

## Global 2014 E&P Spending Outlook

### North American Spending to Accelerate

**E&P Spending to Top \$700 Billion Globally:** Global E&P spending is poised to reach a new record of \$723 billion in 2014, up 6.1% from \$682bn in 2013. 2014 should mark an acceleration of growth in North America to over 7% (led by the U.S.) coupled with continued solid growth (+6%) in international markets, particularly in the Middle East, Latin America, and Russia. We estimate capital budgets in the U.S. and Canada will rise 8.5% and 3%, respectively, up from 4% and -2% in 2014. Companies are basing 2013 spending plans on oil prices of \$98 Brent and \$89 WTI and U.S. natural gas prices of \$3.66. These projections suggest our early look at 2013 spending levels likely underestimates total spending given current commodity price levels.

**Majors Under-Spending NOCs:** A wave of shareholder activism has proved successful in pushing for change among mid-size IOCs and raised questions about the potential for greater focus on returns and cash flow growth among the Majors. Slowing CAPEX growth from the Majors presents dangers to global oil markets, in our view.

**Emphasis Shifting Towards the Well:** While our initial expectation for 2014 suggests a modest deceleration in global spending growth, we believe the mix of spending is poised to shift away from large infrastructure projects towards greater drilling, evaluation and completion activity, implying a stronger underlying revenue opportunity for the group and the diversified oil service companies in particular.

**North America Poised for a Reacceleration:** Spending is set to expand in North America following two years of tepid growth. We expect NAM spending to rise over 7% in 2014, following growth of 2% and in 2013 and 4% in 2012. Increased spending associated with the rise in service-intensive, multi-well, horizontal drilling and production growth is driving this trend and should lead to further spending increases.

**Mid-East, LatAm, and Russia Fuel Int'l Spend:** E&P spending outside NAM is forecast to reach a record of \$524bn (+6%) in 2014. This compares to spending of \$496bn in 2013 (+10% from 2012). Limited growth by the Majors (+1% int'l) and corruption probes directed at Chinese NOCs are quelling growth expectations. This is somewhat offset by growth in the Mid-East (+14%), Latam (+13%), and Russia/FSU (11%).

**Results Support our Bullish Outlook:** We believe the reacceleration of E&P spending in NAM and continuation of the int'l upcycle support our constructive view on the group. The industry is in the early days of a prolonged upcycle, in our view, and consequently we expect market fundamentals to favor service companies for the next several years. The Big Four remains our favorite subcategory, led by SLB and HAL. We continue to emphasize well count over rig count, and our preferred SMID-cap names include CJES, KEG, PTEN, SPN, and TCW. Offshore we continue to be selective and prefer high-spec, UDW pure-plays like ORIG and PACD as well as RDC. We remain bullish on the supply boats and recommend HOS and GLF. Our favorite European names include Technip, Subsea 7 and Wood Group, while in Asia our top pick is Anton Oil.

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###### POSITIVE

Unchanged

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## THE 2014 BARCLAYS GLOBAL EXPLORATION & PRODUCTION SPENDING OUTLOOK

As we have done in prior years, we surveyed more than 300 oil and gas companies worldwide about their spending intentions for the following year. We began this process in early November and concluded the data gathering last Friday, December 6<sup>th</sup>. In this report, we attempt to include all meaningful spenders on exploration and production on a worldwide basis and where necessary we rely on estimates from our global equity research teams. We believe the report continues to improve in comparative accuracy as well, particularly given the buildout of our Asian oil and gas teams in recent years.

Although our survey of oil and gas company CAPEX programs tends to be accurate directionally, the budgeting process for many companies is still underway and in many cases our mid-year update to our survey indicates higher CAPEX spending than originally forecast in the December reports. We think this trend is likely to continue in 2014, particularly if commodity prices remain above E&P budgeted levels.

