20% of group capex will be spent in China in the coming three years and the current 60-70% of sales locally produced expected to modestly increase over that time period. Sales to local Chinese based companies now account for around 2/3 sales of the group in the region with the remaining 1/3 accounted for by Western companies.

Approximately 50% of the regions sales come from the lifescience businesses with the majority of this in the Nutrition cluster and while 2009 was a year of relatively lower growth management was keen to stress that over half of the portfolio in China was broadly unaffected by the global economic slowdown

Figure 56: DSM is focused on emerging markets

- Sales to emerging economies increased to 32% in 2009 (from 28% in 2008)
- DSM's increased focus on emerging economies has been paying off
- BRIC: developments in China, Brazil and India were (relatively) positive in 2009. In Russia, business and markets were still depressed



Some 25% of DSM's sales already to Asia

Source: DSM

Figure 57: A summary of DSM's sales performance in China

- 2009 sales to China US$ 1.2bn (11% of DSM's sales)
- Increase of ~3% y-o-y despite the crisis and decline of 35% y-o-y in Q1
- After Q1, fast growth again
- Q4'09 sales amounted to US$ 365 million, which is US$ 1.5bn annualized
- DSM expects to come close to US$ 1.5bn *Vision 2010* target

Sales in China in 2009 increased to almost US$ 1.2 bn, a new record

Source: DSM

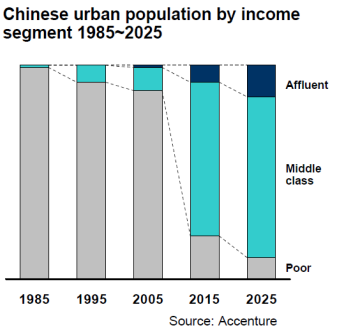
Increasing the focus on local management. DSM has previously focused on expanding the regional business through the use of expatriate management teams but this is steadily changing. There remains a clear commitment towards increasing the levels local management in the region. As a fluent 'local' speaker he is keen to stress that the DSM culture in China is to attract local talent by showing that 'locals' can be promoted from within to senior management positions. We also believe that increasing the proportion of 'locals' in management should increase the company's ability to liaise and work with both local governments and customers.

Strong long-term growth potential in vitamins/nutrition. In line with many of the companies we have met with DSM sees growing potential for its products within the Chinese domestic market rather than in the re-export market. This is very evident within the vitamin/nutrition markets where the focus today is on exports – DSM believes that the domestic market will soon overtake the re-export market in terms of demand as more and more locals become middle-class and look for increasing lifestyle and health choices (ready meals, vitamin supplements, etc). It is worth noting that within China the population is rapidly aging with Shanghai having seen negative birth rates (year-on-year) for each of the past eight years and that the rising middle class is increasing the healthcare focus.

Competitive pressure from local suppliers remains strong but the focus on environmental and food quality has permanently increased in the past two years. While DSM's technology in some areas of vitamins/nutrition and fine chemicals remains ahead of many local peers, management accepts that competition remains fierce for the most innovative products. An increasing focus on R&D in the region (the head office also encompasses a new state-of-the-art R&D facility for the local market), the hangover from the food tainting issues seen in 2008, alongside greater environmental compliance has also increased the focus on quality control by many of the larger buyers. DSM is seeing these as strong positives for its business as it continues to position itself as one of the premium players in Vitamins and Nutrition in the region. In addition, the on-going rise of pollution awareness (not just in the eastern regions but also increasingly in the in-land regions) has also resulted in DSM being able to leverage its "green" credentials to further strengthen their brand. DSM's "3P" strategy (People, Planet, Profit) and the focus on sustainability are tangible examples of this branding. New projects now require detailed environmental assessments and DSM believes that most of the competition has now adhered to the new tougher environmental regulations – further shutdowns of capacity appear unlikely.

Figure 58: Middle class incomes are set to rise sharply

- Per capita disposable income increases at above 10% per year
- Middle class: >300 million by 2010
- Rising affluent population
- Life style and consumer behavior change: demanding better & more functional products



Source: DSM

Figure 59: DSM has a strong footprint in China

Source: DSM

DSM is increasing the focus on more downstream products than just basic Vitamins. Basic Vitamins is highly profitable at the moment but DSM is keener to further exploit the value-added products. An increasing focus on pre-mixing and services is enabling the company to further enhance margins and increase barriers to entry. DSM is expanding its franchise stores through the Chinese markets and has expanded from 60 stores in 2007 to over 70 at the end of 2008 and now approximately 90 at the end of 2009. Interestingly some of the company's Vitamin competitors are asking DSM to manufacture pre-mixes of products on their behalf. Limited data were available from DSM on the current economics of the Vitamin business (this is the biggest single driver of the Nutrition cluster) but DSM believes that this business remains very profitable.

NCPC joint venture still an option but DSM also looking at other opportunities. The contracts for the JV's between DSM and North China Pharmaceutical (NCPC), where initial negotiations first started in 2004, were expected to be finalised in H2 09 but with a recent change in management at NCPC the contracts have been suspended. The original plan was for three JV's (one for production of Vitamin C and two further JV's for production of anti-infectives) with DSM making a total cash investment of $110m for a 30% share in the Vitamin C JV, 51% share in the two anti-infectives JV's and close to a 10% stake in NCPC. While it is disappointing that this JV has not been finalised, management noted that a deal with NCPC is still possible but that they are now also open to undergoing discussions with other potentially interested parties.

The logic of this initial deal was to give DSM a better position in both anti-infectives and also Vitamin C with the JV's combining DSM's world leading technology, including quality control and traceability, with the low cost manufacturing environment in China. With access to NCPC's distribution network DSM also gains a bigger foothold in China. It was a very logical deal, but given DSM's strong brand position and technology we would expect them to be able to find another partner to expand with, albeit the timescale for this is uncertain.

Polymer Intermediates – demand remains strong, further investment likely. In the more industrial businesses DSM noted that current demand has been very strong, helped by the underlying macro improvement but also the strong increase in auto production. Management was confident that while they have seen some re-stocking through the 2009 period customer inventory levels do not appear to be high. Longer-term, management notes that as penetration of its performance materials products within the Chinese market remains relatively low, significant growth from some of its higher value products could be achieved with very little sales force investment. Caprolactam remains a material product for DSM in China and with China still a material net importer of this product it still sees potential to increase local production levels in the market as it is approximately 20% cheaper to build new capacity in China compared to Europe. Near-term the growth continues to be supplied with imported product although they have increased output from their Nanjing site to 180kt (as of Q4 09) and are now undergoing a feasibility study on a 200kt joint investment with Sinopec.

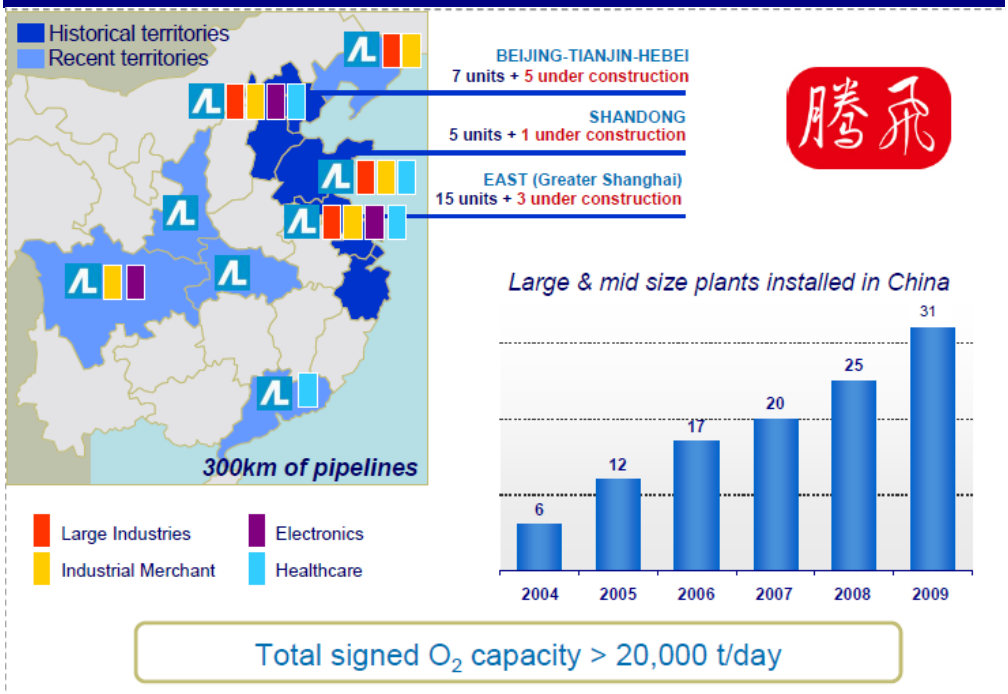
Air Liquide (Hold, Target: Euro 84): Developing a strong platform in the region

We met with Remi Charachon, President & CEO of Air Liquide China, Remi has been with Air Liquide for 24 years with the last 6 years spent in China. Air Liquide has been in China for the past 19 years but its expansion in the region has historically been restricted by the company's conservatism in the type of business it would sign and its stronger focus within Asia towards Japan and other regions with electronics exposure. This changed sharply in the mid 2000s and over the past few years the company has been building a strong long-term asset base. The company now employs over 2,500 people in China and expects this to increase further through 2010.

While the company's current exposure to the Chinese market is lower than for some of the other major global peers (Linde/BOC and Praxair) there is a very clear emphasis on (profitable) growth coming from the Air Liquide head office; management in the region has been catching up quickly over the past two years and has already managed to sign-up new investments at a faster rate than peers over the past two years.

Strong sales growth, capex commitment remains high. AL delivered China sales of approximately Euro 400m in 2009 (3% of group sales) and we expect the business to see a further 15-20% growth in 2010 driven by underlying growth and also new contracts. AL provides little data on regional profitability but given the ramp-up nature of this business we assume that China is below group levels of profitability (but it is profitable at the EBIT level) Targeted capex for China is approximately Euro 300m per annum – this is a sharp step-up in capex compared to the past few years – which highlights the scale of the commitment the company is providing to the region. As of the end of 2009 the cumulative investment decisions made in China amounted to over Euro 1bn. Despite the growing budget, management believes it is still constrained by its physical engineering and sales capacity – they are remaining somewhat selective in what they bid for.

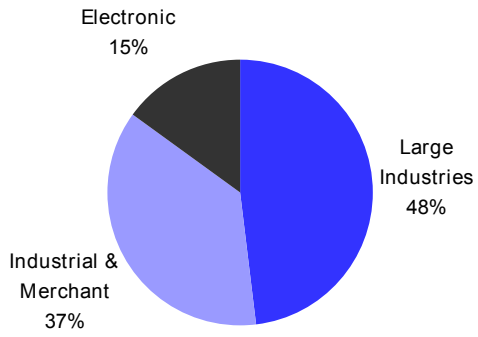
Figure 60: Air Liquide has decided on more than Euro 1bn of investments in China as of the end of 2009



Source: Air Liquide

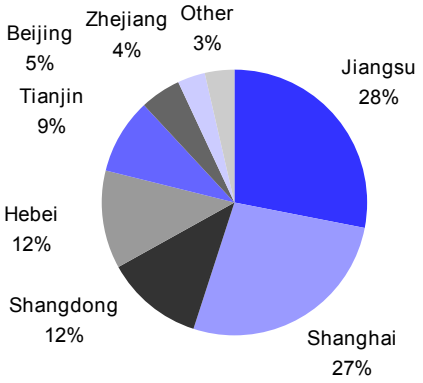
The China business has a diversified product portfolio. As shown below the China business has a good split between Large Industries, Industrial Merchant and Electronic. Within Large Industries the focus is on chemicals and metals with only limited current sales in the oil & gas business. The outsourcing of hydrogen is at an embryonic stage in China, but clearly offers some longer-term opportunities.

Figure 61: Air Liquide's China sales by business area



Source: Air Liquide

Figure 62: Air Liquide's China sales by region



Source: Air Liquide

AL's China focus is on three key 'basins' in the Eastern and Northern regions of China. AL is focusing on Beijing-Tianjin (where a new chemical park is being developed and Air Liquide has already put down over 160km of pipeline), Shandong and then Greater Shanghai (including Caojing/SCIP). We note that compared to previous meetings the emphasis on Tianjin is now lower with the company clearly confident that the China investment story is much more than just investing in the Tianjin region (which we estimate has taken around Euro 300-500m in investment alone). We would not preclude AL building further pipelines in regions to further cement local barriers to entry. AL has little activity in the in-land regions.

Figure 63: A summary of the historic investments that Air Liquide has made in China

Source: Air Liquide

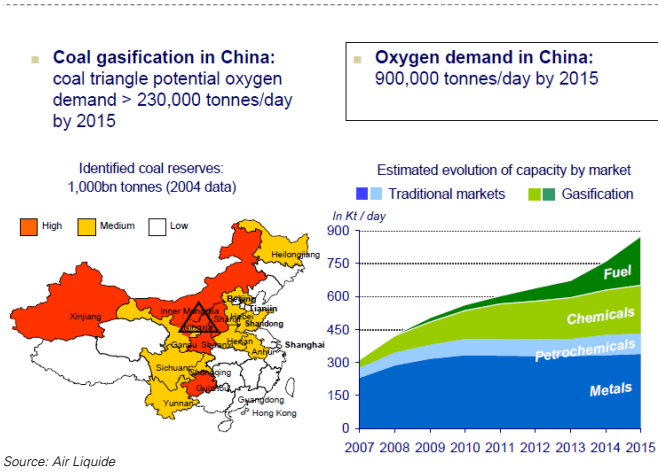
New on-site investments are starting to move in-land. In line with many other industrial companies there is a growing awareness that the incremental material investment for the industry will come from the inland regions – where a greater proportion of the stimulus programme is being spent. Key for AL is to pick the right "hubs" but they appear very keen to further expand into coal-to-chemicals (so long as they can ensure that it creates a basin of investment for them to enable them to maximise returns). They will also continue to offer plant-only sales where there is no ability to create a local hub.

Looking to expand in all areas of gases but electronics and chemicals appear to be preferred over steel. AL's recent wins have been focused on chemicals but also increasingly in the steel industry (supplying oxygen). The company is also active in the electronics area. Coal-to-chemicals is also of some interest to AL and we would expect that they announce further investments in this area near-term. We would expect AL to further leverage their expertise in hydrogen (syngas) where profitability can often be more supportive.

Outsourcing by customers still provides longer-term potential. Currently, approximately 50% of the Chinese gas market remains under captive production. As technologies evolve and customer plants require updating and enlarging we expect outsourcing to continue and drive additional growth opportunities for gas companies. The cultural trend within China to "own your own assets" persists but nonetheless the selective sale of customer plants and/or new over-the-fence agreements is still occurring. Those with the early move into China – who have the best "customer relationships" – continue to benefit most from this trend. By product we note that outsourcing in the more basic oxygen and nitrogen areas seems to be exceeding that of the hydrogen market.

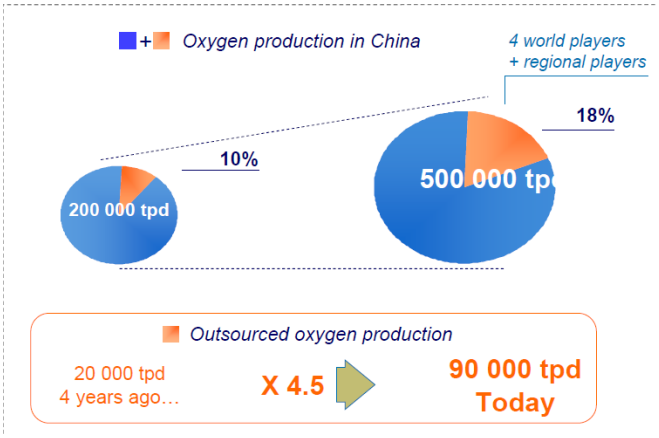
As noted in Figure 65, the growth in the oxygen market in the region has been strong over the past four years but that the proportion of the market that is now outsourced has increased to 18% from 10% four years ago.

Figure 64: Air Liquide's presence in Eastern China



Source: Air Liquide

Figure 65: Air Liquide's presence in Northern China



Source: Air Liquide

Engineering facility remains key to the company's growing success in the region. AL – like some other majors – has invested in its own engineering facility within China (at Hangzhou). This gives the company significant cost and local knowledge advantage. While cost reductions of up to 25% are attractive the greater success has been the reduced manufacturing lead-times to build which have been strong positives for the local customer base. Air Liquide is now considering exporting product from China to the rest of the world.

Long-term contracts held-up through the weakness of H1 2009. AL confirmed that the take-or-pay on-site business model held up well through the weakness of H1 2009 even for those customers in some difficulties. AL generally does not change contract terms, but it can happen if the gas company can get something better in return through changed pricing structure, changing for services etc.

