

Royal Dutch Shell: Reining in capex, increasing returns

Why the interest in Shell?

For various reasons Royal Dutch Shell (Shell) did not invest enough in new oil and gas reserves in the 1990's and the early 2000's. This ultimately led to the reserve scandal of 2004 when Shell was exposed for overstating their oil and gas reserves. The scandal was a hugely embarrassing reversal for such a venerable oil company. Thereafter Shell tightened up in several areas – leadership, management, listing structure etc. – and embarked on a capital investment drive to boost reserves. This coincided with the new era of expensive oil, when unconventional oil (shale, deep water etc.) became the new source of oil discoveries while cheaper, conventional oil resources became harder to find. By the end of 2013, the era of expensive oil had driven up exploration costs for all the oil majors and lowered their returns on capital, particularly Shell's. For example, in 2013 Shell's capital investments peaked at \$46bn while returns on capital employed dropped to 7.9%, equalling the low return of 2009 when the company had to stomach a 37% YoY decline in the average oil price.

2014 sees a change in emphasis for some of the oil majors, including Shell, with a tightening up on capital investment in unconventional oil and gas and a stronger focus on returns on capital. At Shell this is being driven by the new CEO, Ben van Beurden, a very impressive Shell-lifer, who has vast experience in their chemical division and, most importantly, in LNG (liquid natural gas), a major source of earnings at the company. This shift is timely because the oil price has recently fallen below \$100/ barrel for the first time in a few years, potentially validating their retreat from some expensive unconventional oil projects.

The investment case for Shell is a simple one - buying into a good oil major with an excellent record of innovation (especially LNG, deep water), with depressed profits and a clearly defined strategy to restore returns on capital and profitability to more attractive levels – under the very capable guidance of an excellent new CEO, Ben van Beurden. van Beurden is in his mid-fifties, and with the company's retirement age of 60 having been scrapped in 2007, he potentially has a long runway ahead.

It is not about production growth

Production of 3.2m barrels per day is unlikely to rise much. Capital investment will decline (by \$9bn in 2014, to \$37bn)

and free cash flow and returns on capital will climb. There appear to be enough exploration projects to maintain the reserve replacement ratio but by simply focusing on fewer upstream unconventional oil and gas projects in the US, and shedding some downstream refineries in many weak markets of Europe and structurally oversupplied markets in Asia, the financial returns should improve materially without jeopardising the long-term outlook for the company.

The oil majors are not all alike

Shell excels in LNG (i.e. integrated gas) as well as deep-water exploration. It also has the largest gas-to-liquids (GTL) plant (*a la* Sasol) in the world in Qatar. In recent years gas has become more important for the company than oil, with natural gas production rising to 52% of total production in 2013. Gas is also important at ExxonMobil but less so at some of the other majors like BP.

Gas is generally less profitable than oil because of the costs and complexities of gas transportation, particularly LNG which needs to be frozen before being transported. For this reason it is important to control the whole process from extracting the gas from the field to freezing, if required; to transportation; and potentially to GTL. Shell refers to this as Integrated Gas. But gas is a faster growing market than oil. It grew 2% in 2013 vs 1.4% for oil.



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The long-term outlook for gas is also much more exciting with consumption expected to grow from 240mn tonnes p.a. in 2013 to 430mn tpa by 2025 as gas grows in importance as a greener source of power and also takes a share in transportation markets. Shell has roughly 11% of the LNG market now. With their expertise in floating LNG (FLNG) they are likely to continue to lead innovation in this market. The big question however is what happens to natural gas prices over the long term. Will it gradually decouple from oil prices? Most gas prices are linked to oil prices. The US is one major exception. As gas becomes more widely traded; piped gas loses market share to LNG; and gas grows in importance in the global energy market, will there be more pressure to delink from oil prices? This is a long-term risk for Shell. It is far less of a risk for conventional oil companies like Saudi Aramco.

dividend of \$1.90. This is a sharp improvement on 2013 when the company made \$2.60/share. This number was affected by various one-off negative items. After 2014, we expect continued improvement on returns on average capital and a rerating of the shares to follow. At a share price (B share) of GBP24.45, Shell trades on an earnings multiple of 10.5x and a dividend yield of 4.7%. With free cash flow expected to increase, dividend payouts are likely to rise.

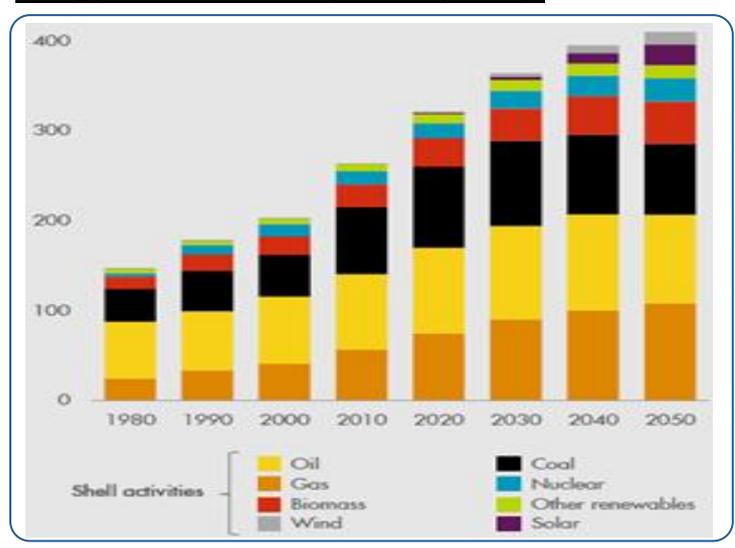
Shell presents a solid investment opportunity, in our view.