In addition to securing capital budget data, we also ask companies detailed questions about the assumptions for and the composition of their budgets. All capital budgets in this report and the supplemental spreadsheet are estimates of Barclays Research and are derived from a variety of sources. We intend to update this report once again in mid-2014.

Please reach out to us directly for a detailed Excel spreadsheet with 2013 and 2014 capital budgets for every company in the survey.

## A Precarious Time; Two Concerning Trends

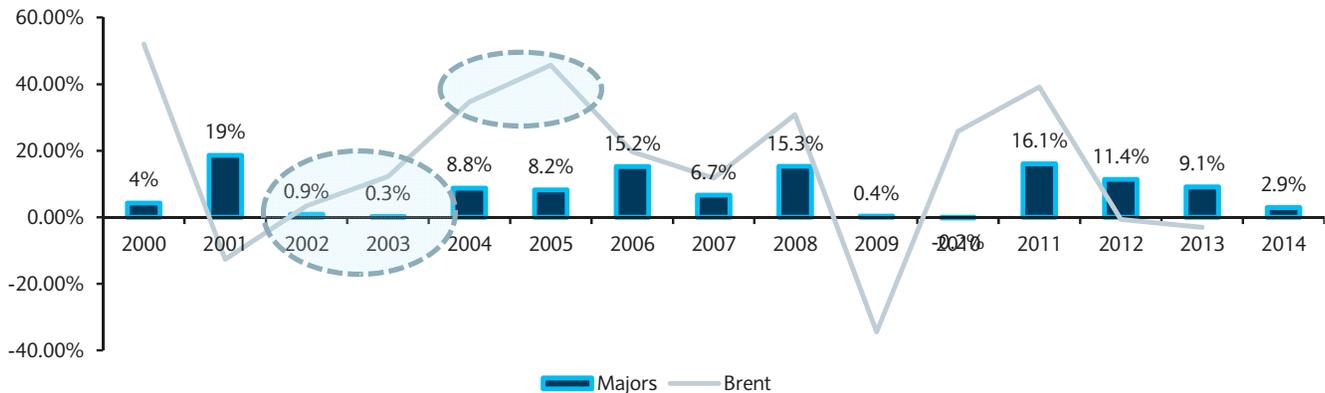
Through the myriad of themes and trends within this and recent years' spending outlook, we thought it would be noteworthy to highlight two concerning developments evident in this year's data that could have significant ramifications for the global oil markets.

### 1) Majors Under-Investing Amidst Cash Return Calls

*We think this period of under-investment by the Majors will lead to a period of underproduction and could drive a structural leg-up in international oil prices*

First, we believe the wave of shareholder activism targeting mid-sized North American E&Ps is percolating up to the Majors and leading some of these companies to right-size international portfolios and slow spending growth. This capital discipline is being driven by a short-term focus on cash returns in our view and we think investor focus and preference will ultimately shift back to production growth (from cash flow growth). However, in the meantime, we think this period of under-investment by the Majors (we forecast global spending growth by the Majors in 2014 of 2.9%) will lead to a period of underproduction and could drive a structural leg-up in international oil prices. This dynamic is similar to the early-to-mid 2000s, in our view, when insufficient investment by the Majors in 2002 and 2003 (0.9% and 0.3%, respectively) contributed to significant oil price appreciation in 2004 and 2005 (35% and 46%, respectively), as illustrated in Figure 1. Further, this retrenchment from the North American independents and Majors is creating an opportunity for resource-hungry NOCs, which do not always adhere to the principles of western finance and are happy to pick-up additional acreage to fulfill ambitious domestic strategic agendas.