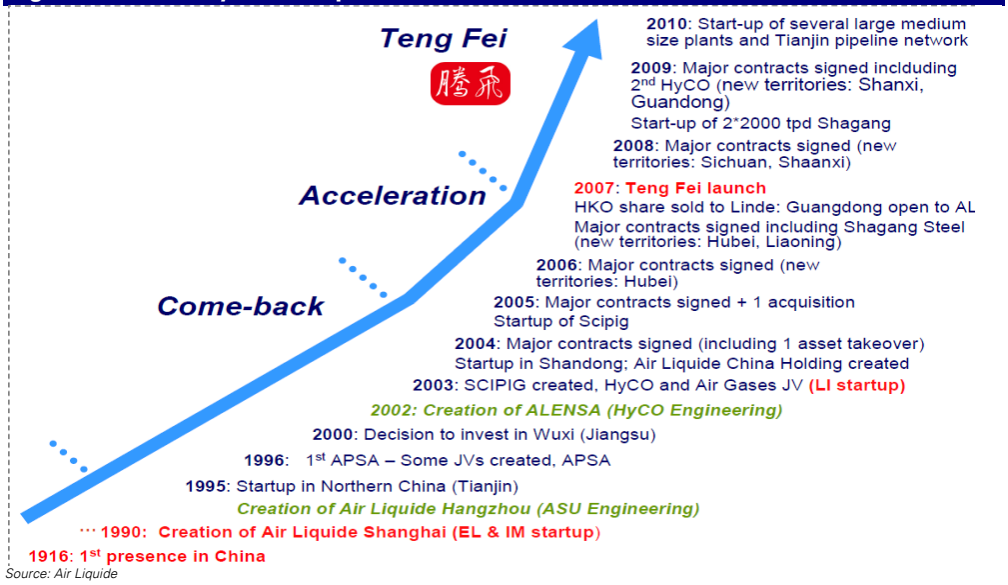
Contract bidding remains competitive; the focus on customer relationships remains high. Management noted that large on-site contracts with international majors remain competitive but that they continue to see strong investment discipline from the global players with very little evidence of "trophy" contracts being bid for. "Soft" criteria such as customer relationships, local government access and regional knowledge are increasingly critical in contract bidding – this is further supporting gas companies' desires to move quickly into new regions to create early barriers to entry. Interestingly management noted that merchant gas pricing have been broadly stable in many of the major hubs within China which is further tangible evidence of generally disciplined behaviour even in the more commoditised merchant gas market.

'Local' Chinese gas companies slowly closing the gap and also becoming better with investment discipline. Management noted that there are a growing number of local industrial gas players but that their focus tends to be in the cylinder and merchant markets. In recent years one or two larger local players (Ying-De is the main one) have started to become more completive in the on-site bidding process but that their offering tends to be based around weaker engineering so is only really competitive for the smaller plants as they cannot offer the scale of energy efficiency that the main players can offer. Air Liquide can build world-scale plants up to 3000tpd compared to locals offering around 1000tpd, ensuring that for the larger investments Western companies will continue to dominate. Nonetheless we continue to note that the differential between these two sets of companies has closed in the last few years.

Investment discipline improved, despite the high desire to grow. AL is sometimes criticised for its 'longer-term' view in investments and expansions but in China we are relatively confident that the company is acting in a disciplined manner with regard to contract terms and commitments. Tianjin has been a heavy site for investment – we estimate around Euro 300-500m alone – and while the RoCE on the pipeline investment in the Tianjin region may take longer to come to fruition (they have built 160km of pipeline already for oxygen, nitrogen and hydrogen) the long-term logic and strategy behind this investment is clear.

The Teng Fei programme was launched in 2007 which is seen as the growth part of the group-wide ALMA programme. It is also worth noting that the group-wide cost cutting programme (ALMA) did reach the China business in 2008 and 2009 (echoing the group-wide focus on the cost base) and a strict focus on working capital is also noted (DSO in the region down to 38 days).

Figure 66: A history of Air Liquide in China



Source: Air Liquide

AkzoNobel (Hold, Target: Euro 41): A strong focus on the margin

We met with Jorn Seiero, President of Akzo China, Morgan Ma, Head of Elotex, Leon Ouziel, Head of Powder Coatings in Asia and Steven Yuen, CFO of Asia Deco Paints.

Akzo started in China in the early 1980s and now has more than 25 manufacturing sites in the region and over 6,300 employees. Sales in 2009 declined slightly to Euro 1.044bn (7.5% of group sales) with a 2012 target of $2bn (Euro 1.4bn) in place. EBIT was Euro 163m in 2009 (up 13% year-on-year) indicating a 15.6% margin (above the group average of 9.4% in 2009). In China, Decorative Coatings, Performance Coatings and Chemicals are all represented.

Figure 67: AkzoNobel has 27 production sites in China

Source: AkzoNobel

Deco coatings: Building a leading position. We believe the company is building a leading Deco coatings position in China. The Deco business was acquired through ICI (in 2006) but the integration is now complete. The strategy in China is to sell the best quality paint in the major cities and to now move more into the smaller cities using better value brands. Akzo is expanding its distributor network. Akzo currently has 3 factories and 7 regional sales clusters and employs over 1,300 people. The market remains very fragmented in China with Akzo having around 4-5% market share but the top 10 players estimated to have less than 20% market share in the region. Dulux is the premium brand with Maxilite the economical brand. Levis is the brand for the woodcare coatings business.

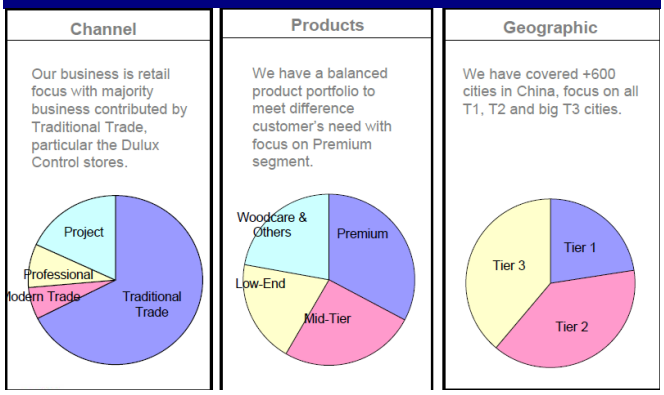
Pricing in the market remains firm and management is confident that 2010 should be another year of 2x market growth – double-digit is expected albeit below the 20-30% seen in the past two years.

The Deco business is focused on the retail market (see Figure 69) with the majority of sales via the traditional trade market. By product, the mix appears similar to the rest of the world with a slightly higher focus on the premium product market. By geography the focus remains on further expanding into the smaller cities but already around 75-80% of sales are covered by the Tier 2 and Tier 3 cities. The high end focus and good store concept remains key to winning further market share and improving the product mix of the business.

Figure 68: A map of Akzo's Decorative Coatings footprint in China

Source: Akzo Nobel

Figure 69: A summary of the Deco business in China



Source: Akzo Nobel

Chemicals expansion at Ningbo. Akzo is expanding its chemical investments in the region through the Ningbo site which is around 1 hour south of Shanghai. The company has committed Euro 275m to the Phase I expansion which involves the building of production sites for chelates (2009), ethylene oxide (2010), ethylene amines (2010) and organic peroxides (2010). The company is also planning a Phase II investment which will involve cellulosic specialties, further ethylene amine expansions, metal alkyls and coatings. These products will predominantly be used for domestic market consumption.

Powder Coatings is a good growth story in the region. While no sales numbers are provided we estimate Powder Coatings is >10% of Akzo's China business – it currently employees over 15% of the China workforce. The business seems to be benefiting strongly from the stimulus programme (demand for railways, cars, infrastructure build) and also with the company now having recently opened a new R&D site at Ningbo increasingly tailor products for the local market should further support good growth.

Low staff turnover. Akzo management made much of the company's focus on retaining employees. A strong cultural focus within the businesses, softer investments (such as the Akzo Chemical Sciences Award) and significant emphasis on local community programmes are noted. This should continue to support a staff turnover rate significantly below average industry levels.

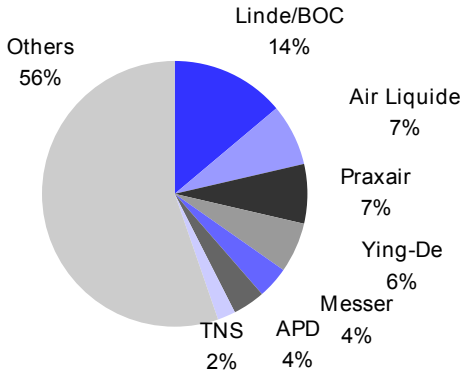
Outlook for strong growth in 2010. While 2009 was a little disappointing at the sales level (modest decline for the overall business) management expects its overall markets in China to grow by 10% in 2010 and expects to be able to outgrow the market, particularly in Deco. The business is expected to maintain its the focus on customers, cashflow and cost control (in-line with the global group).

Linde (Buy, Target: Euro 100): The leading gas position in China

We met with Steven Fang, Head of China and Aldo Belloni, Member of the Executive Board.

Linde is the largest industrial gas player in China with its presence materially enhanced by the acquisition of BOC. Reported sales in China were just under Euro 500m in 2009 with sales of approximately Euro 750-800m including JVs and associates. This equates to 8% of total Gas sales. Growth is expected to be at least 15-20% in the coming years. While no profitability numbers are available, we estimate that profitability in China is similar to the group level although RoCE is lower due to scale of investment in the past few years. Management is confident that the returns that they are seeking on new investments in China are in-line with those in other regions of the world.

Figure 70: 2010E China industrial gas market share

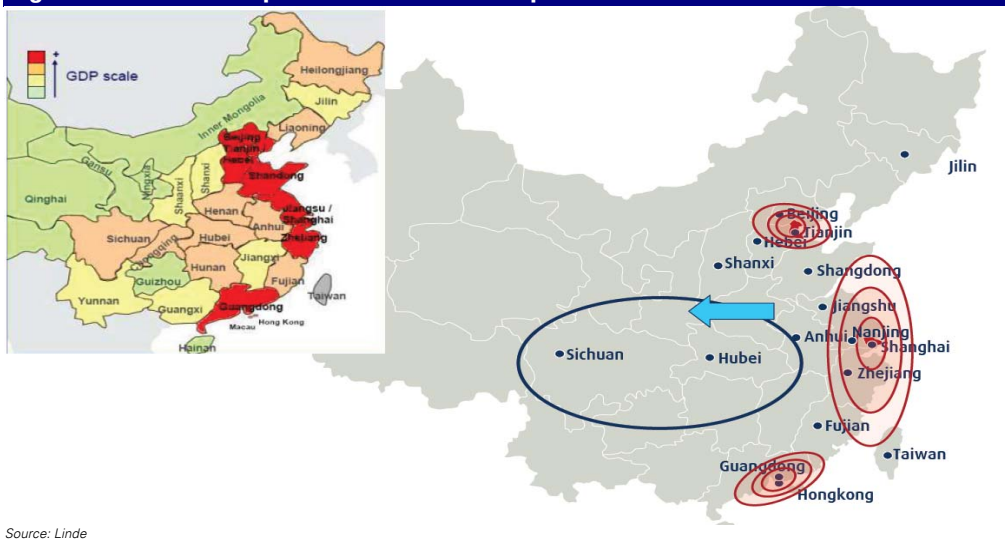


Source: Deutsche Bank estimates

Linde (through BOC) was the first international gases company to set-up in the region in 1980 although the Engineering business had been operating earlier. Linde Engineering first built a plant in 1911 and by 1965 had built over 100 plants – the strength of Linde's Engineering brand in China should not be underestimated. Linde has over 3000 employees and operates 50 wholly owned companies and JVs covering over 250 plants across all major end-user.

Like most companies Linde has been focused on the three hubs of Shanghai/Nanjing, HongKing/Guandong and Tianjin/Beijing but is now increasingly moving the footprint in-land to the Sichuan region to ensure that it is best able to leverage the strong economic growth potential of these regions. Recent wins are noted in Sichuan with a JV with Sinopec (which appears to be a key customer relationship) and also a HYCO facility for BASF's MDI investment in Chongquing. Both of these provide evidence of early moves in-land.

Figure 71: Linde's footprint matches the GDP potential of China



Source: Linde

On-site remains the key driver of growth in China. Linde's business in China is heavily focused on the tonnage business with around 70% sales coming from this. Merchant accounts for approximately 20% with Cylinder the remaining 10%. Linde is focused on winning early contracts with the tier one customers, then leveraging the on-site investment to either gain a strong position in the merchant business (through piggy-backing of on-sites) as has been done in the Ningbo area or to possibly also expand into cylinders (although this remains a much more local market where local competition can be intense). Of the 24 start-ups planned in 2010 and 12 for 2011 for the whole of Linde Gas approximately 15 of these are in China alone, highlighting the scale of the investment in the region – management estimates that around 50% of group capex will be spent in China and India in the next 3yrs.

Strategy to focus on largest customers. Linde's strategy for the region is to focus on the key Tier 1 customers and work with them through their expansion programmes. As shown below the customer list in the region is impressive and spans many end-users – Linde appears to be more diverse that some of its international peers, particularly the US names.

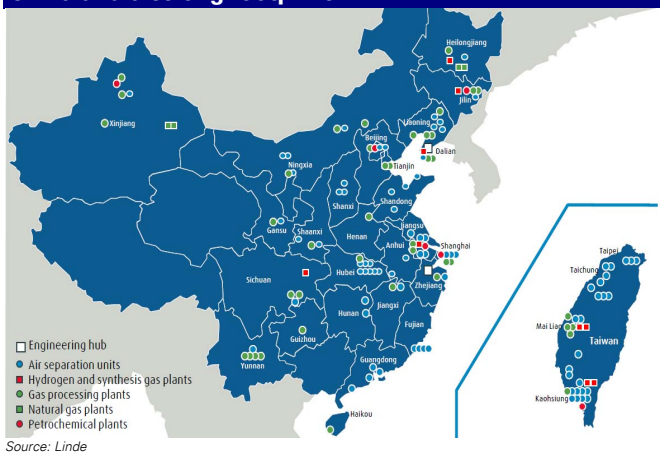
Figure 72: A very broad customer list in the region

Industry	Key local players	Other international players
Oil & Petrochemical	SINOPEC	BP
Chemicals	WANHUA	BRIDGESTONE
	BASF	VOESTALPINE
	HUAYI	SHARP
	HANWHA	PHILIPS
Metallurgy	TISCO	NDK
	GISE	ASUS,
	MANNSHAN IRON & STEEL COMPANY	SEAGATE
	BAO STEEL	HITACHI
Electronics	BOE	YOKOHAMA,
	SAMSUNG	COA-COLA
	HAIAN	PEPSI
		GOODYEAR
		MOTOROLA
		EPSON
		EMERSON
		BAYER
		GE
		KYOCERB
		DOW
		BMW
		SIEMENS
		CORUS
		TOTAL

Source: Linde

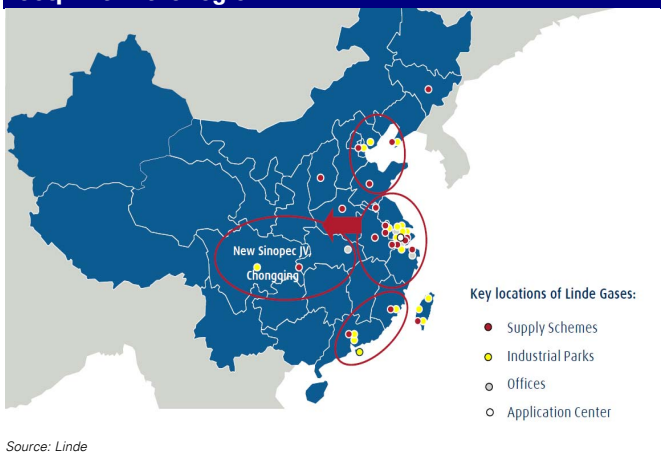
Critical to the on-going success of the gas business in the region has been the leverage of Engineering. As Gas investments continue to become more complex (and larger scale) the strong competence of Engineering should not be underestimated. As can be seen in Figure 73 and Figure 74 the foot print of the Engineering business is very impressive and gives Linde a lead-time advantage on new chemicals, refining etc investments compared to its other gas peers who often have weaker Engineering presence. Coal-to-olefins is a good example where of the current 50+ projects being built or under discussion Linde Engineering is already providing key technology for 32 of these projects – this will ensure that they are in a strong position to fully understand the opportunities for the industrial gas market in these hubs.

Figure 73: Linde Engineering has a leading position in China and a strong footprint



Source: Linde

Figure 74: The Linde Gas business also has a strong footprint in the region



Source: Linde

Linde Engineering operates out of three bases in the region (Dalina, Beijing and Hangzhou) and has been present since 1986. Engineering for China is now almost all done locally with projects only referred to the Munich head office for final checking. This provides strong local support to customers, an enhanced ability to tailor the product to the local market but also lowers the cost base for Linde. In addition the recently opened gas technology centre in Shanghai (Linde only has 2 others in Munich and North America) is increasingly supporting local market gas application selling rather than just selling the gas itself.

Coal to chemicals is a big opportunity for the gas industry - Linde seems more embedded that its peers. The investment opportunities in this area in the next 10 years will be immense and while most of the majors are trying to position themselves for some of the growth, Linde seems to have a head start through Engineering. As mentioned earlier, their specific technologies around sulphur management have already been applied in 32 facilities out of the 50+ that are being constructed or planned.

Outsourcing a growing opportunity. The outsourcing potential is huge in China although as with many gas companies the trend has been relatively slow in the past few years given the cultural desire to own your own assets in the region. Nevertheless as customers focus more on capital efficiency and as plant sizes are increased the desire to outsource becomes higher. Where Linde Engineering has built a plant this often gives them a very strong advantage in being able to buy back the plant from the customer.