Shell share price movement:



Source: Bloomberg

Energy demand outlook (mn boe per day)



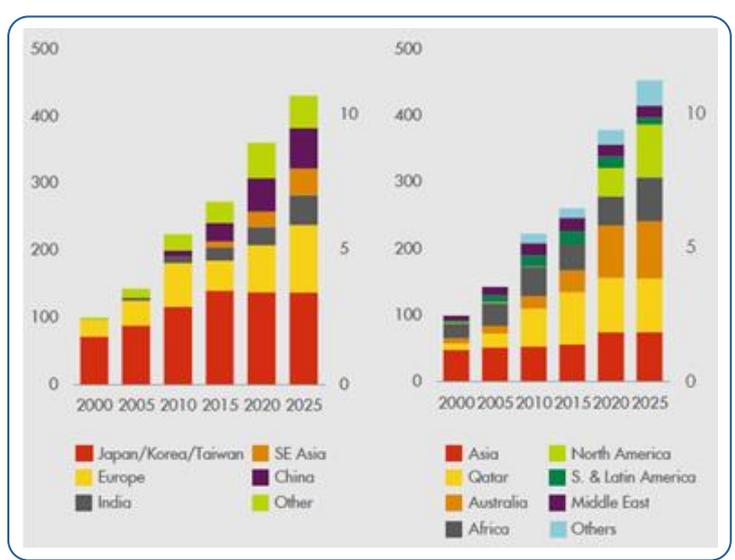
Source: Shell investor day, 5 September 2014

Shell company data:

Spot (A share)	GBp2362
Spot (B share)	GBp2445
Mkt Cap (bn)	GBP153
Historic P/E (Dec 2013)	15.4
Fwd P/E (to Dec 2014)	10.5
FYE	31-Dec

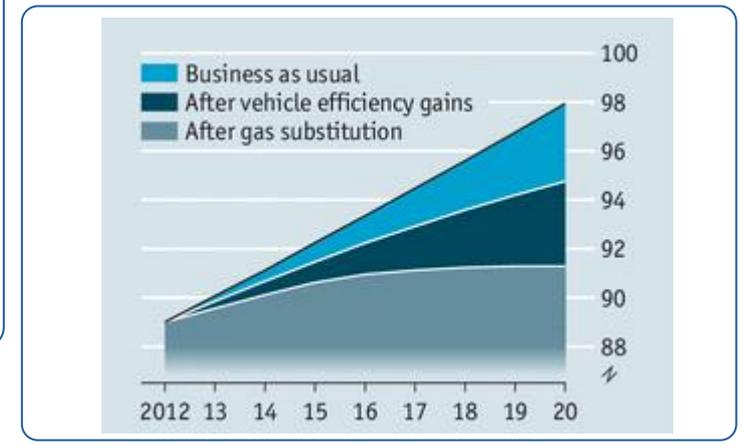
Source: Anchor Capital, Bloomberg

LNG demand (LHS) and supply (RHS), mn tonnes p.a.



Source: Shell investor day, 5 September 2014

Global oil demand forecasts, mn bd:



Source: The Economist, August 2013

Forecasts and recommendation

Shell is expected to earn \$3.80/share in 2014 and pay a

Oil demand grows by c. 1-1.5mn barrels/day p.a.

In a weak year like 2014, demand is expected to grow by only 0.9mn b/d, while 2015 is expected to recover to growth of 1.2mn b/d. Over the long term, global oil demand growth is broken down between *no growth or declining demand in the US and Europe* (the trend has actually been down since the mid-2000s) due to improved fuel efficiency, weak economic growth and waning enthusiasm for cars among younger people; offset by *ongoing growth in emerging markets(EMs) like China, India* etc. There appears to be a tendency to overestimate long-term oil demand (as history has shown) and as the above graph implies. Demand in 2014 should be just below 93mn b/d.

Demand in 2014 has been lower than expectation because of weakness in China, Russia and Japan (power related), and a general downgrade of global growth.

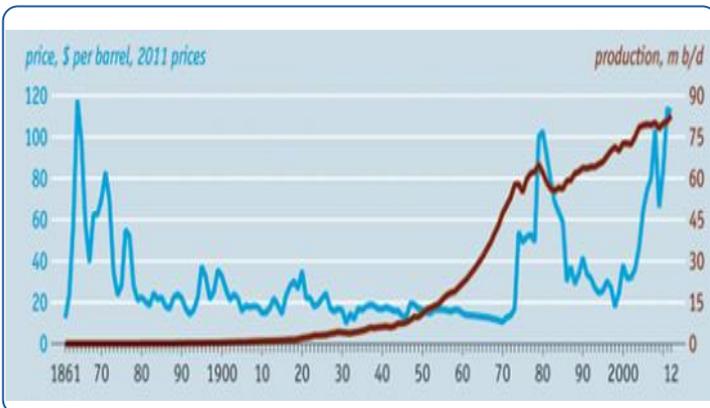
Note that the US (18.5mn b/d in May 2014) and China (10.1mn b/d) account for a third of global oil demand (China is now the bigger importer though), with the second tier of demand coming from India, Japan, Russia, Saudi Arabia (a lot of oil is used for power), and Brazil.

Projections for oil supply

Oil supply in July 2014 was 93mn barrels per day. OPEC (33% of global output) supply has declined since 2012 largely due to problems in various countries such as Iran and Libya. This has been more than offset by increased supply from non-OPEC countries, largely the US (up 1.1mn b/d in May 2014). According to BP, over the longer term the majority of new supply will come from non-OPEC countries - the US, Canada and Brazil (offsetting declines from mature areas like the North Sea), while OPEC's new supply will primarily come from NGLs and Iraq.