FIGURE 1  
Underinvestment by the Majors in 2002 and 2003 may have contributed to 35% oil price appreciation in 2004 and 46% in 2005



Source: Barclays Research, Company Reports, and FactSet

*We view the pause in Chinese NOC spending as transitory and anticipate total Chinese spending to increase at least 5%-10% in the coming years*

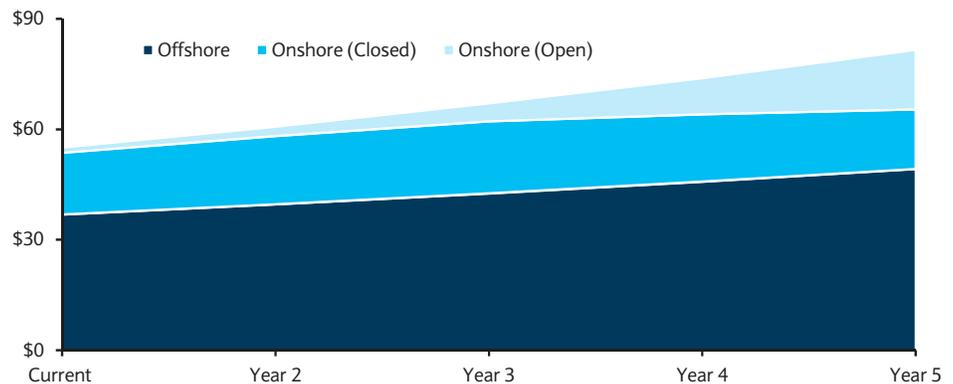
*We think the Chinese market could open to as much as 50% in the next five years*

## 2) Corruption Probes Challenging Chinese Spending

Secondly, we believe that the ongoing corruption investigations in China targeting high-level government officials and senior executives at various state owned enterprises (SOEs) are resulting in a period of relative internal stagnation at the large state-owned oil companies (PetroChina, Sinopec, and CNOOC), as these institutions deal with the associated political fallout. As a result, we expect total spending at these organizations to be modestly up (+3.1% worldwide), down from around 14% growth in 2013. We view the pause in Chinese NOC spending as transitory and anticipate total Chinese spending to increase at least 5%-10% in the coming years (which could prove conservative). Ambitious unconventional gas agendas aimed at improving energy security and pollution concerns should drive spending for the remainder of the decade. Excluding these players, we note that total international spending would be 50bps higher at 6.2% (versus our current international growth expectations of 5.7%).

In addition to expectations for a return to strong multi-year growth levels for the Chinese market, we think the Chinese onshore market is on the cusp of a tectonic shift characterized by further opening of the service market to international and private players (we estimate 80%-90% of the Chinese oil services market is absorbed by state-owned service companies). Ambitious unconventional gas production targets coupled with a dearth of in-country technological expertise will drive this change, in our view. As a result, we think the market could open to as much as 50% in the next five years, potentially increasing the overall onshore market opportunity for private companies by 11.5-fold (to over \$16 billion from around \$1.5 billion today, assuming 15% onshore spending growth versus 7.5% offshore). While the timing of this dynamic is difficult to determine, we illustrate how we anticipate the Chinese market generally to evolve in Figure 2.

FIGURE 2  
We Expect the Chinese Onshore Market to Open Significantly in the Coming Years



Source: Barclays Research

## We maintain our bullish outlook for oilfield services

We believe the results of this year's spending outlook, especially the reacceleration of E&P spending in North America and the continuation of the international upcycle, support our constructive view on the group. The industry remains in what we believe are the early days of a prolonged global upcycle, and consequently we expect market fundamentals to favor service companies for the next several years.

*The OSX's multiple remains well below that of the broader market*

After solid outperformance for the group for much of 2013, concerns over the near-term direction of the oil price coupled with some de-risking across the energy space have brought the group's gain for the year in line with the broader market over the past month (+26%). We think the group remains attractive on a relative value basis: the OSX is currently trading at only 12.4x and 10.2x 2014 and 2015 earnings, respectively, compared to 15.3x and 14.3x for the S&P 500.