Local players becoming more competitive in smaller sized on-site contracts. Management noted the increasing activity by some local gas companies but believes that the offering from these companies remains suited to smaller on-site investments as the weaker technology and lower energy efficiency means they are not competitive for the largest on-site and cluster investments.

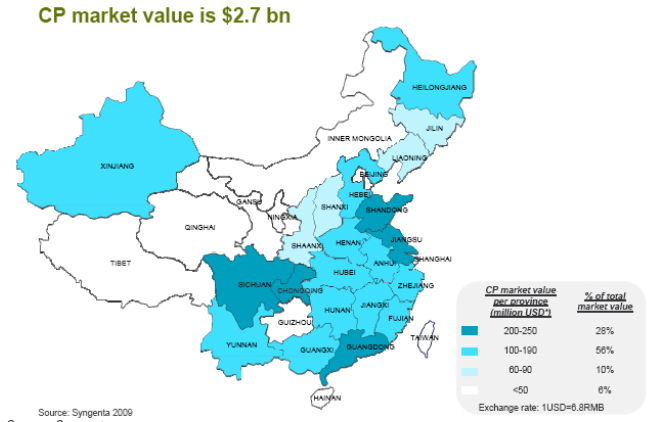
Strong pricing focus in China through the HPO programme. The HPO programme has also reached China with management very heavily focused on the pricing modelling (called LindePro) to ensure that ALL cost inflation in the business is recouped through pricing improvements to customers. This is a bold target, although management is very confident of achieving this.

Syngenta (Buy, Target: CHF 340): A leading position in a fragmented agrochemical market

We met with Stephan Titze, General Manager for China at Syngenta.

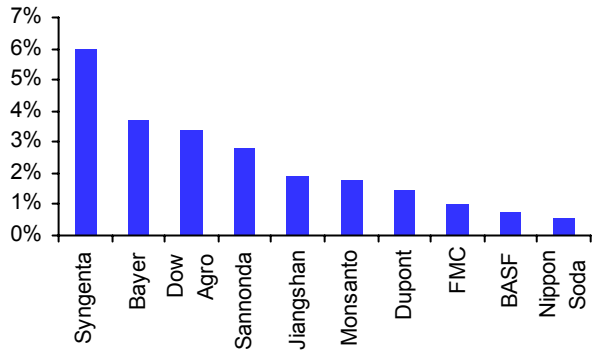
Syngenta currently derives approximately $170m revenues in the region which is 2% of group sales although the long-term potential within the region seems material. The company currently has approximately 6% market share in the crop protection market in China. We have discussed some of the background information that Syngenta provided on the Chinese agriculture market in pages 21 to 23 but below have also highlighted the comments of specific relevance to Syngenta.

Figure 75: The crop protection market in China is worth $2.7bn



Source: Syngenta

Figure 76: Syngenta is the largest player in crop protection with 6% market share



Source: Syngenta

Long-term potential. China's population issues are well known which is underpinning the requirement to maximise yields. Using greater agrochemicals is a key route to improving these yields (alongside increased efficiency of land cultivation, better usage of fertilizers etc). Acreage usage is poor with yields remaining low – China currently has 85% of the corn acreage of North America but only produces 25% of the yield. Therefore Syngenta's leading position in R&D within the agrochemicals market is well placed to benefit from this long-term market trend.

IP more enforceable. Management believes that intellectual property rights are easier to defend and while the incidence of copy usage of their active ingredients may not be decreasing in the market their ability to enforce their rights is materially enhanced over the past few years providing Syngenta (and the other major players) with a much stronger platform to leverage.

R&D investment in the region is increasing. Syngenta is investing in the region and has already developed several R&D sites and has seems to be one step ahead of many of its peers through the creation of some early benchmark R&D relationships with leading government organisations and universities. By crop the biggest opportunities appear to be within rice and corn followed by wheat and then fruit & vegetables. The focus at the moment remains within the agrochemical market and while seeds ultimately will be a large market it remains uncertain at the moment to what extent agbiotech can develop the market further given the state's very strong desire to have strong control over the food chain.

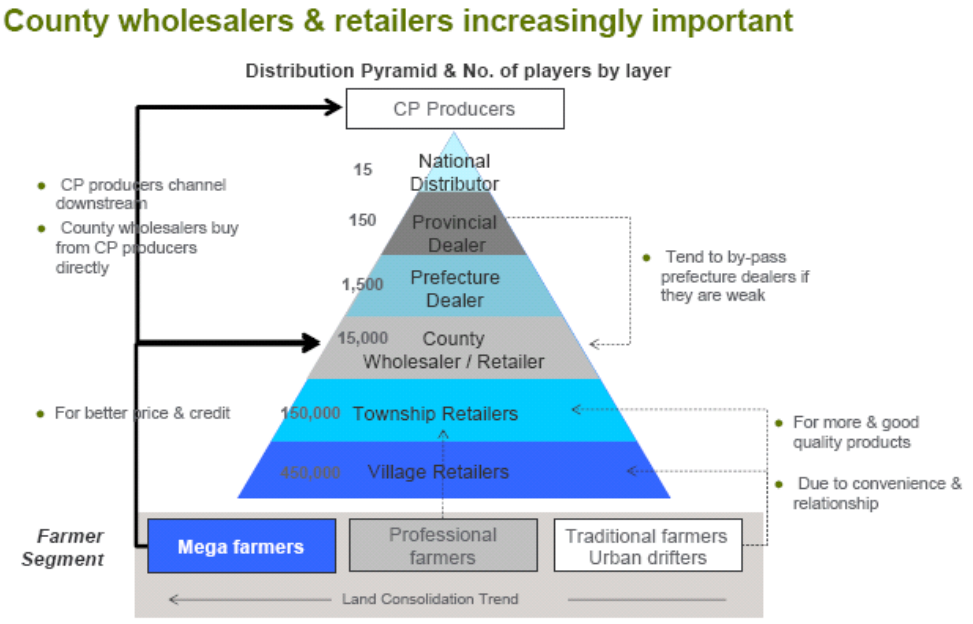
Figure 77: A summary of Syngenta's investments in China

Source: Syngenta

China is more focused on cheaper generics. The agrochemical market is currently focused more on generic products, which is symptomatic of the lower levels of farm incomes. However, as the major international agrochemical companies steady increase farmer and distributor education this should combined with the slow consolidation of land into larger farms to increase the penetration of tier-one more profitable agrochemicals in the market. Syngenta is active in communication through several different methods:

- Working closely with government organisation and universities through R&D collaborations, education, supporting crop trials etc
- Develop awareness for products through local agronomist training
- Target key players in the distribution model to increasingly influence product usage

Figure 78: The distribution model in China



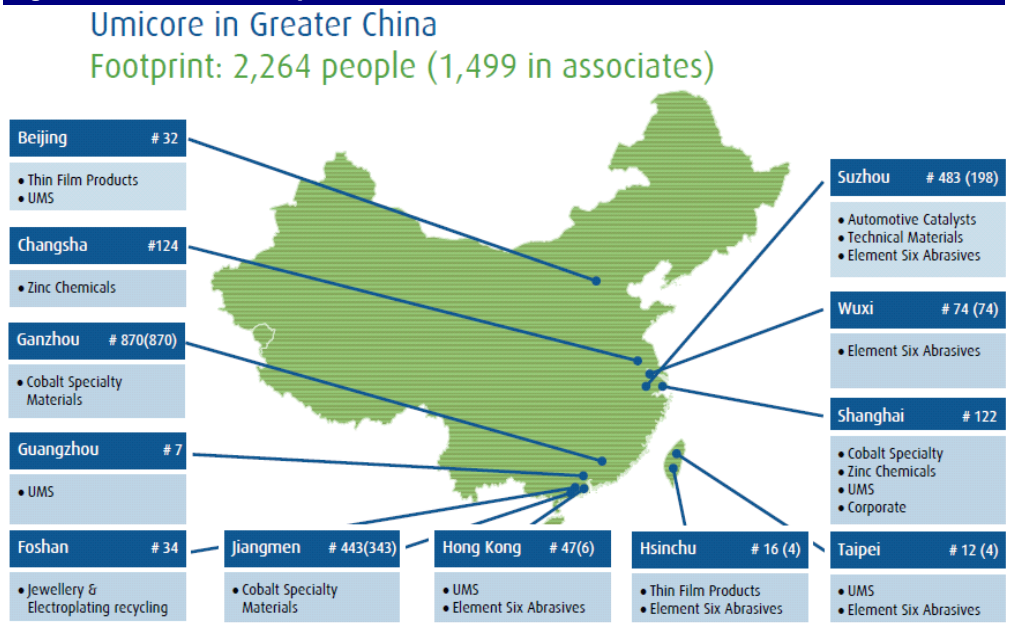
Source: Syngenta

Umicore (Sell, Target: Euro 18): Strong leverage to catalyst growth

We met with Bernhard Fuchs, Head of China and Arjang Roshan, Senior Vice President Asia Pacific, Catalysts.

Umicore first opened a marketing office for the region in Hong Kong in 1982 with the first JV signed in 1995 focusing on cobalt. Since then the company has expanded rapidly with a JV for nickel rechargeable batteries in 2004, an automotive catalyst facility in 2005 (more planned in 2010) amongst others investments. China revenues account for approximately 6% of group sales with most Umicore businesses present. 64% of China revenues come from Precious Metal Products & Catalysts. The business in China has a strong footprint across the Eastern seaboard region. Umicore has invested Euro 127m into the region over the past 10 years. All JVs deliver positive EBIT.

Figure 79: Umicore's footprint in China



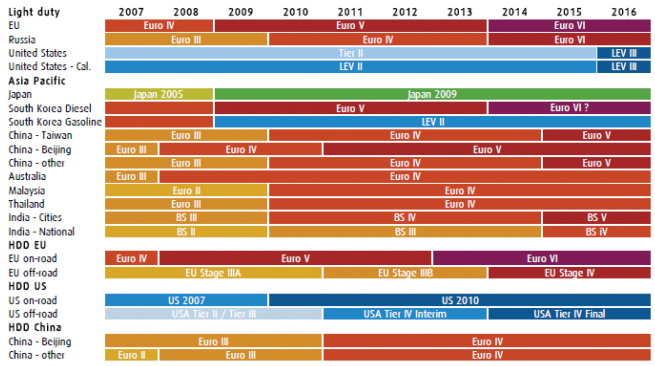
Source: Umicore

The biggest opportunities for Umicore in the region are in automotive catalysts and rechargeable batteries. In both areas Umicore has been relatively early into the region and has been successful in developing a leading position, albeit in fragmented markets. Management seem experienced at protecting intellectual property and remain confident that development of solutions for the local market can be further done in the region. Emission regulations are tightening across all of the emerging market regions and within China in particular. This will continue to create material opportunities for Umicore to tap into the rapidly expanding automotive markets but also the truck market and for other transport markets.

State support for car ownership to continue. Governmental support is expected to continue for the foreseeable future encouraging car (and motorcycle) ownership in the inland regions but also further car ownership across the whole of China (particularly smaller engine ownership). With pollution control a central theme across most companies we met with it seems that the growth in catalyst units for cars is likely to continue at a strong pace. Management estimates growth should continue in excess of production rates for cars (15-20% in 2010 alone). Please see pages 24 to 26 for more details on the outlook for the automotive market within China.

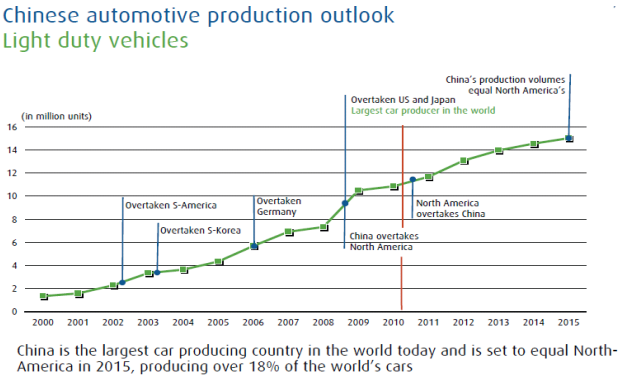
Management believes that of the top 20-30 OEM customers the global three large players (BASF, JMAT and Umicore) have around 75% market share with Umicore's share slightly above that of the other two in China.

Figure 80: Summary of global emission regulations



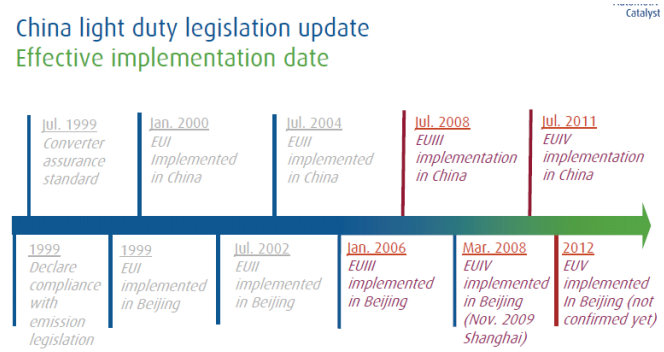
Source: Umicore

Figure 81: Auto production to continue to increase



Source: Umicore

Figure 82: Light duty regulations in China

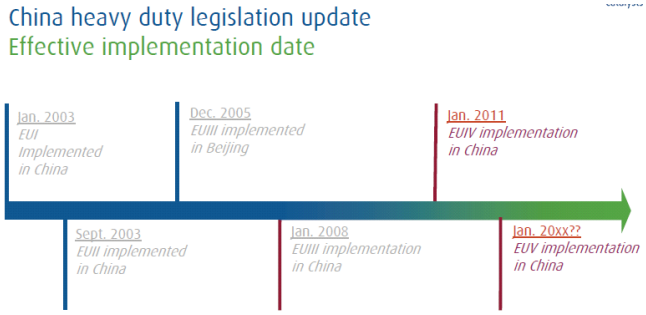


All production /sales/registration must apply for the latest legislation.

Current programs (in production) have a one year grace period prior to complying with the new legislation.

Source: Umicore

Figure 83: Heavy duty regulations in China



All production /sales/registration must apply for the latest legislation.

Current programs (in production) have a one year grace period prior to complying with the new legislation.

Source: Umicore

Chinese companies

(Tim Jones, Head of Deutsche Bank European Chemicals Research and David Begleiter, Head of Deutsche Bank North American Chemicals Research)

Sinofert (Buy, Target: HK$4.5). Leadership in fertilizer distribution

We talked with Mr Xu Haitao of Sinofert Holdings. Sinofert is the largest fertilizer company in China with sales of over 16mt and an approximate 18% market share in the region. Sales in 2008 were RMD$45bn. Sinofert is 53% owned by Sinochem, 22% by Potash Corp and 25% publicly listed.

Sinofert acts a distributor of fertilizer product in the region and buys product from both local and international producers. Sinofert has 2,022 distribution centres covering 26 agricultural provinces in China representing 91% of the arable land of the region. Sinofert accounts for 55% of imported potash and 60% of NPK into the region. It has exclusive agency agreements with Canpotex, ICL and APC for potash and with Yara and Fertiva for NPK. It also has a long-term partnership with BPC.

Management believes that demand for potash in China in 2010 should be around 8-9mt with domestic production accounting for around 50% of this. Current inventory levels in potash are believed to be around 4mt in China with Sinofert carrying around 1mt. Current production in China is expected to be approximately 5mt in 2010.

Sinofert believes that the current trend towards short-term supply contracts is likely to be continued with small settlements being made rather than larger contracts (as seen in 2008). The most recent potash settlement for 0.35mt with Canpotex was made at a price no higher than the previous settlement for 1mt with BPC in December 2009 ($350/t CFR).

Pricing for potash in 2011 is currently expected to be around the $375/t CFR level indicating little expectation for big price increases in 2011.

Interestingly the company believes that if the government is successful in boosting farm incomes in the coming years this is likely to have little near-term impact on fertilizer demand, particularly nitrogen where consumption is already very high. Increasing farm incomes are expected to first benefit capital spend (to reduce the labour requirement) and then to benefit increased agrochemical spend with fertilizer usage likely then to be the next beneficiary as farmers are already applying fertilizer.

Zhejiang Biok K.P. Chemical Company (Not Rated). Glyphosate producer in China

We met with Chen Yue, Manager, Zhejiang Biok K.P. Chemical Company (KP Biok) in Shanghai. KP Biok is a major producer of glyphosate (a broad-spectrum systemic herbicide) and a number of other actives. KP Biok sells its products in North American, South America, Europe and Asia.