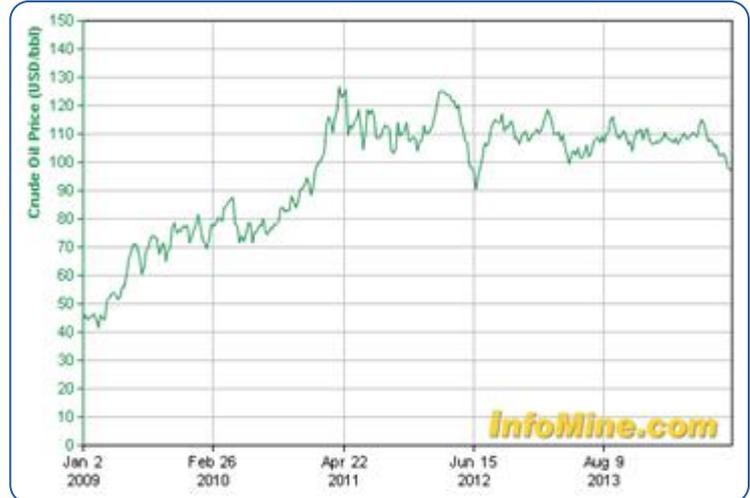
With the current weakness in demand for oil coupled with a surprisingly resilient supply of oil - despite some turmoil in the Middle East - the oil price has been under pressure and is currently at the weakest level in two years. For now, the oil market is oversupplied by an estimated 400,000 barrels per day.

Worldwide oil:



Source: The Economist, August 2013

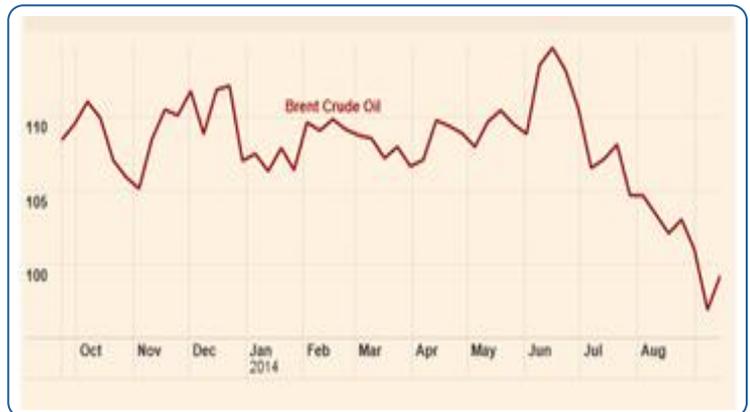
Crude oil price, \$/bbl (long-term 2009 to date):



Source: Infomine.com

As the long-term price chart above shows, oil looks expensive from the mid-2000s relative to the cheap oil of the prior two decades (i.e. 1985-2003). The shorter term price chart below reflects recent weakness which is explained by the currently oversupplied market. Ignoring short-term pricing dynamics, does oil return to the lower levels of yesteryear or is there even an argument for a higher oil price?

Crude oil price, \$/bbl (past year):



Source: FT.com

We believe oil is unlikely to return to prices significantly below \$100/barrel, other than during periodic blips. This is because most new sources of oil coming onto the market are expensive - unconventional oils (shale oil, deep-water etc.), which are among the more costly to extract. Since 2000, less than one-third of the global increase in oil production was from cheap conventional oil (cost \$10-70/barrel) which means that unconventional oils (cost \$50-100/barrel) are where the growth is. The US has been the major source of growth in unconventional oils in recent years and much of this would become unprofitable if oil fell towards \$75/barrel. In fact, at below \$100 the consultancy, Rystad, believes that 10% of rigs in the "hot" shale oil areas of Eagle Ford (Texas) and Bakken (N Dakota) would not be economic. Unconventional oils are a relatively new category so there is scope for improved efficiencies but the cost curve is still much higher than putting a straw in the sand in Saudi Arabia or Iraq.

Some experts like Andrew Hall (“god of crude oil trading”) are sceptical of the future of shale oil, and expect oil prices to keep on rising. The reverse is happening for now, but if US shale oil does peak sooner than expected then this is likely.

The bottom line is unconventional oils are more expensive than conventional oils and they are increasingly important in global oil supply. This is not like the iron ore market where Australia just ramps up low-cost ore production. There are not many places in the world (like Iraq) where conventional oil production can easily be ramped up.

The potential destabiliser to oil prices is natural gas

With natural gas prices in the US a fraction of the price of oil, the transport market is slowly moving to gas. This has started with trucks, buses etc., and now trains. If oil and gas prices decouple in other parts of the world, as they have done in the US, then this will pose a long-term threat to oil prices and oil demand. This would however take a long time, we believe.

The oil majors

The oil majors are ExxonMobil, Shell, Chevron, BP, Total and, sometimes, ConocoPhillips, and Statoil. The first four are descendants of the (Anglo-Saxon) “Seven Sisters” (refer below).

Things have changed since the 1950s. Then, the oil majors controlled c. 85% of global reserves but now over 90% of reserves are controlled by national oil companies (NoCs). The NoCs mostly no longer need help from the oil majors. They probably rely more on the oil services companies like Halliburton, Baker Hughes etc. Then, it was far easier to find oil (like “sticking a straw in the sand”!) but now the majors either have to go deeper (geology) or go to less inviting countries (politics) and territories such as the Arctic, or they have to work harder to separate the oil (chemistry). All of these changes have made the oil majors more dependent on high oil prices to support new reserves. Gas has also introduced a new risk in terms of selling prices. Gas prices have traditionally been linked to oil prices but with rising gas supplies in many parts of the world, will the link with oil collapse, exposing the gas market to a US-style shale-gas effect?