*The large cap diversifieds remain the most attractive, in our view, led by SLB*

Looking towards 2014, we continue to believe the Big Four (BHI, HAL, SLB and WFT) are the most compelling stocks in the group and our top pick remains **Schlumberger** followed by **Halliburton**. We are also recommending **Baker Hughes** and **Weatherford**. We believe these four represent the greatest leverage to the international markets and will also benefit from the acceleration in activity we expect to unfold in North America in 2014, while their respective valuations all remain below historical levels.

*A reacceleration of activity in North America should benefit several SMID cap names in our space*

With North America offering the greatest delta in 2014 over 2013 (compared to international), we believe investors should be positioning in those SMID cap names likely to benefit from incremental improvements in utilization. We continue to emphasize well count driven stocks over those levered to rig count, as drilling efficiencies and increased service intensity are set to continue in 2014. There are several SMID caps with considerable upside, in our view, as the acceleration in NAM becomes better recognized, including **C&J Energy Services**, **Calfrac Well Services**, **Key Energy Services**, **Patterson-UTI Energy**, **Superior Energy Services** and **Trican Well Service**.

Within capital equipment, we prefer **National Oilwell Varco** and **Cameron**. While Cameron's execution problems and persistent guide-downs have been an issue, we believe execution is poised to improve and think estimates are now at achievable levels.

*We anticipate a renewed bifurcation in the floater market*

In the offshore rig space we continue to be selective, as we anticipate a continued bifurcation in the floater market as more than 100 floating rigs are delivered through 2015. We prefer high-specification, ultra-deepwater pure-plays, including **Ocean Rig** and **Pacific Drilling**. We also think the market is not fully recognizing the earnings power associated **Rowan's** four ultra-deepwater newbuilds. We remain bullish on vessel and logistics shares and believe the coming surge of newbuild rigs coupled with a prolonged increase in offshore oil and gas production and subsea construction will result in a substantial expansion of earnings power for the vessel providers. **Hornbeck** is our favorite among the vessel companies because of its higher and accelerating leverage to the deepwater Gulf of Mexico followed by **GulfMark**, which also has solid deepwater GOM exposure as well as a unique footprint in the North Sea.

*Our favorite names in Europe include Technip, Subsea7 and Wood Group*

In Europe, we expect the disappointing performance of 2013 to unwind in 2014, the sector (BEUOILS Index Bloomberg) has underperformed the wider European markets by 30% YTD, despite backlogs hitting all-time highs. Part of this was driven by expectations of spending declines, predicated on a more cautious approach from the Supermajors, but as our results show, spending continues to grow. Another part was executional issues across the sector which led to a series of high profile profit warnings in 2013. This was largely derived from projects signed in the tougher 2009-10 period, most of which has or will work through the order book. As such we expect investors to start to focus on the strong backlogs for the companies.

Our preferred plays in European oil services are **Technip**, **Subsea7** and **Wood Group**. The first two have record backlogs and outlook for further growth as subsea spending accelerates ahead of the industry average, yet are trading at PE relatives similar to the 1998-99 period. We expect this disconnect to unwind. Wood Group, on the other hand is not a backlog driven business. Its engineering business, we believe, should benefit from the desire of the oil industry to maximise its capital, a result which we believe can only be driven by higher upfront engineering. In addition, its facilities management business, PSN, should show growth from continued activity levels in the U.S. shales, an unique exposure among its European peers.

*Anton Oil is our preferred way to gain leverage to the Chinese onshore services market*

Our top pick among our Asian oil services and rig builders coverage is **Anton Oil**. We see 2014 as a key year for China's onshore upstream CAPEX due to the increased scrutiny on oil companies to deliver efficiencies and better manage capital spending. We believe Anton Oil is best positioned to benefit from the growing preference from China's oil industry to higher value-add and more efficient OFS providers and we expect the company's increased collaboration with Schlumberger and its increasingly integrated model to drive through the best returns amongst its peers.

Our Overweight recommendations and current price targets are listed below.