Key points of our meeting follow:

- KP Biok started manufacturing glyphosate in 1998. Today it has annual capacity of 30,000 m.t., or 5% of the total Chinese capacity. 90% of what KP Biok produces is exported with the US (30%) and Argentina and Brazil (40%) accounting for the majority.
- The biggest issue facing the Chinese glyphosate industry is pollution (primarily waste water). Chinese glyphosate capacity is expected to decline from 800,000 m.t. in 2009 to 600,000 m.t. in 2010 due to heightened government enforcement of environmental regulations and the cost required to meet these regulations. A waste water treatment facility can cost up to 25% of the cost of the plant. Emissions is generally not a problem for producers,
- From a peak of 300 glyphosate producers in China, today there are only 70 producers (many of which are state owned). The number of producers is expected to decline to 40 by 2012-13, representing a decline of a further 100,000/m.t. of capacity (to 500,000 m.t.), as the government puts in place new, more stringent environmental regulations for pollution control
- Similar to KP Biok, 90% of Chinese glyphosate production is exported.
- Most Chinese glyphosate producers operate at around 70% of capacity due to emissions regulations and restrictions.
- KP Biok's glyphosate production costs are around $3/kilo. Cash costs are increasing around 2%/year.
- The delivered cost to the West Coast of the US is $3.20-$3.30/kilo.
- Pricing for yellow phosphorous (P4), a key raw material for glyphosate, is currently $9,000/m.t. versus $15,000/m.t. last year and a high of $17,000/m.t. in 2003-04.
- KP Biok's glyphosate's cash margins are less than 5%.
- Glyphosate inventory levels are lean in China with most producers carrying only 100-200 m.t. of inventory.
- KP Biok's February 2010 glyphosate sales volumes were equal to last years volumes though pricing was 10% higher.
- KP Biok expects glyphosate volumes to be down in 2010 vs 2009.
- Many Chinese glyphosate producers are moving away form the US market.

US companies

(David Begleiter, Head of Deutsche Bank North American Chemicals Research)

DuPont (Buy, Target: $38). Diverse competencies align with China's long-term trends

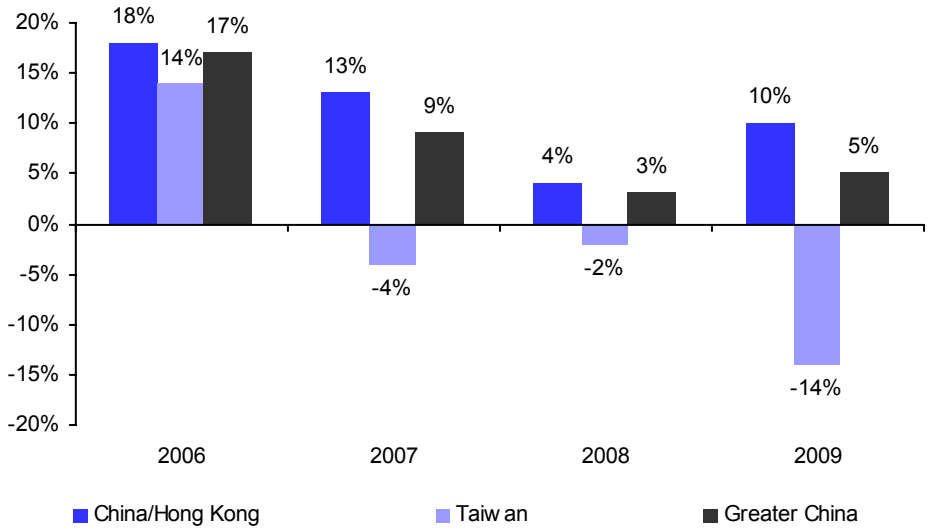
We met with Doug Muzyka, President, Greater China (China, Hong Kong and Taiwan), in Shanghai. DuPont has made a broad and significant commitment to grow its presence in China through putting its science to work. DuPont believes it can achieve 10%-plus compound sales growth in China over the next 3-5 years owing to the tight alignment between its capabilities and competencies and China's long-term trends (greater demand for agriculture commodities, sustainable development, clean air and water).

DuPont made its first sales into China in the 1860's during the Qing Dynasty. DuPont China Holding Company Limited was established in Shenzhen in 1989 as the first wholly-owned entity of the company. Today, DuPont China (China/Hong Kong) has 31 entities, including 16 wholly-owned companies, 8 majority owned and 7 joint ventures with ownership interests of 50% or less, and 6,500 employees. DuPont's investment in China totals $1 billion.

China is DuPont's 2nd largest market (behind the US and ahead of Germany and Brazil) with 2009 sales of $1.8 billion, or 7% of total company sales. By segment, Performance Materials is DuPont's largest business in China with 26%of sales followed by Performance Chemicals (21%) and Electronics and Communication (20%). Safety & Protection (12%), Performance Coatings (12%) and Agriculture & Nutrition (8%) have smaller presences in China (and smaller than their overall platform as a % of company sales).

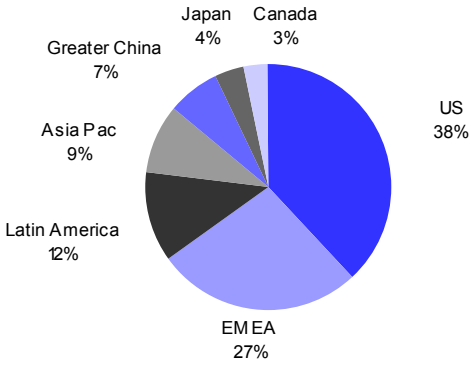
Despite the global slowdown DuPont China had a record year in 2009 with sales up 10% and profits up 15%-plus. Drivers of this performance included the capture of $80 million from the Chinese governments' stimulus program and disciplined pricing which added 3.5 variable margin points (and 1% to the gross margin). Greater China sales rose a more modest 5% in 2009 as the strong growth in China was partially offset by a 14% decline in Taiwan (to $362 million). DuPont's Greater China sales grew at a compound rate of 17% from 2003-08. Following the lows of March 2009, demand in China improved steadily with December posting the highest sales of the year. This positive momentum has continued into 2010.

Figure 84: DuPont Greater China sales increased 5% in 2009 as strong growth in China was partially offset by a 14% decline in Taiwan (YoY % change in sales)



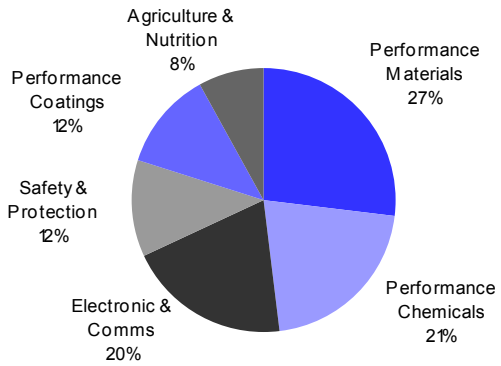
Source: DuPont

Figure 85: DuPont sales by geography, 2009



Source: DuPont

Figure 86: DuPont Greater China sales by segment, 2009



Source: DuPont

DuPont's 3 growth strategies are working in China

DuPont's 3 growth strategies of 1) putting its science to work, 2) going where the growth is and 3) leveraging the power of one DuPont, are working in China. As part of this strategy DuPont is continuing to invest in China. Presently, DuPont's investment in China totals $1 billion. However, this could increase substantially over the next few years as a number of projects are under construction or in development. The largest of these is a $1 billion TiO2 facility in Dongying. This world-scale TiO2 plant would have an annual capacity of 200,000 m.t. DuPont has completed geologic and environmental impact studies and has received environmental approvals for the project. It is currently working on obtaining a business license for the facility. Despite delays in obtaining the required government approvals, DuPont remains committed to the project. Once the business license is obtained, commercial production could follow in 3-4 years.

Figure 87: DuPont's three growth strategies and execution in China

Strategy	Execution in China
Put Science to Work	Strong market-backed orientation
	Expanding Local R&D Presence
	Leveraging Technology Equity
Go where the Growth is	China TiO2 Expansion
	Investing in People
	Global sourcing center
Power of one DuPont	Expanded corporate account program
	Streamline and standardize in China
	Stronger strategic planning process

Source: DuPont

China's long-term trends will drive DuPont's growth

Enhancing DuPont's growth efforts in China is the fact that an increasing number of China's long-term growth trends (greater demand for agriculture commodities, sustainable development, clean air and water) are closely aligned with DuPont's capabilities and competencies. By growth trend, we note the following:

Agriculture: Higher yields, advanced technologies in corn and rice and improved food quality are priorities for the Chinese government. As a global leader in seed technology, crop protection chemicals and food safety, DuPont is well positioned to benefit from growth within the Chinese seed and crop chemical market.

In seeds, where Pioneer operates through 3 JVs, China sales total $120 million on a 100% basis. Among multinationals, Pioneer has a greater than a 75% share of the China corn seed market. However, within the entire market (including local Chinese suppliers), Pioneer's share is less than 5%. While the Chinese seed market is currently entirely conventional (hybrid) seed, the Chinese government appears committed to the introduction of genetically modified seeds. DuPont believes genetically modified rice could be introduced in China in the next 2-3 years with genetically modified corn introduced within 5 years.

In crop chemicals, DuPont has less than a 5% market share of China's $3.4 billion crop protection market (the world's third largest). This is despite DuPont's crop protection sales having increased 120% in China in 2009, driven largely by the launch of Rynaxypyr, its breakthrough insect control technology. Rynaxypyr is expected to help drive strong crop protection sales growth in China for the next few years.

Environmental: The Chinese government has increased its focus on and commitment to environmental protection and renewable energy. The clearest manifestation of this change was the elevation 2 years ago of China's environmental protection agency to a ministerial level. As a result, economic growth is no longer the only barometer by which development decisions are made.

With a multitude of technologies and competencies in alternative energy, biofuels and clean technologies, DuPont is well positioned from this powerful secular growth trend. In the near-term, the largest impact will be in photovoltaics (PV). As a leading supplier of materials to the PV industry DuPont is well positioned to benefit from the growth of the Chinese PV industry, home to 40% of the world's solar module production. In 2009, DuPont's China PV sales totaled $250 million.

"Harmonious Society": The Chinese government is committed to equitably distributing the benefits of economic growth in order to maintain social stability. The implications of this strategy are an enhancement of rural infrastructure and increased domestic consumption. With a large number of technologies and products for the automotive industry, DuPont is well positioned to benefit from a primary manifestation of this strategy: increased Chinese automotive production. In addition, with more of China's growth taking place in 2nd and 3rd tier cities, DuPont has enhanced its sales force in these 2nd and 3rd tier cities at a low marginal cost.

Demographics: With disposable income in China rising and the middle class continuing to grow and mature, DuPont is well positioned to supply the growing high technology and knowledge intensity needs of China's population through its industry leading productivity and market driven science.

Figure 88: China's long-term growth trends match DuPont's capabilities and competencies

Growth Trend	Implications	DuPont Capabilities and Competencies
AGRICULTURE	Higher yields Advanced technologies in corn and rice Food quality	Specialty crops Hybrid rice Expansion of seed JVs
ENVIRONMENT	Environmental protection Energy conservation Renewable energy	Photovoltaics Clean Technologies Biofuels & Biomaterials
"HARMONIUS SOCIETY"	Rural infrastructure Growth driven by more domestic consumption	Automotive Consumer industrials Sales expansion into 2nd and 3rd tier cities
DEMOGRAPHICS	Higher value-add High technology Knowledge intensity	Industry leading productivity Market driven science

Source: DuPont

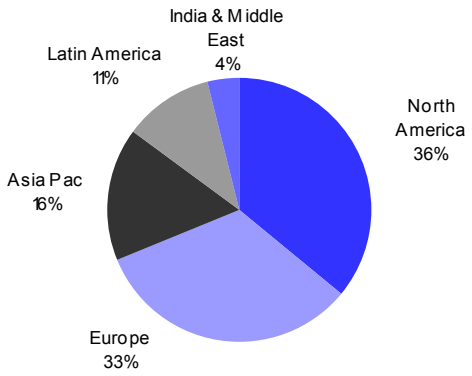
Dow Chemical (NR). Focus on Performance businesses but coal-to-olefins project takes shape

We met with Peter Sykes, President, Dow Greater China and Luciano Poli, CFO – Asia Pacific at the Shanghai Dow Center, an impressive state-of-the-art research and development center and Dow's Asia Pacific headquarters. Prior to assuming his role as head of Dow's China business in early 2010, Mr. Sykes had served as President, Dow Automotive Systems and President, Dow Japan and Korea. In total, Mr. Sykes has spent over 18 years working for Dow in Asia.

Prior to its acquisition of Rohm & Haas in 2009, Dow had developed a unique, import-based strategy for China focused on its Performance businesses. This strategy has been further enhanced by the 2009 acquisition of Rohm & Haas which added a sizeable presence in locally produced electronic materials. While Dow continues to explore (and appears to be getting close to) building a large, basic chemical manufacturing site in central China, currently 75% of what Dow sells in China is imported. With $3.7 billion in pro forma 2009 sales (8% of total) Greater China (China, Hong Kong, Taiwan) is a key component of Dow's global business and growth strategy.

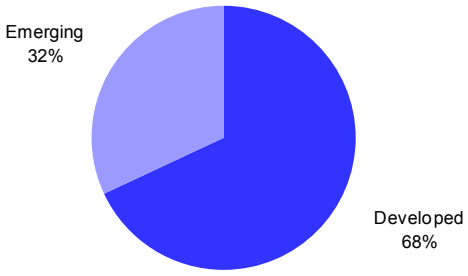
Dow's business in Greater China dates back to 1930s, when it supplied China with products through trading agents. Dow opened its first sales office in the Pacific in Hong Kong in 1957 and an office in Taiwan in 1968. In 1979, Dow established its first China office in Guangzhou. Today, Dow has 5 business centers across Greater China in Beijing, Shanghai, Guangzhou, Taipei and Hong Kong plus 20 manufacturing sites and nearly 4,000 employees. In 2004, Shanghai became Dow Greater China's headquarters. And in 2009, the Shanghai Dow Center opened.

Figure 89: Dow Chemical sales by geography, 2009 pro forma



Source: Dow Chemical

Figure 90: Dow Chemical sales by market, 2009 pro forma



Source: Dow Chemical

Dow's China strategy is focused on its Performance businesses

In 2009, Dow's Greater China pro forma sales totaled $3.7 billion, or 8% of total sales. Greater China is Dow's second largest market behind the U.S. (and ahead of Germany). Greater China accounts for half of Dow's pro forma Asia Pacific sales ($8.2 billion, or 16% of total sales). India (2% of pro forma sales) is not included in Dow's designation of Asia Pacific.

Dow's strategy in China differs from many of its peers. Starting in the early 1990s, Dow actively explored the viability of building a world-scale naptha-based ethylene cracker in China (with derivative units). However, despite years of negotiations, Dow was not able to make the economics work. As a result, Dow has not made the large, basic and intermediate chemical investments that companies such as BASF, Bayer, BP, Shell and ExxonMobil have

made inside China. Instead, Dow's China strategy has focused on its Performance businesses (75% of its Greater China sales). Another element of Dow's China strategy is to focus on Chinese companies. Of Dow's top 10 customers in China, all are local Chinese companies.

In executing its China strategy Dow has focused first on building market share with imported product from its low cost, advantaged feedstock joint ventures in Kuwait, Thailand and, until last year when it was divested, Malaysia. Today, 75% of what Dow sells in China is imported. What makes this strategy work for Dow are 1) a high-quality marketing and sales force that management believes is the equal to any Western company in China, 2) low (~6%) import duties on chemical and plastic products, making China essentially an open market and 3) a reliable and consistent supply chain. Management noted that local Chinese customers are very comfortable with imported products as long as logistics/supply chain functions reliably.

Despite the focus on imports, Dow has built a sizeable manufacturing, research and development base in region. Dow has 20 manufacturing sites in Greater China with 15 in China, 4 in Taiwan and 1 in Hong Kong. In 2009 Dow opened the Shanghai Dow Center at the Zhangjiang Hi-Tech Park in Shanghai. At the heart of the center is a state-of-the-art research and development facility which houses more than 500 scientists and engineers in over 80 labs. This new facility has substantially enhanced Dow's ability to work with customers at the local level in China and Asia (the key to building sustainable relationships), accelerated product development for China and Asia and strengthened Dow's competitive position for long-term growth in China and Asia. The center is also Dow's Asia Pacific headquarters and includes a global IT center as well as other support and service facilities. Also in Shanghai, Dow Epoxy has built 2 world-scale production units (a liquid epoxy resins plant and an epichlorohydrin plant), part of a 5-year $200MM investment program announced in 2006 to support growth in China and Asia.

Dow's coal-to-olefins project continues to advance

Despite its unsuccessful near 20 year effort to build an integrated-ethylene complex in China, Dow has not stopped trying. And over time, its thinking has evolved. Dow now believes that in order for a new, world-scale ethylene cracker in China to generate attractive returns it must either: 1) be coal-based, 2) be oil-based with full integration into a refinery as this will maximize its feedstock advantage and flexibility or 3) have derivative units that produce high value and advanced technology products. Dow is currently working on 2 projects, each of which fits one of these criteria.

First, Dow is working on an $8-10 billion coal-to-chemicals project in Shaanxi province in central China. Dow's partner is the Shenhua Group, China's largest coal company. In 2004 Shenhua and Dow began to study the feasibility of this project. Six years later, with a number of technology, environmental and operational risks resolved and/or better understood, the project is "progressing well" with the feasibility study on track to be completed in 2010. In addition to a world-scale ethylene cracker, this project would make advanced stage chemical products such as polyurethanes (taking advantage of salt reserves underneath Shenua's coal reserves), epoxies and acrylics. The project would also include a chlor-alkali facility to supply chlorine (from salt) to the polyurethanes facility and would include a number of downstream plants, fully integrated from feedstock. With Shenhua providing the project's coal requirements at close to its extraction costs, which we estimate at $10/ton, the project is viable at an oil price of $50/bbl. The project would be able to ship its products on Shenhua's private railroad to the east coast for transport. However, given the location of the project in the interior of the country the long-term goal is for the plant to supply the economy in central China. If this project moves forward, it would be the largest foreign invested projected in China.