Drawing from Steve Coll’s excellent book (*FT* business book of the year 2012) titled “*Private Empire: ExxonMobil and American Power*”, as well as other commentators, the following broad comments apply to the original oil majors (“Seven Sisters”):

<i>ExxonMobil</i>	The largest and the most tightly run of the majors; very good leadership over a long period (Lee Raymond and now Rex Tillerson); very disciplined approach; ruthless.
<i>Shell</i>	Admired by ExxonMobil and regarded as its most formidable competitor, with “a greater focus on operations and project discipline than many other oil companies”; a high level of bureaucracy; but a preferred partner on projects for ExxonMobil; leader in LNG by the 1990s.
<i>Chevron</i>	“...had inherited some of the longest-lived

of Standard Oil’s American oil properties, in California; Chevron and BP had moved more boldly than Exxon into the Gulf of Mexico when leasing opened during the Clinton administration”; the second-largest US major after Exxon; more relaxed culture than Exxon.

BP

The Macondo incident hasn’t helped their reputation, but they have been known for a “culture of looseness and rule bending. ...fine engineers and ... technologically impressive... but not enough emphasis on safety and individual accountability”; the largest exposure to Russia having aggressively entered this market after the fall of the Soviet Union.

History of the oil majors

Per *Wikipedia*, this group traces its history back to the “Seven Sisters”, the seven oil companies that formed the “Consortium for Iran” cartel and dominated the oil industry from the 1940s to the 1970s, before the spate of nationalisations across the Arab world in the early 1970s. The “Seven Sisters” were the Anglo-Persian Oil Company (now BP); Gulf Oil, Standard Oil of California (Socal) and Texaco (now Chevron); Royal Dutch Shell; and Standard Oil of New Jersey (Esso) and Standard Oil Company of New York (Sonony) (now Exxon Mobil).

The oil majors began to emerge in the late 1990s following a series of mergers encouraged by a sharp decline in the oil price (*refer chart below*). In the period between 1998 and 2002 the following happened:

- BP acquired Amoco in 1998 and ARCO in 2000.
- Exxon merged with Mobil in 1999, forming ExxonMobil.
- Total merged with Petrofina in 1999 and with Elf Aquitaine in 2000 (corruption scandal at Elf) to form Total SA.
- Chevron acquired Texaco in 2001.
- Conoco and Phillips merged in 2002 to form ConocoPhillips.

History of Shell

Per *Wikipedia*, Royal Dutch Shell was created in February 1907 when two companies amalgamated – Royal Dutch Petroleum Company and the “Shell” Transport and Trading Company Limited of the UK (*quotation marks were part of the legal name*). The idea was to compete better with the giant Standard Oil of the US. Royal Dutch (i.e. Dutch co.) was founded in 1890 to develop an oilfield in Sumatra, while “Shell” Transport and Trading Company (British co.) was founded in 1897 by brothers, Marcus and Samuel Samuel. The name “Shell” came about because their father’s antique business had imported sea-shells. Shell’s logo is known as the ‘pecten’ after the sea shell *Pecten maximus*.

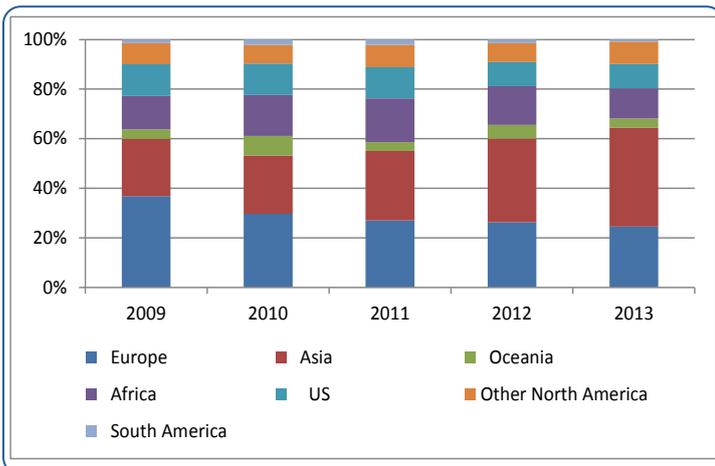
Following the amalgamation, the new business had a dual-listing in Holland and the UK. The Dutch owned 60% of the business and the British 40%. Royal Dutch and “Shell” retained their legal existence while the new business operated as a single-unit partnership for business purposes. By the end of the 1920s, Royal Dutch Shell was the “world’s leading oil company, producing 11% of the world’s crude oil supply and owning 10% of its tanker tonnage.” In 1970 Shell acquired Billiton which it subsequently sold in 1994.

In November 2004, after the oil reserve scandal, Shell moved to a single capital structure and the new parent company was named Royal Dutch Shell plc with the primary listing on the London Stock Exchange (LSE) and the secondary listing in Amsterdam - the headquarters and tax residency was in Amsterdam and the registered office was in London. The unification was completed on 20 July 2005, when the old Shell Transport and Trading Company was delisted from the LSE and Royal Dutch from the New York Stock Exchange (NYSE). Royal Dutch Shell has two types of shares – A and B. They have identical rights but B shares do not attract withholding taxes on dividends (i.e. UK source), while A shares do (Dutch source). The B shares trade at a premium to the A shares. We note that the company typically buys back A shares. A shares are 61% of total shares and B shares account for 39%.