FIGURE 3  
Overweight Stocks

	Ticker	Price (12/6/13)	Price Target	Potential Upside To Price Target		Ticker	Price (12/6/13)	Price Target	Potential Upside To Price Target
North America Large Cap Oil Service & Equipment					Industry View: Positive				
Baker Hughes	BHI	\$53.83	\$71	32%	Atwood Oceanics	ATW	\$52.31	\$79	51%
Cameron International	CAM	55.98	77	38%	GulfMark Offshore	GLF	49.37	58	17%
Halliburton	HAL	50.56	76	50%	Hornbeck Offshore	HOS	50.74	92	81%
National Oilwell Varco	NOV	81.59	93	14%	Ocean Rig	ORIG	20.54	28	36%
Schlumberger	SLB	88.15	124	41%	Pacific Drilling	PACD	11.16	13	16%
Weatherford International	WFT	15.19	22	45%	Rowan Companies	RDC	34.19	48	40%
					Seadrill	SDRL	41.81	53	27%
					Tidewater	TDW	58.15	76	31%
					Transocean Inc.	RIG	49.77	70	41%
North America Mid & Small Cap Oil Service, Equipment and Onshore Drilling					European Oil Services & Drilling				
					Industry View: Positive				
Calfrac Well Services	CFW.TO	\$31.15	\$45	44%	Hunting	HTG	795p	1,100p	38%
Chart Industries	GTLS	92.04	118	28%	Maire Tecnimont	MTCM	€ 1.6	€ 2.0	29%
C&J Energy Services	CJES	23.97	30	25%	Petroleum Geo-Servic	PGS	NOK67	NOK100	50%
Core Laboratories	CLB	187.93	200	6%	Polarcus	PLCS	NOK4.4	NOK7	59%
Dresser-Rand Group	DRC	58.29	64	10%	Saipem	SPMI	€ 15.8	€ 20.0	26%
Dril-Quip	DRQ	109.28	127	16%	SBM Offshore	SBMO	€ 14.0	€ 19.3	38%
Frank's International	FI	27.11	32	18%	Subsea 7 SA	SUBC	NOK115	NOK190	65%
Global Geophysical	GGS	1.48	4	170%	Technip	TECF	€ 73.1	€ 103.0	41%
ION Geophysical Corporation	IO	3.18	6	89%	Wood Group	WG	800p	1,050p	31%
Key Energy Services	KEG	7.63	10	31%	Asia Ex-Japan Oil Services & Rigbuilders/Shipyards				
MRC Global	MRC	32.06	37	15%	Industry View: Positive				
Oceaneering International	OII	79.60	96	21%	Anton Oilfield Services	3337 HK	HKD 5.0	HKD 6.3	25%
Oil States International	OIS	102.54	124	21%	COSL	2883 HK	HKD 23.9	HKD 22.8	-4%
Patterson-UTI Energy	PTEN	23.82	26	9%	Hilong Holdings	1623 HK	HKD 6.2	HKD 6.0	-3%
Superior Energy Services	SPN	25.50	39	53%	Keppel Corp.	KEP SP	SGD 10.9	SGD 13.1	20%
Thermon Group Holdings	THR	27.74	30	8%					
Trican Well Service	TCW.TO	12.07	21	74%					

Source: Company data and Barclays Research

For full disclosures on each covered company, including details of our company-specific valuation methodology and risks, please refer to <http://publicresearch.barcap.com>.

## GLOBAL E&P SPENDING UPCYCLE CARRIES ON IN 2014

*Global E&P spending is set to grow about 6% in 2014 to \$723 billion in the fifth straight year of growth*

We project global exploration and production expenditures will rise for the fifth consecutive year in 2014. Over the past four weeks we have had discussions with more than 300 oil and gas companies to assess the health of the industry and the outlook for future growth. The budgets and regional breakouts in this report are Barclays Research estimates.