There are presently 3 coal-to-olefins projects under development in China, 2 by Shenhua and 1 by Datang Power. All 3 of these projects are will produce around 500,000 tpa of basic chemical product (propylene, ethylene, benzene). The Dow project would likely be twice as large. Given the size, scope and advanced technology required for this project, start-up is unlikely before 2016. The project will be a joint venture with Shenhua such that it would be off-balance sheet for Dow. Assuming a 70/30 debt equity split for the $10 billion project, Dow's cash contributions (capital cost) would be $1.5 billion. The project would also be expandable (there are enough coal reserves to more than double the size of the project). Dow will handle most if not all sales and marketing of products produced from the facility.

The Chinese government is supportive of Dow-Shenhua project as 1) it would support its national agenda (and "going west" strategy) of balancing the inequality of urban/coastal and rural/interior income and 2) would reduce China's dependence on imported Middle East oil.

Dow is also continuing to investigate the viability of participating in an integrated ethylene cracker project/petrochemical complex in southern China with Kuwait Petroleum Corporation and Sinopec. The ethylene cracker would be integrated into a refinery running primarily Kuwaiti oil. The potential $5 billion project is presently undergoing a feasibility study. Dow is unlikely to pursue both of the coal-to-chemical project and the southern China project at the same time with the clear preference being coal-to-chemicals.

Current trends: 2010 is off to a good start

With respect to recent trends and the current business environment in China, Dow noted the following:

- 2010 is off to a good start. In the six weeks leading up to the Chinese New Year in mid-February, demand was very strong. This was driven in part by customers' upbeat outlook on 2010 and high degree of confidence in the government's ability to control inflation and manage GDP in the 8-9% range.
- This positive momentum continued post the Chinese New Year in late February and into early March. However, the sources of demand strength were different than in the past with domestic consumption the primary driver, partially offset by continued weakness from export-focused customers.
- By end market, electronic materials, food packaging, agrochemicals and autos were the strongest with the only soft end market being textiles.
- In autos, not only is Dow benefiting from 15% year-over-year demand growth, but it has picked up a significant amount of business from both local producers as well as transplants.
- Restocking has not been a driver of the strong 2010 demand.
- Pricing is generally flat to up. In the last few quarters, pricing was "very good".

Praxair (Buy, Target: $90). Focusing on returns and profits

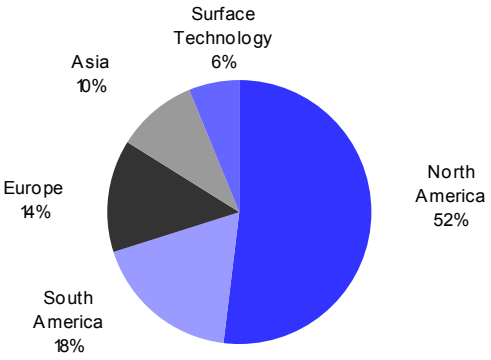
We met with Joe Capello, President, Praxair Asia and David Chow, President, Praxair China at Praxair's Asia headquarters in Shanghai. Praxair has built a successful Asian business centered on the fast growing economies of China and India (where Praxair is #1 with a ~35% market share). As with the rest of its businesses and geographies, Praxair's primary focus in Asian is on returns and profitability. However, Asia is also Praxair's primary growth driver and one of the keys in returning Praxair to double-digit EPS growth in 2010 and beyond.

During the 5-year period 2004-08 Asia was Praxair's fastest growing region with sales and earnings increasing at a compound rate of 18%. However, in 2009 sales and earnings fell modestly, reflecting the global economic downturn and FX headwinds. In total, Praxair's Asia sales fell 1% in 2009 to $885 million (10% of total sales), operating profit declined 7% to $138 million (7% of total operating profit) and operating margins compressed 110 basis points to 15.6% (vs. total company operating margins of 21.0%). Volumes increased 2% in 2009 driven by large plant start-ups and higher sales to all end markets in Q4. This was offset by price/mix which fell 2%. The earnings decline was due to currency depreciation. Praxair expects strong, 10%-plus growth in Asia to resume in 2010 and continue over the next 3-5 years driven by a strong project backlog and plant start-ups.

In Asia, Praxair focuses on four countries: China, India, Thailand and Korea. These are four of the 11 core geographies Praxair focuses on as it is these locations where it has its strongest market positions and thus its lowest distribution and production costs. Praxair also has smaller operations in Japan, Malaysia and Taiwan. By end market, Praxair is heavily weighted in Asia towards metals, chemicals, and manufacturing along with a large CO2 business in Thailand (for freezing shrimp). Praxair has 25 air separation plants in Asia.

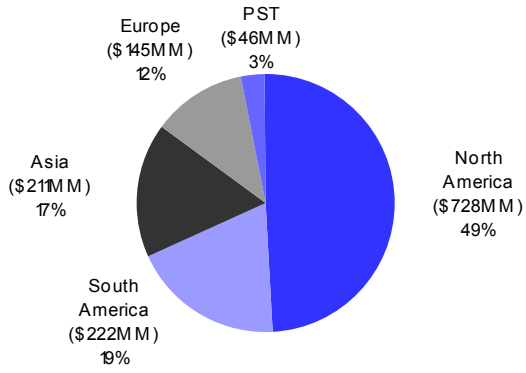
Praxair is investing heavily in Asia. In 2009, $211 million, or 16%, of the company's $1.4 billion in capital spending, and 21% of its $1.0 billion of growth spending, was in Asia. Of the 40 projects in Praxair's large project backlog, 12, or 30% are in Asia (with all but 2 on-site). However, by dollar amount, Asia represents roughly half, or more than $1 billion, of the more than $2 billion of capital investment represented by the 40 project backlog. Growth capital spending accounts for 75% of Praxair's estimated 2010 capital spending of $1.4 billion.

Figure 91: Praxair sales by geography, 2009



Source: Praxair

Figure 92: Praxair capital expenditures by region, 2009 ($ millions)



Source: Praxair

Praxair's China operations have returns on capital of around 10%

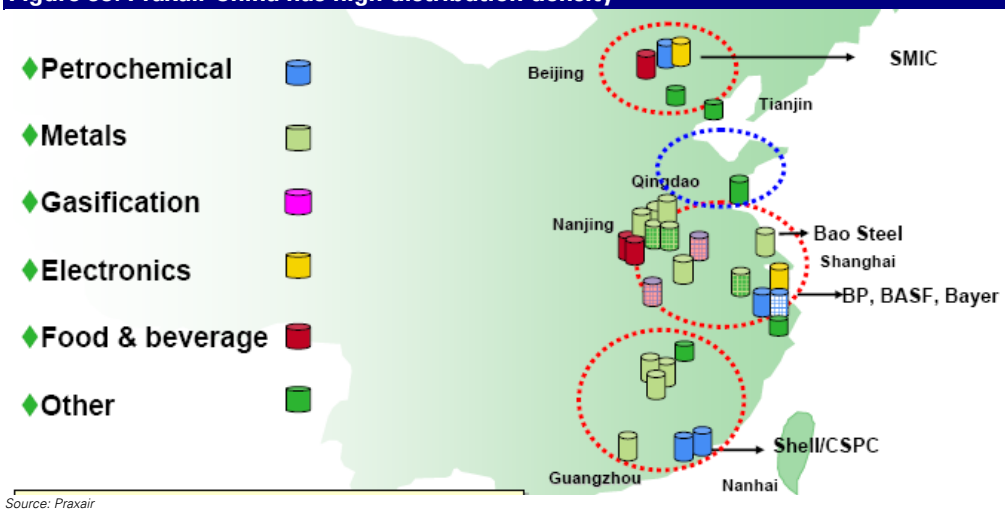
Praxair began operations in China in 1988 and established its first joint venture in 1992. Today, Praxair China, headquartered in Shanghai, has 18 wholly owned companies, 10 joint ventures, over 1,200 employees and total investment of more than $700 million. In addition to being Praxair's Asia headquarters, Shanghai is also the hub of engineering resources and an R&D center that supports Praxair's Asia business.

Praxair's combined China sales (including its 50% share in the SCIP {Shanghai Chemical Industry Park} JV with Air Liquide, or roughly $100 million) were ~$400 million in 2009, or 3% of total company sales and 34% of Asian sales. By mode of distribution, $250 million of 2009 sales were on-site and $100 million were merchant. Praxair expects its combined China sales to be around $500 million in 2011 with operating margins of around 20%.

Most importantly, we estimate Praxair's return on capital in China is 10%-plus versus a total company return on capital of 13.8% in 2009. Praxair expects to maintain its China returns on capital in the 10-11% range for the foreseeable future as the benefit of operating leverage from greater scale, higher plant loadings and cost productivity gains are offset by a growing capital base from new plant start-ups.

The China industrial gas market totals $2 billion-plus in sales. Roughly half of the market is captive, 30%-plus is controlled by the 4 major global industrial gas companies and around 20% is in the hands of local (Chinese) producers. Among the global companies, Praxair, Linde/(BOC) and Air Liquide all have market shares of around 8-10%. Air Products is fourth in China with a 5-6% market share.

Figure 93: Praxair China has high distribution density



Source: Praxair

Current trends: Business development activity in China is beyond pre-crisis levels

With respect to recent trends and the current business environment in China and Asia, Praxair noted the following:

- Praxair is targeting 10%-plus sales growth in China in 2010 with volumes growing 1.5-2.0x industrial production due to plant start-ups.
- In India, sales growth is expected to be less than 10% in 2010 due to a lack of large on-site projects coming on-stream (more start-ups are scheduled for 2011). Still, Praxair expects its Indian volumes to grow at a multiple of industrial production in 2010.
- Business development activity in China is beyond pre-crisis levels.

- While China remains a competitive industrial gas market, returns on new projects are attractive with returns at least as good as the rest of the world.

- Typically, Praxair is bidding against 1 or 2 of the global gas companies in China, not all three.

- While Praxair is investing more in China than India, its investment in China is less than 2x its investment in India.

- Praxair believe there remains substantial opportunity for growth in China especially in the areas of sustainable growth and the environment. Praxair believes this will ultimately result in opportunities in water treatment and combustion control. Relative to the US, intensity of gas use is still very low in China (4% of US per capita gas consumption).

- Praxair also sees a significant opportunity in coal gasification and coal-to-chemicals in China with more than $1 billion of industry-wide revenue potential over the next 5 years. Praxair expects to win its fair share (25-30%) of this business. Coal gasification is already a key driver of Praxair's China business with one large (3,000 tpd) air separation plant (started up in 2009) supplying oxygen for coal gasification units for chemical production (Jiangsu SOPO {acetic acid}) and another one in development (Anhui Huayi Chemical {coking}, 2011 start-up).

- While Praxair sees more than $1 billion of decapitation opportunities, this is not a focus of the company. In addition, sale of equipment is also not a focus of the company.

- Praxair has increased its focus on applications development over the last year. Applications development is critical in the merchant business as > 50% of merchant sales have applications involved. Praxair believes a growing number of environmental applications will help its China merchant gas operations to grow faster than industrial production and get pricing

- Merchant pricing in China remains a little soft. While merchant prices are down ~5% YoY, they are up sequentially. Merchant liquid pricing in China has been the primary area of disappointment and concern for global industrial gas companies over the last few years. Weaker than expected merchant pricing was due to aggressive local Chinese producers and a very fragmented industrial gas market.

- Chinese industrial gas companies are continuing to improve their technical competency. They can now build plants of up to 1,000 tpd versus 400 tpd a few years ago. However, their operating skills remain well below those of the four Western industrial gas companies and they continue to focus on sale of equipment rather than sale of gas

- Praxair's industrial gas JV with Air Liquide (SCIP) is being doubled to 800 tpd by 2011. Current sales of the JV are around $100MM annually

Air Products (Hold, Target: $75). Building a broader Asia growth platform

We met with CS Saw, Air Products General Manager, China Merchant Gases at Air Product's China headquarters in Shanghai. Air Products has built a large, profitable and growing Asian business focused on electronic specialty materials and, more recently, tonnage and merchant gases. Due to its larger and more established business in Asia (>2x larger than Praxair), Air Products was initially slightly more cautious than its peers in bidding for projects in China. This has changed as Air Products has added a number of large, on-site tonnage projects in China over the last few years. Nevertheless, as a result of its later start, Air Products has the smallest market share in China (5-6%) of the four major global industrial gas companies (who range from 7-10%). Key points of our meeting follow:

In fiscal 2009 (ending September 30), Air Products Asia sales fell 22% to $1.3 billion (16% of total sales). Sales on a 100% owned basis were $2.0 billion, down approximately 10%. The sales decline reflected the global economic downturn which resulted in global manufacturing declining by 11% and silicon processed decreasing by 35% (in fiscal 2009). Air Products goal is to generate $10B, or 50%, of its $20B in targeted 2020 revenues from Asia. Versus the $1.3 billion of 2009 sales, this implies a compound annual growth rate of 20%. Versus the $2.0 billion of sales on a 100%-owned basis this implies a compound annual growth rate of 16%.

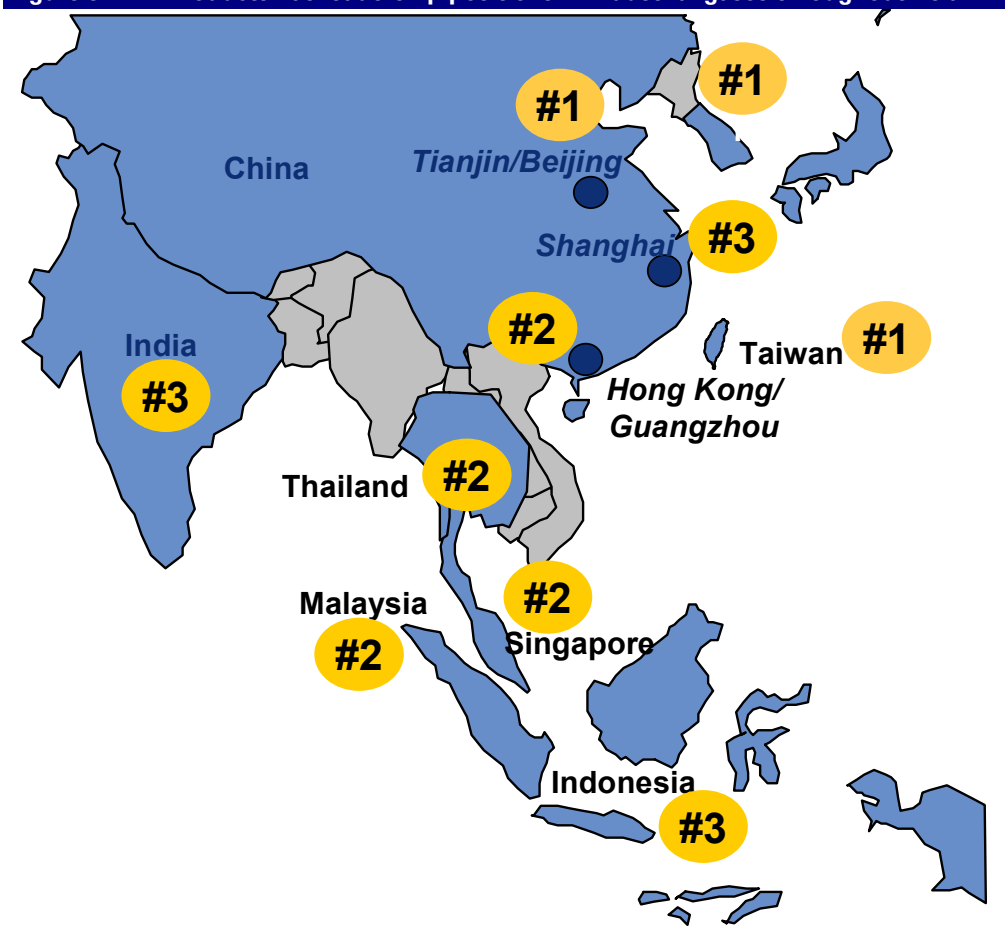
In fiscal Q1 2010, Air Products Asia sales increased 14% to $372 million reflecting improved demand from steel and electronics customers and a strong US dollar. For fiscal 2010, we expect Air Products Asia sales to increase 15-18% driven by a strong rebound in electronics and steel demand.

In Asia, Air Products focuses on four countries: Korea (the largest with ~25% of Asian sales on a 100% owned basis), Taiwan (~20%), China (20%) and Japan (~15%). Together, these countries account for approximately 80% of Air Products Asian sales. Air Products believes it has the #1 gases position in Korea (2/3 from electronics and tonnage gases) and Taiwan (2/3 from electronics and tonnage gases) and the #2 position in Singapore, Malaysia and Thailand. Air Products has a small position in India (<$100MM in sales thru a joint venture). Within China, Air Products has a strong position in the Tianjin/Beijing area.

By segment, and on a 100% owned basis, Air Products Asia is heavily weighted towards Electronics (~40% of sales), followed by Merchant Gases (30-35%), Chemicals (15%) and Tonnage Gases (~15%). Within Asia, Air Products operates 17 tonnage plants (versus 50 in the US and Canada and 30 in Europe) and over 45 electronics facilities (versus 45 in the US).