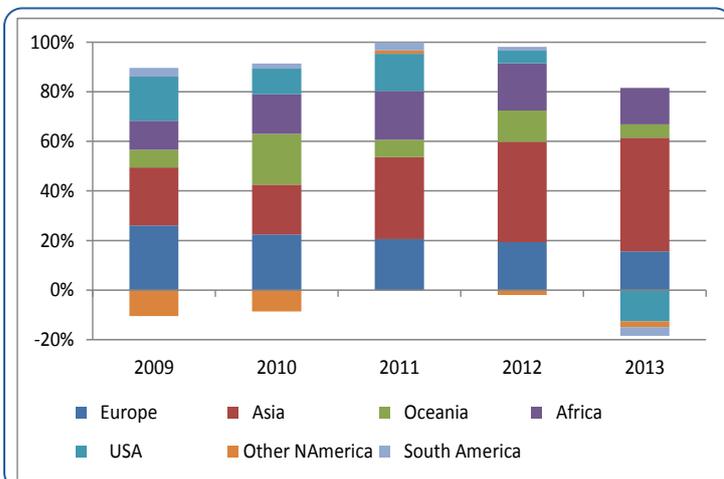
Divisions

Royal Dutch Shell (RDS) has three divisions – Upstream, Downstream and Projects & Technology. Upstream is where the profits lie. Upstream is split between Upstream International and Upstream Americas. We note that Upstream includes activities close to the source of oil or gas as opposed to Downstream (e.g. refining).

Upstream revenues are split between the following regions:



Upstream profits are split as follows (US, Canada and South America are loss-making):



Upstream International

Asia and Europe are the major contributors to revenues and profit for now. Asia generated \$9.2bn of profit in 2013. In Asia, Shell is the industry leader in integrated gas, with a strong LNG portfolio and GTL in Qatar. The Asia portfolio is well diversified with big contributions from Brunei, Malaysia, Oman, Qatar etc. Iraq has great potential for Shell in conventional oil through their 45% interest in the Majnoon oil field, one of the largest in the world. Russia comprises 5% of total group production through the integrated Sakhalin-2 project in the East and the Salym fields in western Siberia. Recent deep-water exploration successes include Malaysia.

In Europe, the Netherlands is an important production area for gas. Norway is also significant, while the UK has declined in importance in recent years. Europe generated \$3.1bn in profit in 2013.

In Africa, Nigeria is the only major production region for Shell. The company is in the process of reshaping its portfolio in Nigeria by selling major onshore oil interests (potential proceeds of c. \$5bn) due to endemic theft and poor security, to focus on onshore gas and deep water fields. Africa is a very profitable market for Shell and it produced profit of \$3.0bn in 2013.

In Oceania, the current contribution to profit is relatively small (\$1.1bn) but Shell has exciting growth potential with the various LNG developments off the coast of Western Australia. These developments include Gorgon, Prelude (FLNG) etc. Despite industry development costs having escalated well above initial projections, Australia will gradually become the largest exporter of LNG in the world, overtaking Qatar.

Upstream Americas (includes North and South America)

Upstream America lost \$3.7bn in 2013, including write-offs for poor upstream shale properties in the US. Note that North America (including downstream assets) has become 32% of capital employed at Shell. This is a significant drag to overall group returns considering the losses incurred in 2013. The US is the region undergoing major restructuring to improve capital efficiency.

In the US, the Gulf of Mexico is a very important region for Shell. Not only is it highly profitable (\$30/barrel profit in the deep water), but Shell is a leader in deep-water exploration in the Gulf with some notable recent discoveries that have boosted reserves. The Gulf accounts for almost 50% of Shell's oil and gas production in the US.

In the US, the onshore upstream picture is poor and the company has had to scale back plans for unconventional shale assets, divest from certain regions and take a longer-term view of the market. Capital investment has been enormous in recent years with much money wasted, not unlike the other oil majors, as Henry Hub gas prices collapsed in 2009 and never recovered as supply grew strongly. The strategy under van Beurden is to exit Eagle Ford oil shale assets in south Texas and some other dry gas shale assets, and focus on dry gas in the Utica shale with potential for LNG, and oil shale in the exciting Permian Basin in west Texas.

The Permian Basin is showing signs of being an enormous resource for US shale oil, following the industry's successes in Eagle Ford in Texas and Bakken in North Dakota.

In Canada, the reserves have grown strongly in recent years because of progress in synthetic crude, bitumen (heavy oils) and gas. There is also great potential for LNG exports. Canada has excellent growth potential for Shell.

In South America, the major assets are in Brazil in deep water oil. The new deep water assets have great potential.

Downstream

Downstream is far smaller than Upstream in terms of profit, and includes Oil Products (i.e. refineries etc.) and Chemicals. Oil Product earnings have been depressed by the loss-making refinery business. Management are busy restructuring this business by exiting certain European and Asian refineries. The Chemical business is performing well. We should expect an improvement in earnings from Downstream.

Deconstructing the Shell portfolio:

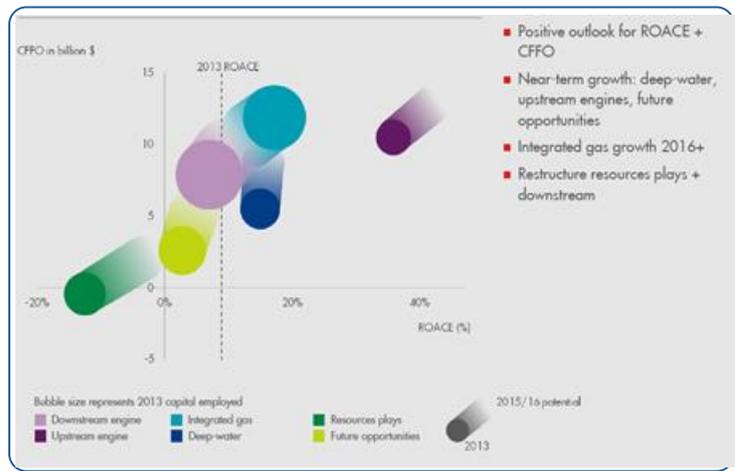
2013 \$ billion	CCS earnings	CFO	Organic capital investment	Capital employed	ROACE	
Engines						Mature + drives free cash flow
DOWNSTREAM ENGINE	5	8	5	64	7%	
UPSTREAM ENGINE	6	10	7	17	36%	
Growth Priorities						Profitable + growing
INTEGRATED GAS	9	12	6	57	17%	
DEEP WATER	3	5	9	23	15%	
Longer Term						Returns impacted by growth spend
RESOURCE PLAYS	(4)	0	6	25	(12%)	
FUTURE OPPORTUNITIES	1	3	5	32	3%	

CCS earnings including identified items; ROACE based on CCS earnings excluding identified items (including Magnitude SPCC, Kashiwazaki, Arctic heavy oil)

Source: Royal Dutch Shell, March 2014

Resource Plays is the area attracting the most restructuring attention, and this relates mostly to US shale assets.