Next year should mark an acceleration in North America spending growth to over 7% (led by the United States) coupled with continued solid growth (+6%) in several international markets, particularly in the Middle East, Latin America, and Russia. We estimate capital budgets in the U.S. and Canada will rise 8.5% and 3%, respectively, up from 4% and -2% in 2013. Companies are basing 2014 spending plans on oil prices of \$98 Brent and \$89 WTI and U.S. natural gas prices of \$3.66. These projections suggest our early look at 2014 spending levels may underestimate total spending given current commodity price levels.

FIGURE 4

### Worldwide E&P Capital Spending By Company Type/Region, 2013-2014

	2013A	2014E	+/-	%
US Spending	143,989.3	156,163.6	12,174.4	8.5%
Canada Spending	41,738.2	43,068.8	1,330.6	3.2%
<b>NAM Spending:</b>	<b>\$185,727</b>	<b>\$199,232</b>	<b>\$13,505</b>	<b>7.3%</b>
Middle East	34,791.0	39,812.0	5,021.0	14.4%
Latin America	74,590.0	84,159.0	9,569.0	12.8%
Russia/FSU	53,940.1	59,844.0	5,903.9	10.9%
Europe	46,684.3	50,312.6	3,628.3	7.8%
India, Asia & Australia	120,928.0	124,178.2	3,250.2	2.7%
Majors (Int'l Spending)	113,992.0	115,413.0	1,421.0	1.2%
Africa	25,241.0	25,337.1	96.1	0.4%
NAM Independents (Int'l Spending)	19,395.0	18,547.0	(848.0)	-4.4%
Other	6,401.2	6,475.6	74.4	1.2%
<b>Int'l Spending:</b>	<b>\$495,963</b>	<b>\$524,078</b>	<b>\$28,116</b>	<b>5.7%</b>
<b>Worldwide E&amp;P Spending:</b>	<b>\$681,690</b>	<b>\$723,311</b>	<b>\$41,621</b>	<b>6.1%</b>

Source: Barclays Research

\*We use companies that spend primarily in their home regions as a proxy for the regional forecasts detailed in the previous charts.

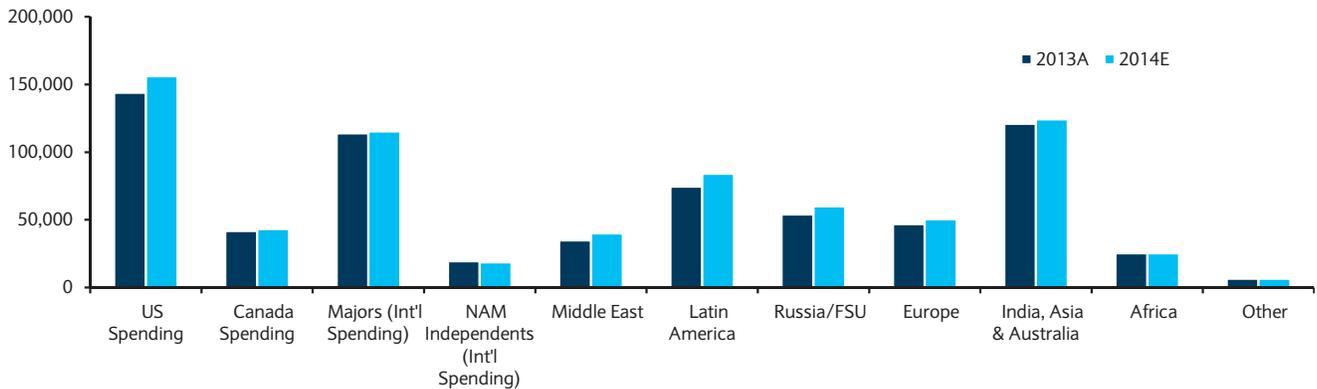
*We expect the fastest growth to take place in the Middle East, Latin America and Russia*