Over the last five years, Asia has been Air Products highest growth region. This growth has been led by its Electronics business which derives approximately 50% of its sales from Asia. A key driver of this growth was the LCD industry: Air Products supplies more than 60% of the LCD fabs in Korea and Taiwan. As many of these companies with LCD fabs in Korea and Taiwan are investing in China, we believe Air Products is well positioned to capture this business as production ramps up. Air Products' long-standing position serving the semiconductor and LCD industries has enabled it to be a leading supplier to the thin-film PV industry where it has already won a large number of contracts to supply the fast growing photovoltaic market. In Tonnage, Air Products is focused on growing its existing franchises with most new growth focused in China. In Performance Materials, Air Products has strong and profitable operations with an expanding manufacturing presence highlighted by the recent opening of a specialty amines plant in Nanjing. On the merchant side, despite a slightly more cautious/disciplined approach than its competitors, Air Products has grown its business 20%/year driven by strong demand throughout the region while continuing to develop production infrastructure in high growth markets.

Figure 94: Air Products has leadership positions in industrial gases throughout Asia



Source: Air Products

Sales in China are focused on electronics with a growing position in steel and chemicals

Air Products began operations in China in 1987 with the establishment of a joint venture in Shenzhen. Today, Air Products China, headquartered in Shanghai, has sales of $350 million, $500 million of investments and 22 major manufacturing facilities (19 gases, 3 Performance Materials). Sales are focused in electronics and fiberglass/glass with a growing position in steel and chemicals. The majority of sales are in the merchant business.

Air Products strategy in China (and Asia) is to serve customers with local manufacturing capabilities supported by best in-class technology. To this end Air Products operates a global engineering center near Shanghai with 220 engineers and $500 million-plus of projects in execution (versus $600 million last year), a global cryogenic equipment manufacturing facility in Caojing (which has built many of the oxygen and nitrogen coldboxes it has sold in Asia as localization helps drive low costs) and a technology center at the ZhangJiang Hi-Tech Park with a primary focus on Performance Materials.

Current trends: Business development activity in active and strong

With respect to recent trends and the current business environment in China (and other countries), Air Products noted the following:

- Business development activity for new projects is active and strong. However the backlog is down slightly from the peak (with $500 million of projects in execution versus $600 million at the peak).

- Merchant gas pricing is "at best" flat. A "Pricing Improvement Plan" remains in place to help support merchant pricing.
- Sales in China are growing 2.0-2.5x GDP. Air Products saw a strong rebound in China starting in the March/April (2009) period.
- Competition from local Chinese industrial gas provider Yingde Gases is limited. In addition to operating in different area (central China vs coastal China for Air Products). Yingde is limited in its offering up to 800-1,000 tpd unit vs. 2,000-3,000 tpd for the on-site projects Air Products and its western peers are focused on. Yingde also lacks technology and capability.
- Taiwan, which is primarily an electronics market for Air Products, and Korea (LCD and memory business) have recovered nicely.

Figure 95: Air Products has 22 major production facilities in China

Source: Air Products

Celanese (Buy, Target: $40). Low-cost Nanjing complex solidifies Asia centric strategy

We met with John Fotheringham, General Manager Acetyl Intermediates and Josh Chang, President of China Operations for Celanese. We also visited Celanese integrated chemical complex in Nanjing, site of the world's largest and lowest cost acetyl production facility. The $350 million Nanjing complex underscores the company's focus on and commitment to Asia. Celanese is the most Asian centric company in US chemicals with 35% of revenue and 50% of earnings targeted to come from Asia by 2011.

Nanjing Integrated Chemical Complex – The heart of Celanese competitive advantage
Celanese Nanjing integrated chemical complex, located at the Nanjing Chemical Industrial Park, is Celanese largest manufacturing facility. Opened in 2007, Nanjing includes 6 production units including a 1.2 million m.t. acetic acid plant (expanded in 2009 from 600,000 m.t., expandable to 1.5 million m.t. with AOPlus 2 technology {2011}), a 300,000 m.t. vinyl acetate monomer (VAM) plant, a 100,000 acetic anhydride plant and a 60,000 m.t. emulsions plant (which makes vinyl acetate/ethylene emulsions for use in low VOC paints; this facility is presently being expanded to 120,000 m.t. In addition, Ticona, Celanese engineering polymers business, has 2 facilities on the site including a Celstran long fiber reinforced thermoplastic production unit, a GUR ultra-high molecular weight polyethylene (UHMW-PE) production unit. Two additional Ticona plants are planned for the site including a compounding unit and a Vectra liquid crystal polymer production facility.

Carbon monoxide for acetic acid production in Nanjing is supplied by Wison (Nanjing) Chemical Company, a wholly owned subsidiary of the Wison Group Holding Limited (China). The feedstock for Wison's carbon monoxide production is coal which has an approximately 25% cost advantage versus natural gas-based carbon monoxide production.

In addition to being Celanese's largest chemical complex, Nanjing will eventually be its most profitable. When running at capacity, the Nanjing is expected to generate sales of around $1 billion, EBITDA of $200-$250 million, an ROIC of 25-30% and EPS of $1.10-$1.30.

To protect its intellectual property at Nanjing, Celanese has used multiple layers of protection. Celanese performed all engineering and design work and constructed all the critical equipment outside the country. In addition, security checks are performed on all key personnel and labs and other key areas are separated with limited rotation amongst these areas.

Figure 96: Nanjing integrated chemical complex plants and plant capacities (in m.t.)

Plant	Capacity	Start-Up	Comments
Acetyls			
Acetic Acid	1.2 million	2007	40% to merchant, 20% to VAM, 20% to Anhydride Expanded to 1.2MM m.t. from 600,000 .t. in 2009 Expandable to 1.5MM m.t. with AOPlus 2 technology (2011)
Vinyl Acetate Monomer (VAM)	300,000	2008	90% to merchant, 10% to emulsions
Acetic Anhydride	100,000	2007	
Emulsions	60,000	2007	Vinyl Acetate Emulsions – 48k, Conventional – 12k Being expanded to 120,000 m.t.
Ticona			
Celstran	4,000	2007	Expandable to 8,000 tons
GUR	16,000	2008	Expandable to 32,000 tons
Compounding	-	TBD	
Vectra	7,000	TBD	

Source: Celanese

Figure 97: When fully loaded, Nanjing's economics will be very highly attractive ($ in millions)

Sales	$1,000
EBITDA	$200-$250
Total Capital Deployed	$350
EBIT	$170-$220
Tax Rate	15.0%
EPS	$1.10-$1.30
ROIC	25-30%

Source: Deutsche Bank

Current trends: Q1 is off to a good start in China

With respect to recent trends and the current business environment in China, Celanese noted the following:

- Q1 is off to a good start in China with demand growing in-line with the Chinese economy (likely 10%-plus GDP in Q1).
- The Nanjing acetic acid facility is running close to 100%.
- Restocking has not been a major factor driving demand growth.
- Order patterns are stronger for domestically-oriented customers than for export-oriented customers.
- Acetic acid pricing strengthened after the Chinese New Year, driven primarily by higher feedstock methanol costs. Acid pricing in China is presently in the $425-$445/m.t. range.
- Acetic acid spot pricing in Asia is moving higher in March due to a heavy maintenance schedule, some supply allocations and seasonally higher demand.
- Celanese China acetic acid market share is 22%.
- BP YPC Acetyls 500,000 Nanjing acetic acid plant is mechanically complete. Start-up is expected in April 2010. BP's carbon monoxide feedstock is natural-gas based (higher cost than Celanese coal-based carbon monoxide feedstock). BP YPC Acetyl is a 50/50 JV between BP and Sinopec.

Appendix A: Global valuation

Figure 98: Global sector valuations

			Price	Target	Est. Earnings		P/E^		EV/EBITDA		Mkt Cap
	Rating	Cur.	22/03/2010	Price	FY09	FY10E	FY09	FY10E	FY09	FY10E	(US$ m)
EUROPE: MAJORS											
Arkema	Hold	EUR	27.8	24.0	-0.81	1.64	-34.3	16.9	6.5	4.6	2,274
BASF	Buy	EUR	44.7	51.0	3.01	3.80	14.9	11.8	6.6	5.6	55,563
Lanxess	Buy	EUR	34.6	38.0	1.14	2.78	30.3	12.4	8.9	6.4	3,892
Rhodia	Hold	EUR	15.1	NA	-0.62	1.37	-24.4	11.0	8.4	6.0	2,042
EUROPE: INDUSTRIAL GAS											
Air Liquide	Hold	EUR	88.2	84.0	4.70	5.39	18.8	16.4	9.5	8.6	31,207
Linde	Buy	EUR	88.4	100.0	4.55	6.37	19.4	13.9	8.8	7.5	20,156
EUROPE: SPECIALTY											
AkzoNobel	Hold	EUR	41.3	41.0	2.36	3.31	17.5	12.5	7.9	7.0	12,987
Clariant	Sell	CHF	13.0	8.0	-0.10	0.73	-136.3	17.9	7.2	6.6	2,985
Croda	Buy	GBP	932.0	1000.0	53.10	69.01	17.6	13.5	11.3	9.3	1,899
DSM	Hold	EUR	32.0	36.0	1.44	2.47	22.2	12.9	6.9	6.0	7,056
Givaudan	Hold	CHF	935.5	875.0	44.98	54.56	20.8	17.1	12.0	10.9	8,177
Johnson Matthey	Hold	GBP	1745.0	1400.0	89.61	85.69	19.5	20.4	10.7	11.3	5,544
Kemira	Hold	EUR	8.1	9.0	0.71	0.53	11.2	15.4	5.6	6.5	1,659
Sika	Buy	CHF	1766.0	2000.0	112.66	117.43	10.6	15.0	6.1	8.3	4,240
Symrise	Buy	EUR	16.5	20.0	1.11	1.34	15.0	12.3	10.3	9.0	1,846
Umicore	Sell	EUR	24.4	18.0	0.73	1.27	33.6	19.3	8.3	7.8	3,705
Victrex	Sell	GBP	879.0	675.0	21.67	46.03	40.6	19.1	21.1	11.5	684
Wacker	Hold	EUR	99.8	116.0	1.29	8.25	77.3	12.1	9.6	6.5	6,708
EUROPE: AGROCHEMICALS											
ICL	Hold	USD	49.8	48.0	0.62	0.87	21.2	15.1	14.2	10.9	17,169
K+S	Sell	EUR	44.6	37.0	0.56	2.06	79.2	21.6	21.2	12.4	11,550
MA Industries	Hold	USD	16.6	17.0	0.08	0.32	58.1	13.7	13.0	6.9	1,906
Syngenta	Buy	USD	296.0	350.0	16.61	19.75	17.0	14.3	9.4	8.9	25,952
Yara	Buy	NOK	262.3	310.0	8.82	23.92	29.7	11.0	16.8	7.5	12,729
EUROPE: PHARMA CHEMS											
Bayer	Buy	EUR	50.4	60.0	3.64	4.45	13.87	11.33	8.83	7.59	56,340
Solvay	Sell	EUR	74.1	63.0	7.11	3.19	10.42	23.18	5.98	1.75	8,109
US: MAJORS											
Celanese	Buy	$	31.9	40.0	1.7	2.9	18.8	11.0	7.8	6.3	4,819
DuPont	Buy	$	37.8	38.0	2.0	2.3	18.5	16.4	10.2	9.6	34,200
PPG	Hold	$	65.5	65.0	2.9	3.9	22.3	17.0	10.1	8.6	10,870
US: AGROCHEMICALS											
Agrium	Buy	$	70.6	85.0	2.3	5.0	30.5	14.1	14.6	8.2	11,089
Mosaic	Hold	$	59.2	65.0	4.2	2.2	14.0	26.9	9.2	13.6	26,343
Monsanto	Buy	$	72.7	100.0	4.4	3.4	16.5	21.4	10.0	12.1	39,635
Potash Corp.	Hold	$	123.0	120.0	3.2	5.5	37.8	22.5	26.6	14.8	36,393
US: INDUSTRIAL GAS											
Air Products	Hold	$	75.0	75.0	4.1	4.8	18.5	15.5	9.5	8.3	15,578
Praxair	Buy	$	82.1	90.0	4.0	4.6	20.6	18.0	11.3	10.2	25,237
Airgas	Buy	$	64.5	65.0	3.1	2.7	20.7	23.9	9.3	10.4	5,284
US: SPECIALTY											
Albemarle	Hold	$	43.1	40.0	1.9	2.6	22.8	16.9	14.0	10.6	3,969
Cytec	Hold	$	45.2	38.0	1.3	2.2	34.1	20.5	8.9	7.4	2,214
Ecolab	Hold	$	43.4	45.0	2.0	2.3	21.7	19.3	10.2	9.4	10,283
Valspar	Hold	$	29.2	29.0	1.8	2.0	16.5	14.6	9.1	8.3	2,895
ASIA/JAPAN: MAJORS											
Asahi Kasei	Buy	JPY	488	570	18.9	33.6	25.8	14.5	6.3	5.4	7554
Formosa Plastics	Buy	TWD	69.8	76.4	4.3	4.8	16.1	14.4	6.5	4.7	13440
Nan Ya Plastics	Buy	TWD	63.4	71.5	2.0	4.2	31.7	15.2	9.9	6.2	15661
Sumitomo Chemical	Buy	JPY	431	540	4.5	23.0	94.9	18.7	11.1	11.2	7876
ASIA/JAPAN: SPECIALTY											
JSR	Buy	JPY	1,846	2,500	47.1	114.6	39.2	16.1	10.1	6.7	1420
Nitto Denko	Hold	JPY	3,570	4,000	216.1	228.1	16.5	15.7	5.6	5.1	6583
Shin-Etsu Chemical	Hold	JPY	5,140	4,200	183.7	212.0	28.0	24.2	9.7	9.2	24293

*Source: Datastream, Capital IQ & Deutsche Bank estimates. Syngenta Share price is in Swiss Francs but reporting is in US dollars, ICL and MA Industries report in US$ while the stock price are in ILS. *For Johnson Matthey 2009E is March ending 2009. For 2009 number, some companies have already reported results so they might be actual numbers. For additional information on all stocks mentioned here please refer to our website at: http://gm.db.com.*