Balancing growth and returns:



Source: Royal Dutch Shell, March 2014

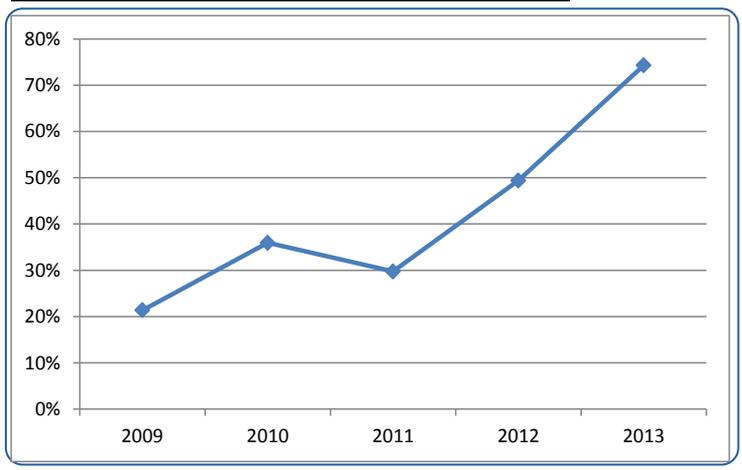
Shell earnings split:



Source: Royal Dutch Shell, Anchor Capital

The Upstream business (i.e. closer to the oil field) is what drives earnings at Shell. The Downstream business includes refining and marketing of oil products and chemicals.

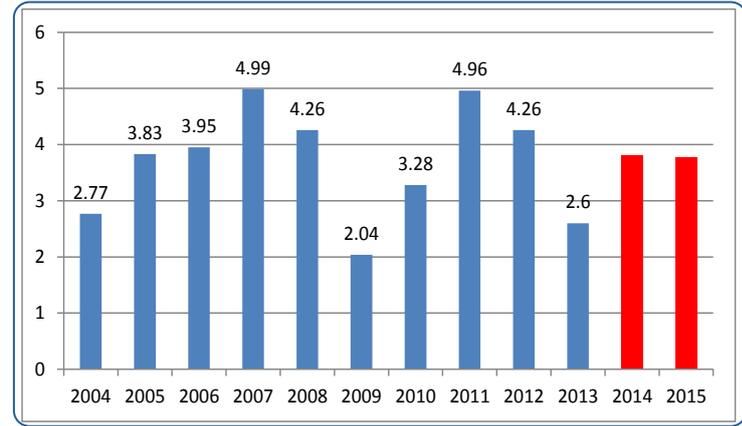
Integrated gas share of Upstream business:



Source: Royal Dutch Shell, Anchor Capital

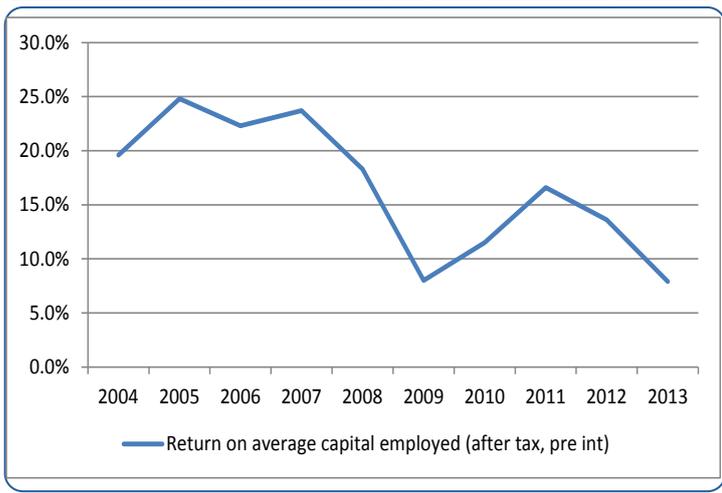
Gas is 52% of total production (oil and gas). The above chart shows that gas is also a large share of Upstream profits. The proportion from gas in 2013 is misleading because of the huge losses incurred in Upstream Americas.

Diluted EPS, YoY % change



Source: Royal Dutch Shell, Anchor Capital

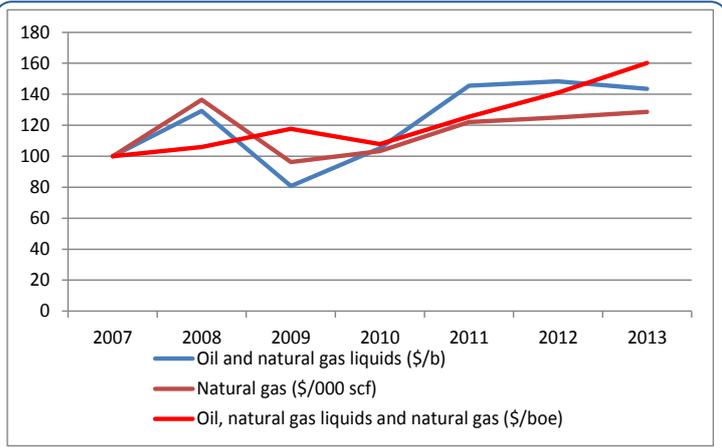
Return on average capital employed (after tax, pre int):



Source: Royal Dutch Shell, Anchor Capital

Earnings haven't done much in recent years, with 2013 a very poor year for profitability. This has sparked new emphasis on cost control and improving returns on capital employed.