### Middle East leadership continues, LatAm poised for a bounce back

The Middle East should once again be the fastest growing oilfield services market at more than 14% in 2014, led by significant capital expansions expected for Saudi Aramco and Kuwait Oil Co. After a relative pause in spending growth for Latin America in 2013, the region is poised to return to very solid growth (+13%), driven by a reacceleration of spending in Mexico by PEMEX as well as another aggressive budget for PDVSA in Venezuela, while Petrobras remains in a relative holding pattern. Russian CAPEX is another source of strength, rising 11% in 2014, led by substantial increases in E&P activity from Lukoil (+21% to \$14.4 billion) and Rosneft (+26% to \$16.6 billion). Gazprom Neft should also spend more in 2014, though this growth is somewhat offset by Gazprom, which we expect to be down 11% in 2014, as the state giant faces increasing competition (from state rivals and private players) and attempts to root out inefficiency. Europe should also post solid growth at 8%, with strong gains from OMV, Eni and Statoil.

Spending in India, Asia & Australia is projected to post modest growth in 2014 (up 3% vs. 2013), as solid spending increases from Petronas, Pertamina and ONGC are partially offset by declines from Inpex and Santos, while the Chinese NOCs plan mostly flattish spending. Facing increasing pressure from investors to be more selective in its CAPEX plans, Total's pullback in upstream spending (down 9%) largely mitigates modest increases from the other Supermajors, leading to flattish spending for the group in 2014 (+1%). The North American independents have been selling assets abroad to fund development programs on U.S. land, leading to an expected pullback (-4%) in international CAPEX in 2014. African spending should remain roughly in line with 2013 spending levels.

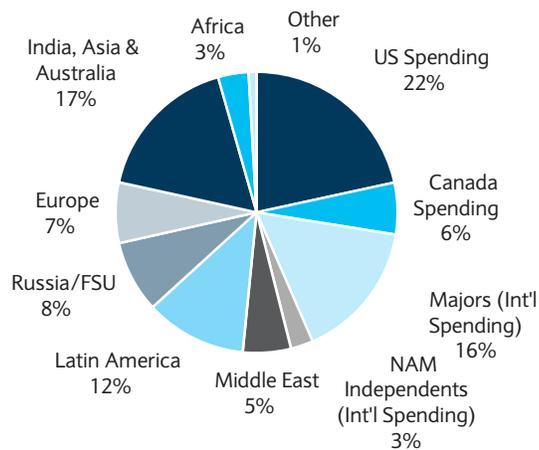
FIGURE 5  
Worldwide E&P Capital Spending By Company Type/Region, 2013-2014 (\$ in Millions)



Source: Barclays Research

FIGURE 6  
2014 Worldwide E&P Capital Spending By Company Type/Region

*US Spending continues to dominate worldwide E&P CAPEX*



Source: Barclays Research

FIGURE 7

Worldwide exploration & production capital spending to approach \$725 Billion in 2014

Note: \$ in millions  
Source: Company data and Barclays Research

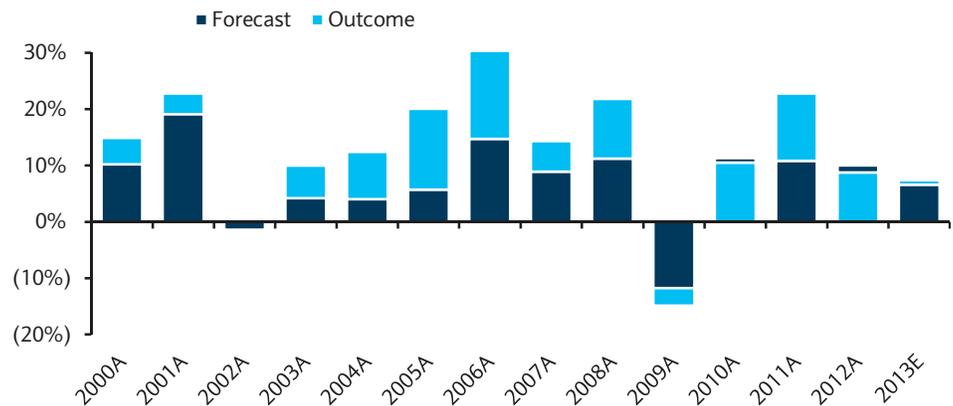
## Actual Spending Likely to Exceed Current Expectations