Figure 99: European Valuations

Company	Mkt Cap US$	Rec.	Cur	Price	Target	P/E			EV/EBITDA			EV/Sales			FCF Yield %			Dividend Yield%		
				22/03/10		09	10E	11E	09	10E	11E	09	10E	11E	09	10E	11E	09	10E	11E
Bulk						**22.6**	**13.0**	**9.6**	**7.6**	**5.7**	**5.0**	**0.8**	**0.8**	**0.7**	**12.9%**	**2.4%**	**7.0%**	**2.3%**	**2.6%**	**3.1%**
Arkema	2,274	Hold	EUR	27.81	24.0	-34.3	16.9	10.9	6.5	4.6	4.0	0.5	0.4	0.4	9.0%	-2.2%	5.3%	2.2%	2.2%	2.8%
BASF	55,563	Buy	EUR	44.71	51.0	14.9	11.8	10.4	6.6	5.6	5.0	1.1	1.0	0.9	9.2%	7.8%	8.2%	3.8%	4.4%	4.8%
Lanxess	3,892	Buy	EUR	34.57	38.0	30.3	12.4	9.3	8.9	6.4	5.4	0.8	0.7	0.7	10.1%	-0.3%	4.7%	1.4%	2.2%	2.9%
Rhodia	2,042	Hold	EUR	15.11	NA	-24.4	11.0	8.0	8.4	6.0	5.4	1.0	0.9	0.9	23.5%	4.3%	9.6%	1.7%	1.7%	2.0%
Industrial Gases						**19.1**	**15.1**	**13.2**	**9.2**	**8.1**	**7.3**	**2.2**	**2.0**	**1.8**	**4.7%**	**3.9%**	**4.8%**	**2.3%**	**2.6%**	**2.9%**
Air Liquide	31,207	Hold	EUR	88.20	84.0	18.8	16.4	14.7	9.5	8.6	7.9	2.3	2.2	2.0	4.5%	3.6%	3.8%	2.6%	2.9%	3.2%
Linde	20,156	Buy	EUR	88.41	100.0	19.4	13.9	11.6	8.8	7.5	6.6	2.0	1.8	1.6	4.9%	4.3%	5.7%	2.0%	2.4%	2.6%
Specialties						**12.5**	**15.6**	**13.2**	**9.7**	**8.4**	**7.4**	**1.9**	**1.7**	**1.6**	**9.8%**	**4.2%**	**6.1%**	**2.6%**	**2.6%**	**2.9%**
AkzoNobel	12,987	Hold	EUR	41.32	41.0	17.5	12.5	10.7	7.9	7.0	6.3	1.0	1.0	0.9	7.4%	3.7%	6.8%	4.4%	3.3%	3.8%
Clariant	2,985	Sell	CHF	12.97	8.0	-136.3	17.9	13.6	7.2	6.6	6.2	0.6	0.6	0.6	21.2%	2.0%	1.8%	0.0%	0.8%	1.2%
Croda	1,899	Buy	GBP	932.00	1000.0	17.6	13.5	12.4	11.3	9.3	8.5	1.9	1.7	1.6	9.1%	6.2%	7.5%	2.3%	2.5%	2.8%
DSM	7,056	Hold	EUR	32.00	36.0	22.2	12.9	10.3	6.9	6.0	5.2	0.8	0.8	0.8	15.8%	3.0%	9.6%	3.8%	3.8%	3.8%
Givaudan	8,177	Hold	CHF	935.50	875.0	20.8	17.1	15.4	12.0	10.9	10.1	2.5	2.5	2.3	6.1%	4.8%	5.8%	2.2%	2.2%	2.3%
Johnson Matthey	5,544	Hold	GBP	1745.00	1400.0	19.5	20.4	17.6	10.7	11.3	10.2	2.4	2.5	2.2	7.9%	0.1%	2.4%	2.1%	2.1%	2.2%
Kemira	1,659	Hold	EUR	8.10	9.0	11.2	15.4	13.8	5.6	6.5	6.1	0.6	0.7	0.7	21.6%	12.1%	7.9%	3.4%	3.7%	3.7%
Sika	4,240	Buy	CHF	1766.00	2000.0	10.6	15.0	11.8	6.1	8.3	6.6	0.8	1.1	0.9	12.2%	7.4%	9.0%	3.8%	2.5%	2.8%
Symrise	1,846	Buy	EUR	16.53	20.0	15.0	12.3	11.2	10.3	9.0	8.3	2.0	1.9	1.8	7.5%	7.7%	8.6%	3.0%	3.6%	4.2%
Umicore	3,705	Sell	EUR	24.38	18.0	33.6	19.3	14.8	8.3	7.8	6.5	1.3	1.5	1.4	9.5%	-0.8%	3.5%	2.7%	2.7%	2.7%
Victrex	684	Sell	GBP	879.00	675.0	40.6	19.1	16.9	21.1	11.5	10.0	6.9	4.5	4.0	1.1%	4.2%	5.3%	2.2%	2.3%	2.4%
Wacker	6,708	Hold	EUR	99.80	116.0	77.3	12.1	10.0	9.6	6.5	5.2	1.7	1.6	1.4	-1.4%	-0.5%	5.2%	1.0%	2.1%	2.5%
Agrochemicals						**41.0**	**15.1**	**11.7**	**14.9**	**9.3**	**7.6**	**2.2**	**2.0**	**1.8**	**5.4%**	**6.2%**	**6.3%**	**2.2%**	**2.7%**	**3.5%**
ICL	17,169	Hold	USD	49.75	48.0	21.2	15.1	11.9	14.2	10.9	8.7	3.8	3.2	2.8	4.1%	4.7%	6.9%	3.3%	4.3%	5.9%
K+S	11,550	Sell	EUR	44.60	37.0	79.2	21.6	14.2	21.2	12.4	9.0	2.4	2.1	1.9	4.9%	3.2%	3.5%	0.4%	1.9%	3.2%
MA Industries	1,906	Hold	USD	16.55	17.0	58.1	13.7	10.2	13.0	6.9	6.1	1.3	1.1	1.1	3.4%	13.6%	6.5%	3.7%	2.9%	3.9%
Syngenta	25,952	Buy	USD	296.00	350.0	17.0	14.3	12.5	9.4	8.9	7.8	2.0	2.1	1.9	4.2%	5.8%	7.0%	2.0%	2.4%	2.6%
Yara	12,729	Buy	NOK	262.30	310.0	29.7	11.0	9.5	16.8	7.5	6.3	1.5	1.2	1.1	10.1%	3.5%	7.5%	1.7%	1.9%	2.1%
Hybrids						**12.1**	**17.3**	**14.2**	**7.4**	**4.7**	**4.3**	**1.4**	**0.9**	**0.9**	**10.8%**	**4.3%**	**5.3%**	**2.9%**	**3.1%**	**3.5%**
Bayer	56,340	Buy	EUR	50.41	60.0	13.9	11.3	10.6	8.8	7.6	6.9	1.8	1.7	1.5	10.6%	7.7%	8.4%	2.8%	2.9%	3.1%
Solvay	8,109	Sell	EUR	74.07	63.0	10.4	23.2	17.8	6.0	1.7	1.6	0.9	0.2	0.2	11.0%	0.9%	2.3%	3.0%	3.4%	3.9%
Sector Average						**27.2**	**15.2**	**12.4**	**10.1**	**7.9**	**6.8**	**1.8**	**1.6**	**1.4**	**9.1%**	**4.3%**	**6.1%**	**2.5%**	**2.7%**	**3.1%**

Notes:

1) FCF defined as free cashflow before acquisitions, dividends and share buyback programmes but after restructuring payments. 2) FCF Yield is defined as FCF / Market Cap

Source: Deutsche Bank estimates, Syngenta Share price is in Swiss Francs but reporting is in US dollars, ICL and MA Industries report in US$ while the stock price are in ILS. For 2009 number, some companies have already reported results so they might be actual numbers.

Figure 100: European chemical sector financial performance

Company	Sales			Net debt	Net Debt /EBITDA	BV/Share	EBIT Margin			EBITDA Margin			CFRoA			RoCE			RoE		
	09E	10E	11E	09	09	09	09	10E	11E	09	10E	11E	09	10E	11E	09	10E	11E	09	10E	11E
Bulk							**8.8**	**11.2**	**12.2**	**15.9**	**17.2**	**18.1**	**16.4**	**19.2**	**20.7**	**11.2**	**15.2**	**17.2**	**13.9**	**17.2**	**18.3**
Arkema (Euro)	4,444	4,783	4,960	341	1.1	31.32	0.9	3.8	4.7	7.0	9.6	10.3	8.0	11.6	12.8	1.4	6.1	7.7	-2.7	5.6	8.2
BASF (Euro)	50,693	54,855	56,907	12,969	1.5	19.03	9.6	11.9	12.9	16.9	18.0	18.8	17.3	20.0	21.5	12.1	15.8	17.7	15.8	18.8	19.8
Lanxess (Euro)	5,057	5,735	6,182	794	1.7	17.37	4.0	6.8	8.1	9.2	11.6	12.6	9.1	12.6	14.4	5.1	10.8	14.0	4.3	10.2	12.7
Rhodia (Euro)	4,031	4,478	4,617	1,029	2.1	-5.38	5.4	8.8	9.5	12.1	15.1	15.7	13.5	18.4	19.1	9.8	17.5	19.3	24.6	-16.4	-28.6
Industrial Gases							**14.1**	**15.7**	**16.5**	**23.5**	**24.7**	**25.3**	**15.9**	**17.3**	**18.1**	**14.7**	**16.4**	**17.5**	**13.8**	**14.9**	**15.3**
Air Liquide (Euro)	11,976	12,940	13,944	4,891	1.6	31.36	16.4	17.4	17.7	25.0	25.9	26.2	15.5	16.5	17.0	13.7	14.9	15.5	16.2	16.6	16.5
Linde (Euro)	11,211	12,064	12,837	6,119	2.6	49.26	10.4	13.2	14.5	21.3	22.9	23.8	16.6	18.6	19.9	16.3	18.7	20.6	10.1	12.3	13.3
Specialties							**9.6**	**12.5**	**13.4**	**16.1**	**18.4**	**19.2**	**12.3**	**14.7**	**15.9**	**9.3**	**13.1**	**14.4**	**9.0**	**13.7**	**14.4**
AkzoNobel (Euro)	13,893	14,409	14,993	1,744	1.0	59.88	9.4	10.2	10.7	12.7	13.5	14.1	11.1	12.4	13.2	7.4	8.3	9.1	7.0	9.6	10.7
Clariant (CHF)	6,614	6,947	7,097	545	1.1	8.21	4.1	6.0	6.3	7.5	9.3	9.7	7.1	9.0	9.5	5.1	8.4	8.9	-0.5	4.5	5.8
Croda(GBP)	916	989	1,024	289	1.9	155.22	13.1	14.9	15.4	16.9	18.7	19.1	15.6	19.4	20.1	15.9	20.8	21.9	34.2	49.9	40.5
DSM (Euro)	7,732	8,103	8,349	830	0.9	30.36	5.7	7.5	8.8	11.9	13.3	14.5	11.1	12.8	14.1	7.2	9.3	11.0	4.7	7.8	9.3
Givaudan (CHF)	3,959	4,097	4,231	2,248	2.7	354.32	13.3	15.1	15.4	20.7	22.7	22.8	11.6	13.2	13.9	12.3	14.3	15.1	13.9	13.8	14.5
JMAT (GBp)	1,789	1,962	2,152	582	1.5	603.00	15.4	15.9	16.2	21.7	21.9	21.8	15.0	15.8	16.6	14.9	15.9	17.2	14.2	15.0	15.4
Symrise (Euro)	1,362	1,420	1,471	574	2.2	5.66	13.4	15.0	15.7	19.5	20.9	21.4	14.6	16.2	17.1	13.2	15.0	16.0	19.0	21.0	21.0
Umicore (Euro)	1,723	1,823	1,934	161	0.6	11.70	8.5	12.7	15.0	15.0	19.4	21.6	9.8	12.3	13.9	8.2	10.5	12.7	5.6	10.3	12.4
Victrex (GBp)	104	156	169	-19	-0.5	2.04	24.2	34.1	35.6	32.7	38.9	40.1	16.9	28.7	30.1	14.7	29.2	31.3	10.6	21.2	21.1
Wacker (Euro)	3,695	4,099	4,594	167	0.3	41.55	3.8	14.2	16.1	17.9	24.4	26.2	15.0	21.6	24.0	5.5	20.4	22.8	3.1	18.8	19.7
Agrochemicals							**14.0**	**18.4**	**20.4**	**18.4**	**22.4**	**24.3**	**15.1**	**20.3**	**23.0**	**17.9**	**25.2**	**29.1**	**17.6**	**23.9**	**26.1**
ICL (US$)	4,666	5,450	6,063	490	0.4	1.99	21.7	25.2	28.3	26.4	29.3	32.3	23.9	29.4	34.6	31.5	39.9	47.0	29.9	36.5	40.9
K+S (Euro)	3,574	4,526	4,979	738	1.8	11.46	6.7	13.0	17.3	11.5	17.2	21.2	8.8	16.3	21.0	8.3	17.1	24.4	4.9	17.9	24.1
MA Industries (US$)	2,215	2,376	2,526	958	4.4	3.04	5.4	12.0	13.5	9.9	16.5	17.8	6.9	12.2	13.1	5.4	13.0	14.4	2.6	10.1	12.3
Syngenta (US$)	10,992	12,005	12,775	1,802	0.8	76.16	17.4	19.6	20.4	21.6	23.8	24.5	15.7	18.0	19.1	20.2	23.7	25.5	20.7	22.1	22.2
Yara (NOK)	61,418	71,053	74,854	16,228	3.0	102.2	4.9	12.7	13.6	8.9	16.3	17.2	9.0	17.9	19.4	5.6	18.2	19.7	8.8	18.6	18.4
Hybrids							**14.3**	**15.8**	**15.9**	**20.2**	**20.9**	**21.1**	**14.7**	**15.4**	**16.3**	**9.9**	**13.9**	**14.9**	**13.6**	**15.4**	**15.7**
Bayer (Euro)	31,168	33,233	34,709	10,224	1.6	22.46	14.8	17.2	17.2	20.8	22.2	22.2	15.3	15.6	16.6	9.7	14.4	15.5	14.1	17.2	17.4
Solvay (Euro)	8485	6436	6397	1333	1.0	69.29	10.7	6.4	7.1	16.5	12.6	13.4	10.8	14.1	14.9	10.9	10.6	11.3	10.3	3.5	4.4
Sector Average							**12.2**	**14.8**	**15.8**	**18.7**	**20.7**	**21.6**	**14.9**	**17.5**	**19.0**	**12.7**	**17.0**	**19.0**	**14.0**	**17.2**	**18.1**

Notes:

1) BV/Share adjusted for previously written-off goodwill.
2) EBITA and EBITDA margins shown on an underlying basis where possible
3) CFRoA is defined as EBITDA divided by Total Assets (adjusted for Goodwill write-offs) minus Cash

Source: Deutsche Bank estimates, Syngenta Share price is in Swiss Francs but reporting is in US dollars, ICL and MA Industries report in US$ while the stock price are in ILS. Croda BV/Share is in Pence. For 2009 number, some companies have already reported results so they might be actual numbers.

Figure 101: Chemicals valuation ratios comparables

Chemical Comparables Valuation Ratios — Deutsche Bank US Chemicals Team

Market Segment/ Company	Symbol	Rating	Price 3/22/10	52-Week Range		Mkt Cap ($MM)	P/E Ratio		P/E Rel. to S&P 500		EV/EBITDA		FCF Yield		P/FCF		Div. Yield	Net Debt/ '10E EBITDA
							2010E	2011E	2010E	2011E	2010E	2011E	2010E	2011E	2010E	2011E		
Specialty Chemicals																		
Albemarle	ALB	Hold	$ 43.05	$ 43	$ 20	$ 3,931	16.9	14.3	1.12	1.09	10.6	9.5	3.4%	5.0%	29.7	20.1	1.2%	1.2
Arch Chemicals	ARJ	-	$ 35.14	$ 35	$ 18	$ 882	17.5	15.4	1.16	1.17	7.1	6.8	-	-	-	-	2.3%	1.0
Ashland	ASH	Hold	$ 52.51	$ 54	$ 7	$ 3,938	-	13.6	--	1.03	5.6	5.5	7.0%	3.7%	14.4	27.2	0.6%	1.4
Cabot	CBT	Hold	$ 30.95	$ 32	$ 9	$ 1,990	16.3	15.1	1.08	1.14	7.2	7.0	0.8%	6.2%	130.4	16.0	2.3%	1.2
Compass Minerals	CMP	Hold	$ 80.99	$ 83	$ 46	$ 2,644	13.0	11.7	0.86	0.88	8.2	7.5	10.5%	8.8%	9.5	11.4	1.8%	1.3
Cytec	CYT	Hold	$ 45.19	$ 46	$ 13	$ 2,202	20.5	16.7	1.37	1.27	7.4	6.6	(3.4%)	0.1%	-29.6	893.5	0.4%	1.2
Ecolab	ECL	Hold	$ 43.39	$ 48	$ 32	$ 10,251	19.3	17.4	1.28	1.31	9.4	8.8	5.0%	5.2%	20.0	19.3	1.3%	0.8
Ferro	FOE	Hold	$ 8.78	$ 10	$ 1	$ 447	-	13.6	--	1.03	4.5	4.0	7.1%	4.2%	14.1	24.0	0.1%	2.1
H.B. Fuller	FUL	Hold	$ 22.79	$ 25	$ 12	$ 1,109	14.2	13.6	0.95	1.03	7.0	6.8	9.1%	7.3%	11.0	13.8	1.2%	0.7
W.R. Grace	GRA	-	$ 28.57	$ 30	$ 6	$ 2,066	-	11.5	-	0.87	-	-	-	-	-	-	-	
Lubrizol	LZ	Buy	$ 90.35	$ 91	$ 31	$ 6,183	10.9	10.0	0.73	0.76	6.0	5.6	5.5%	6.2%	18.2	16.1	1.4%	0.5
3M	MMM	Buy	$ 81.84	$ 85	$ 47	$ 58,155	16.0	14.5	1.07	1.10	9.5	8.8	5.0%	5.5%	19.9	18.2	2.5%	0.4
Minerals Technologies	MTX	-	$ 53.76	$ 57	$ 30	$ 1,008	--	17.5	--	1.32	5.6	5.3	-	-	-	-	0.4%	
Nalco	NLC	Hold	$ 24.17	$ 27	$ 12	$ 3,343	18.6	14.6	1.24	1.11	8.4	7.6	3.2%	6.2%	31.1	16.1	0.6%	3.8
OM Group	OMG	-	$ 34.95	$ 37	$ 19	$ 1,068	-	13.3	-	1.01	4.1	-			-	-	-	
Polyone	POL	-	$ 10.40	$ 11	$ 2	$ 962	-	15.1	-	1.14	6.3	5.7			-	-	-	1.0
RPM	RPM	-	$ 21.19	$ 21	$ 12	$ 2,744	13.8	11.8	0.92	0.90	7.6	6.9			-	-	3.8%	1.3
Rockwood	ROC	Buy	$ 26.22	$ 27	$ 8	$ 1,944	26.3	16.4	1.75	1.24	7.2	6.6	7.6%	8.8%	13.2	11.3	-	3.6
A. Schulman	SHLM	-	$ 26.29	$ 26	$ 11	$ 686	-	12.8	-	0.97	-	-	0.0%	0.0%	-	-	2.3%	
Synthesis Energy	SYMX	Buy	$ 0.97	$ 2	$ 0	$ 47	-	-	-	-	-	-			-	--	-	2.8
Valspar	VAL	Hold	$ 29.20	$ 30	$ 19	$ 2,900	14.6	13.6	0.97	1.03	8.3	7.8	6.8%	6.8%	14.7	14.7	2.1%	1.7
Specialty Chemical Average							**16.5**	**14.1**	**1.10**	**1.06**	**7.2**	**6.8**	**4.8%**	**5.3%**	**22.7**	**80.1**	**1.5%**	**1.2**

Source: Deutsche Bank

Figure 102: Chemicals valuation ratios (continued)