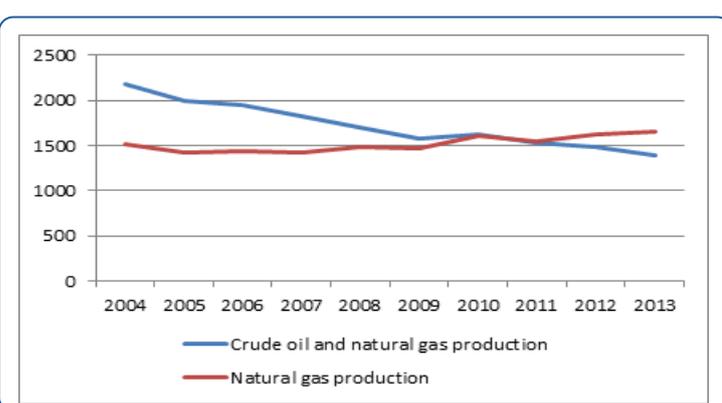
Shell product profit margins:



Source: Royal Dutch Shell, Anchor Capital

The chart above shows the average realised prices for oil and natural gas liquids, and natural gas indexed to 100 in 2007, compared with the average production cost per barrel oil (and equivalent for gas). Production costs have grown 60% since 2007 while the oil price is only up 43%.

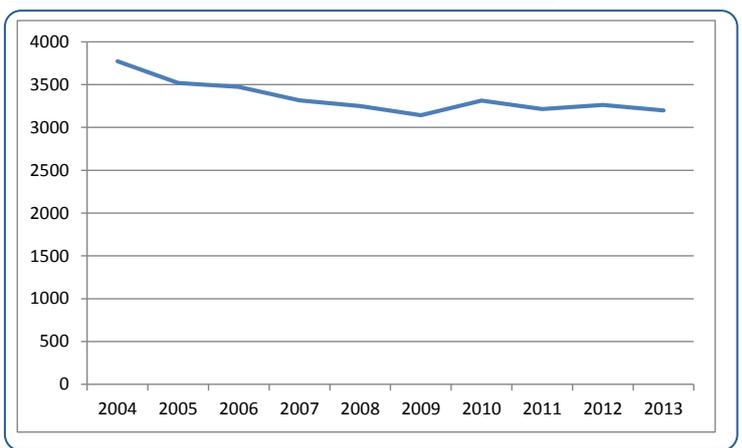
Shell production and reserves:



Source: Royal Dutch Shell, Anchor Capital

Shell is now more of a gas company than an oil company. In 2013, Shell's total production was 52% natural gas and only 44% crude oil (and natural gas liquids). Of the other majors, ExxonMobil is also more of a gas company than an oil company. If you combine these two in the chart below you can see that overall production has been flat in recent years, after declining from 2004-2009. Overall production is flat but the mix has changed. This clearly means that Shell is more exposed to gas prices (largely linked to oil prices, but not always).

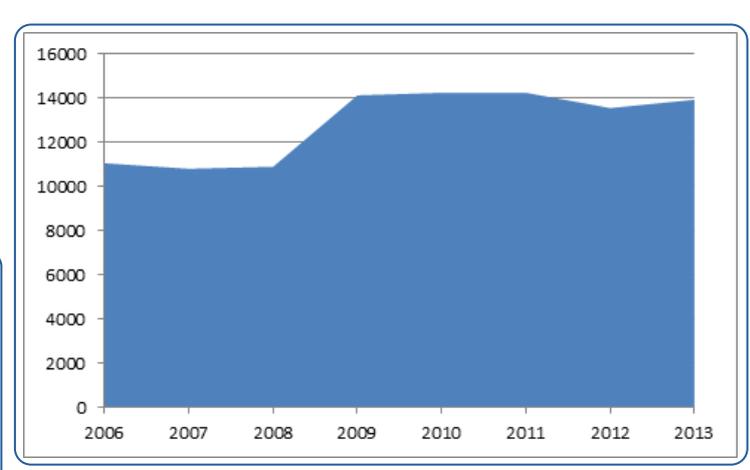
Oil and gas prod avail. for sale ('000 boe/d)



Source: Royal Dutch Shell, Anchor Capital

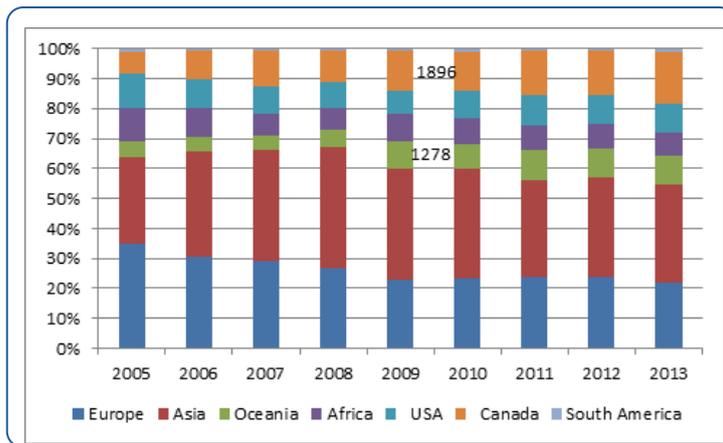
After Shell's oil reserves scandal broke in 2004, and the company was exposed for being overly optimistic in the method of calculating reserves going back as far as 1998, the group has spent increasing amounts on new discoveries. Reserves showed a material increase in 2009 (+19%) partly due to increased reserves in Oceania (Australia) and Canada (affected by new SEC rules).