Chemical Comparables Valuation Ratios — Deutsche Bank US Chemicals Team

Market Segment/ Company	Symbol	Rating	Price 3/22/10	52-Week Range		Mkt Cap ($MM)	P/E Ratio 2010E	P/E Ratio 2011E	P/E Rel. to S&P 500 2010E	P/E Rel. to S&P 500 2011E	EV/EBITDA 2010E	EV/EBITDA 2011E	FCF Yield 2010E	FCF Yield 2011E	P/FCF 2010E	P/FCF 2011E	Div. Yield	Net Debt/ LTM EBITDA
Industrial Gases																		
Airgas	ARG	Buy	$ 64.51	$ 66	$ 30	$ 5,286	23.9	20.8	1.59	1.57	10.4	9.6	5.3%	3.1%	18.8	32.0	1.1%	2.4
Air Products	APD	Hold	$ 75.01	$ 85	$ 55	$ 15,914	15.5	13.9	1.03	1.05	8.3	7.7	0.1%	3.1%		32.6	2.4%	1.7
Praxair	PX	Buy	$ 82.07	$ 86	$ 62	$ 25,180	18.0	16.1	1.20	1.22	10.2	9.4	2.8%	3.2%	36.1	31.0	1.9%	1.7
Industrial Gases Average							**19.1**	**16.9**	**1.27**	**1.28**	**9.6**	**8.9**	**2.7%**	**3.1%**	**27.4**	**31.9**	**1.8%**	**1.9**
Differentiated Chemicals																		
Celanese	CE	Buy	$ 31.87	$ 35	$ 12	$ 4,602	11.0	9.4	0.73	0.71	6.3	5.7	6.0%	8.4%	16.8	11.9	0.5%	2.1
Dupont	DD	Buy	$ 37.79	$ 38	$ 21	$ 34,152	16.4	14.3	1.09	1.08	9.6	8.7	5.2%	5.4%	19.1	18.5	4.3%	1.9
FMC	FMC	-	$ 60.61	$ 61	$ 40	$ 4,413	13.2	11.9	0.88	0.90	7.6	6.8					0.8%	0.9
Spartech	SEH	Buy	$ 11.71	$ 14	$ 2	$ 362	13.7	11.2	0.91	0.85	5.3	4.8	15.8%	15.7%	6.3	6.4	-	1.8
Eastman Chemical	EMN	Buy	$ 62.58	$ 63	$ 24	$ 4,530	14.4	12.0	0.96	0.91	6.4	5.8	7.3%	7.1%	13.7	14.1	2.8%	1.0
PPG	PPG	Hold	$ 65.48	$ 66	$ 35	$ 10,848	17.0	14.5	1.13	1.10	8.6	7.8	2.4%	5.4%	41.1	18.4	3.3%	1.9
Differentiated Chemical Average							**14.3**	**12.2**	**1.0**	**0.9**	**7.3**	**6.6**	**0.1**	**0.1**	**19.4**	**13.9**	**2.3%**	**1.6**
Commodity Chemicals																		
Georgia Gulf	GGC	-	$ 17.21	$ 47	$ 6	$ 580	-	-	-	-	8.3	6.4					-	4.5
Methanex	MEOH	-	$ 24.55	$ 27	$ 7	$ -	-	7.9	-	0.60	2.0	1.5					2.5%	1.7
Olin	OLN	-	$ 18.95	$ 19	$ 11	$ 1,493	25.5	15.7	1.70	1.19	6.7	5.5					4.2%	-
Westlake Chemical	WLK	Hold	$ 23.82	$ 28	$ 14	$ 1,572	17.6	16.3	1.17	1.23	6.4	6.1	1.1%	6.3%			0.9%	0.9
Commodity Chemical Average							**21.6**	**13.3**	**1.4**	**1.0**	**6.2**	**5.1**	**0.0**	**0.1**	**15.4**	**10.3**	**0.0**	**2.5**
Ag Biotech																		
Monsanto	MON	Buy	$ 72.67	$ 93	$ 67	$ 39,635	21.4	16.5	1.42	1.25	12.1	9.8	2.6%	3.9%	37.7	25.7	1.8%	0.5
Syngenta	SYT	-	$ 2.35	$ 3	$ 2	$ 12	39.2	10.2	2.61	0.77	2.7	1.9	0.0%	0.0%	0.0	0.0	-	-0.8
Dupont	DD	Buy	$ 37.79	$ 38	$ 21	$ 34,152	16.4	14.3	1.09	1.08	9.6	8.7	5.2%	5.4%	1907.6%	1853.7%	4.3%	1.9
Ag Biotech Average																		
Agchems/Fertilizers																		
Agrium	NYSE:AGU	Buy	$ 70.63	$ 74	$ 35	$ 11,089	14.1	11.7	0.94	0.88	8.2	7.0	3.8%	9.0%	26.3	11.2	0.2%	0.6
CF Industries	CF	-	$ 92.55	$ 110	$ 65	$ 4,496	13.4	13.4	--	-	5.5	5.3					0.4%	-1.3
Intrepid Potash	IPI	-	$ 30.70	$ 35	$ 17	$ 2,304	31.5	19.4	--	-	15.8	10.1					-	-0.7
Mosaic	MOS	Hold	$ 59.19	$ 68	$ 37	$ 26,343	26.9	14.8	1.79	1.12	13.6	8.4	1.8%	2.5%	56.2	40.5	0.5%	-0.7
Potash Corp.	POT	Hold	$ 122.96	$ 128	$ 77	$ 36,393	22.5	17.6	1.50	1.33	14.8	11.8	(1.7%)	(0.6%)	-58.0	-156.9	0.3%	1.4
Terra	TRA	-	$ 45.79	$ 47	$ 24	$ 4,584	15.4	13.4	1.03	1.01	8.9	8.1					0.9%	0.2
Ag/Fertilizer Average							**20.7**	**15.0**	**1.3**	**1.1**	**11.1**	**8.5**	**0.0**	**0.0**	**8.2**	**-35.1**	**0.0**	**-0.1**

Source: Deutsche Bank

Figure 103: Chemicals valuation metrics

Chemical Comparables Valuation Metrics

Deutsche Bank US Chemicals Team

Market Segment/ Company	Symbol	Rating	Price 3/22/10	52-Week Range		Mkt Cap ($MM)	EV ($MM)	Earnings Per Share CY2010E	Earnings Per Share CY2011E	EPS Change 2010E	EPS Change 2011E	EBITDA Per Share 2010E	EBITDA Per Share 2011E	FCF Per Share 2010E	FCF Per Share 2011E
Specialty Chemicals															
Albemarle	ALB	Hold	$ 43.05	$ 43	$ 20	$ 3,931	$ 4,483	$2.55	$3.00	35%	18%	$4.57	$5.13	$ 1.45	$ 2.14
Arch Chemicals	ARJ	-	$ 35.14	$ 35	$ 18	$ 882	$ 1,027	$2.01	$2.28		-	$5.77	$6.05		
Ashland	ASH	-	$ 52.51	$ 54	$ 7	$ 3,938	$ 5,199	$3.65	$3.85	17%	6%	$36.90	$37.97	$ 3.65	$ 1.93
Cabot	CBT	Hold	$ 30.95	$ 32	$ 9	$ 1,990	$ 2,493	$1.90	$2.05	908%	8%	$5.38	$5.58	$ 0.24	$ 1.93
Compass Minerals	CMP	Hold	$ 80.99	$ 83	$ 46	$ 2,644	$ 3,121	$6.25	$6.95	25%	11%	$11.43	$12.54	$ 8.53	$ 7.10
Cytec	CYT	Hold	$ 45.19	$ 46	$ 13	$ 2,202	$ 2,630	$2.20	$2.70	66%	23%	$7.20	$7.99	$ (1.53)	$ 0.05
Ecolab	ECL	Hold	$ 43.39	$ 48	$ 32	$ 10,251	$ 11,154	$2.25	$2.50	13%	11%	$4.90	$5.26	$ 2.17	$ 2.24
Ferro	FOE	Hold	$ 8.78	$ 10	$ 1	$ 447	$ 862	$0.45	$0.65	(660%)	45%	$2.23	$2.52	$ 0.62	$ 0.37
H.B. Fuller	FUL	Hold	$ 22.79	$ 25	$ 12	$ 1,109	$ 1,226	$1.60	$1.68	11%	5%	$3.52	$3.67	$ 2.07	$ 1.66
W.R. Grace	GRA	-	$ 28.57	$ 30	$ 6	$ 2,066	$ 2,088	$2.63	$2.48			$0.00	$0.00		
Lubrizol	LZ	Buy	$ 90.35	$ 91	$ 31	$ 6,183	$ 6,827	$8.25	$9.00	9%	9%	$16.18	$17.34	$ 4.97	$ 5.62
3M	MMM	Buy	$ 81.84	$ 85	$ 47	$ 58,155	$ 61,363	$5.10	$5.65	9%	11%	$8.97	$9.76	$ 4.12	$ 4.49
Minerals Technologies	MTX	-	$ 53.76	$ 57	$ 30	$ 1,008	$ 816	$2.83	$3.08	65%	9%	$7.78	$8.26		
Nalco	NLC	Hold	$ 24.17	$ 27	$ 12	$ 3,343	$ 6,180	$1.30	$1.65	46%	27%	$5.28	$5.84	$ 0.78	$ 1.50
OM Group	OMG	-	$ 34.95	$ 37	$ 19	$ 1,068	$ 757	$2.47	$2.63	133%	7%	$6.07	$5.76		
Polyone	POL	-	$ 10.40	$ 11	$ 2	$ 962	$ 1,149	$0.57	$0.69	-	-	$1.97	$2.17		
RPM	RPM	-	$ 21.19	$ 21	$ 12	$ 2,744	$ 3,286	$1.54	$1.79	19%	16%	$3.32	$3.66		
Rockwood	ROC	Buy	$ 26.22	$ 27	$ 8	$ 1,944	$ 4,462	$1.00	$1.60	213%	60%	$8.09	$8.95	$ 1.99	$ 2.32
A. Schulman	SHLM	-	$ 26.29	$ 26	$ 11	$ 686	$ 562	$1.46	$2.06	37%	-	$0.00	$0.00		
Synthesis Energy	SYMX	Buy	$ 0.97	$ 2	$ 0	$ 47	$ 6	-$0.35	-$0.35	(41%)	(0%)	($0.30)	($0.09)	$ (0.37)	$ (0.43)
Valspar	VAL	Hold	$ 29.20	$ 30	$ 19	$ 2,900	$ 3,650	$2.00	$2.15	13%	8%	$4.34	$4.63	$ 1.98	$ 1.98
Specialty Chemical Average										**48%**	**16%**				

Source: Deutsche Bank

Figure 104: Chemicals valuation metrics (continued)

Chemical Comparables Valuation Metrics

Deutsche Bank US Chemicals Team

Market Segment/ Company	Symbol	Rating	Price 3/22/10	52-Week Range		Mkt Cap ($MM)	EV ($MM)	Earnings Per Share 2010E	Earnings Per Share 2011E	EPS Change 2010E	EPS Change 2011E	EBITDA Per Share 2010E	EBITDA Per Share 2011E	FCF Per Share 2010E	FCF Per Share 2011E
Industrial Gases															
Airgas	ARG	Buy	$ 64.51	$ 66	$ 30	$ 5,286	$ 6,867	$2.70	$3.10	(13%)	15%	$7.90	$8.54	$ 3.43	$ 2.01
Air Products	APD	Hold	$ 75.01	$ 85	$ 55	$ 15,914	$ 20,159	$4.85	$5.40	19%	11%	$11.24	$12.05	$ 0.05	$ 2.30
Praxair	PX	Buy	$ 82.07	$ 86	$ 62	$ 25,180	$ 30,523	$4.55	$5.10	14%	12%	$9.59	$10.44	$ 2.27	$ 2.64
Industrial Gases Average										**7%**	**13%**				
Differentiated Chemicals															
Celanese	CE	Buy	$ 31.87	$ 35	$ 12	$ 4,602	$ 6,849	$2.90	$3.40	71%	17%	$6.88	$7.59	$ 1.90	$ 2.67
Dupont	DD	Buy	$ 37.79	$ 38	$ 21	$ 34,152	$ 43,409	$2.30	$2.65	13%	15%	$4.99	$5.50	$ 1.98	$ 2.04
FMC	FMC	-	$ 60.61	$ 61	$ 40	$ 4,413	$ 5,037	$4.58	$5.11	10%	12%	$9.07	$10.18		
Spartech	SEH	Buy	$ 11.71	$ 14	$ 2	$ 362	$ 542	$0.85	$1.05	121%	23%	$3.35	$3.68	$ 1.85	$ 1.84
Eastman Chemical	EMN	Buy	$ 62.58	$ 63	$ 24	$ 4,530	$ 5,357	$4.35	$5.20	20%	20%	$11.27	$12.57	$ 4.58	$ 4.44
PPG	PPG	Hold	$ 65.48	$ 66	$ 35	$ 10,848	$ 14,078	$3.85	$4.50	31%	17%	$9.83	$10.84	$ 1.59	$ 3.56
Differentiated Chemical Average										**44%**	**17%**				
Commodity Chemicals															
Georgia Gulf	GGC	-	$ 17.21	$ 47	$ 6	$ 580	$ 1,281	($0.43)	$0.38	(93%)	-	$4.59	$5.95		
Methanex	MEOH	-	$ 24.55	$ 27	$ 7	$ -	$ 927	$1.95	$3.12	19430%	60%	NM	NM		
Olin	OLN	-	$ 18.95	$ 19	$ 11	$ 1,493	$ 1,433	$0.74	$1.21	(24%)	63%	$2.72	$3.33		
Westlake Chemical	WLK	Hold	$ 23.82	$ 28	$ 14	$ 1,572	$ 1,841	$1.35	$1.46	70%	8%	$4.41	$4.58	$ 0.25	$ 1.50
Commodity Chemical Average										**4846%**	**43%**				
Ag Biotech															
Monsanto	MON	Buy	$ 72.67	$ 93	$ 67	$ 39,635	$ 41,226	$3.40	$4.40	(23%)	29%	$6.13	$7.57	$ 1.93	$ 2.83
Syngenta	SYT	-	$ 2.35	$ 3	$ 2	$ 12	$ 10	$0.06	$0.23	(129%)	283%	$0.25	$0.67		
Dupont	DD	Buy	$ 37.79	$ 38	$ 21	$ 34,152	$ 43,409	$2.30	$2.65	13%	15%	$4.99	$5.50	$ 1.98	$ 2.04
Ag Biotech Average															
Fertilizers															
Agrium	NYSE:AG	Buy	$ 70.63	$ 74	$ 35	$ 11,089	$ 11,972	$5.00	$6.05	116%	21%	$9.23	$10.80	$ 2.68	$ 6.32
CF Industries	CF	-	$ 92.55	$ 110	$ 65	$ 4,496	$ 3,635	6.9	6.90	(12%)	0%	13.5	14.2		
Intrepid Potash	IPI	-	$ 30.70	$ 35	$ 17	$ 2,304	$ 2,206	1.0	1.58	32%	62%	1.9	2.9		
Mosaic	MOS	Hold	$ 59.19	$ 68	$ 37	$ 26,343	$ 25,112	$2.20	$4.00	(48%)	82%	$4.13	$6.68	$ 1.05	$ 1.46
Potash Corp.	POT	Hold	$ 122.96	$ 128	$ 77	$ 36,393	$ 40,056	$5.45	$7.00	68%	28%	$8.90	$11.11	$ (2.12)	$ (0.78)
Terra	TRA	-	$ 45.79	$ 47	$ 24	$ 4,584	$ 4,779	$2.97	$3.43	25%	15%	$5.35	$5.88		

Source: Deutsche Bank

Appendix B: Key economic indicators

Figure 105: GDP growth % yoy

	2009	2010E	2011E
Industrial countries			
USA	-2.4	3.8	3.5
Japan	-5.1	2.2	0.8
Euroland	-4.0	1.1	1.2
> Germany	-4.9	2.0	1.5
> France	-2.2	1.2	1.3
> Italy	-4.9	0.9	1.0
UK	-4.8	1.5	2.5
Canada	-2.5	3.0	3.5
Australia	0.9	2.6	3.7
Emerging Markets			
Russia	-7.9	3.8	4.5
China	**8.7**	9.8	9.3
India	5.7	7.6	7.6
Brazil	-0.2	5.8	4.5

Source: National authorities, Deutsche Bank Economic Research

Appendix 1

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Equity rating key	Equity rating dispersion and banking relationships

Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield) , we recommend that investors buy the stock.

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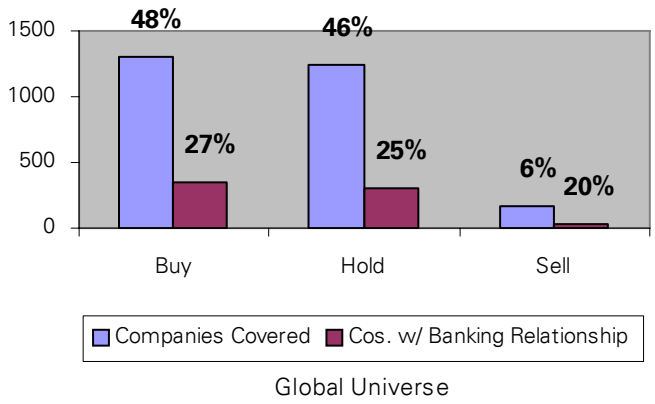

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