Proved developed and undeveloped oil and gas reserves (m boe):



Source: Royal Dutch Shell, Anchor Capital

Developed and undeveloped reserves by region:



Source: Royal Dutch Shell, Anchor Capital

The above chart reflects the proved developed and undeveloped oil and gas reserves by region. In the past five years Oceania (Australia) and Canada have increased share of total reserves, but these regions are yet to have a big impact on production.

Industry information

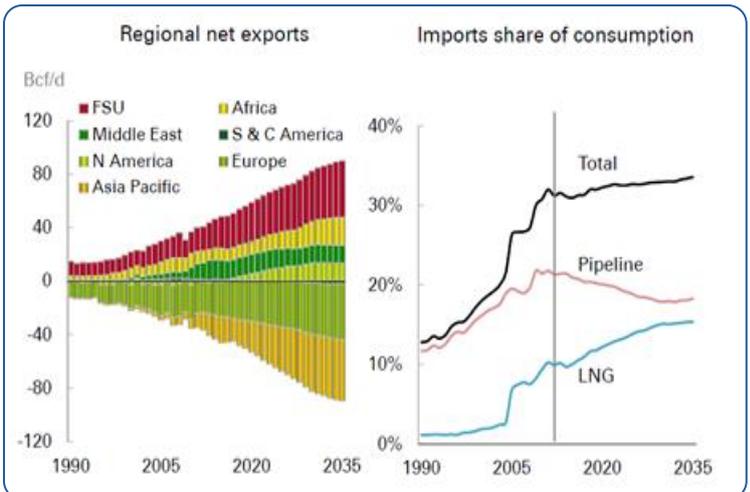
The big league oil companies:

Company	Production, 2012 or latest, m b/d*	Reserves, 2010 or latest, bn barrels*	Market value, 2013†, \$bn
Saudi Aramco	12.7	307	na
Gazprom (Russia)	8.4	112	92
NIOC (Iran)	6.1	311	na
Exxon Mobil	4.1	25	417
PetroChina	3.6	23	239
Kuwait Petroleum	3.3	112	na
Shell	3.3	8	218
Pemex	3.2	11	na
BP	3.0	7	130
Chevron	2.9	9	244

Source: Oliver Wyman Wood, Bloomberg, MacKenzie, Company reports
*barrels of oil equivalent

The message from this slightly dated table is that the national oil companies completely dominate global oil reserves. The oil majors don't look as small when you look at annual production levels.

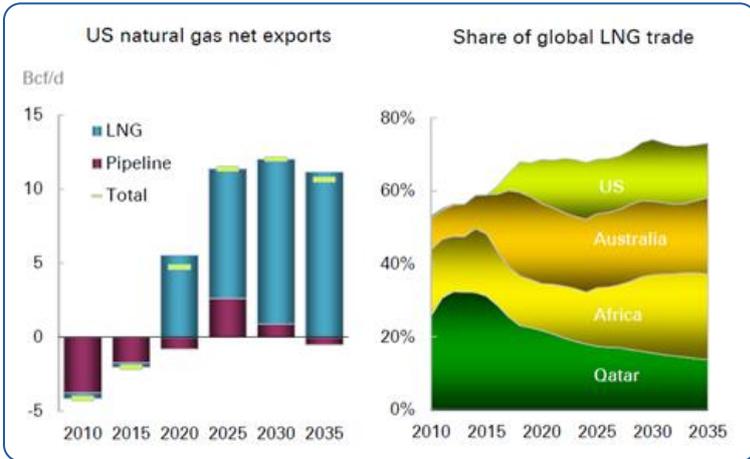
The gas trade continues to expand...



Source: BP Energy Outlook 2035

This chart shows that although pipeline is the primary method for gas trade, LNG is expected to continue to grow share from 32% in 2012 to >46% in 2035, while its share of gas consumption rises from 10% to 15%.

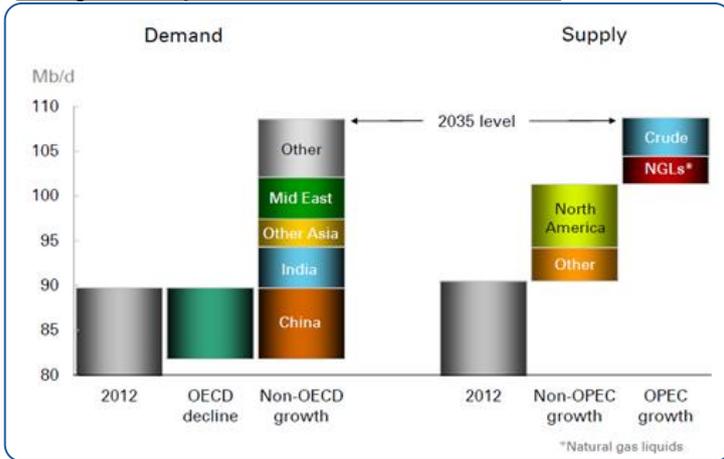
Shale gas will completely change the US gas trade picture



Source: BP Energy Outlook 2035

The above charts show how the US is likely to become a major exporter of gas (via LNG). Australia is also expected to be the largest exporter of LNG in 2035 with a share of 21%, beating Qatar which is currently the dominant exporter of LNG with a 32% share.

The global liquids balance reflects shifts...



Source: BP Energy Outlook 2035

The charts above forecast a growth in oil demand from 90mn barrels per day in 2012 to 109mn b/d in 2035. This net growth is driven by EMs including China and India, while developed markets have already peaked and are expected to continue to drop. According to BP, the majority of new supply will come from non-OPEC countries - the US, Canada and Brazil (offsetting declines from mature areas like the North Sea), while OPEC's new supply will primarily come from NGLs and Iraq.

David Gibb



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The business of knowledge: Financial education, information and valuation services

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