Although directionally accurate, our spending forecasts tend to capture budgeting activity as a snapshot in time and in many cases overall spending tends to overshoot our initial forecast. Since 2000, there have been only two instances in which capital spending growth has fallen below the forecasts derived from our survey. The first was 2010, when the spending outcome was marginally lower than expected (we attribute the 1% miss vs. our forecast mostly to Macondo-related activity declines). Next, in 2012 our original forecast of 10% annual spending growth fell short of the actual outcome by roughly 120 basis points. The shortfall was dominated by widespread activity drop-offs in North America, particularly in Canada.

The outcome for 2013 appears poised to resume the long-standing pattern where actual spending outpaces our forecast. Our original spending estimate for 2013, released last December, suggested year over year growth of 6.6% for global E&P spending with most of the uptick driven by international markets while the U.S. and Canada remained flat. Our most recent discussions with the E&Ps indicate that global spending increased 7.4% in 2013 from 2012 as spending gains in the international and U.S. markets will likely exceed our original forecast from last year.

FIGURE 8  
Analysis of Historical Report Accuracy

*While our survey has been directionally accurate over time, it also tends to prove conservative relative to actual spending levels*



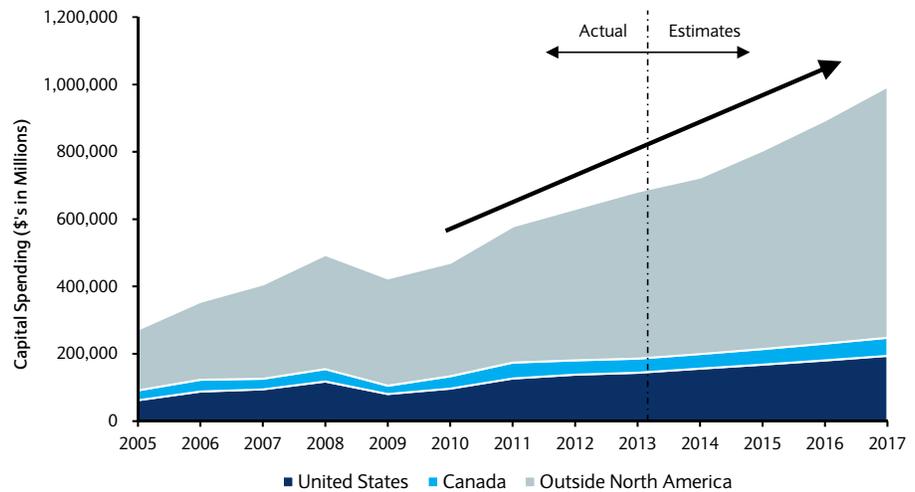
Source: Company data and Barclays Research

## THE INTERNATIONAL UPCYCLE CONTINUES; NAM SPENDING ACCELERATES

*We continue to expect double-digit growth internationally on average through at least 2017*

Transitory issues related to Chinese spending and growing investor preference for cash flow returns among IOCs will likely weigh somewhat on international spending in 2014; however, we continue to believe we are in the midst of a multi-year, double-digit growth spending upcycle internationally characterized by increased drilling in complex geologies on land and exploration and development of traditional and emerging deepwater basins. The NOCs continue to push forward with aggressive drilling programs. Although North America has historically been a short-cycle market characterized by volatile swings in activity, the shift towards oil-directed and liquids rich activity has significantly reduced the cyclicity in the region and will result in more consistent spending levels, in our view. Long-term and across cycles, we expect spending growth in North America to remain in the mid to high single digits through at least 2017.

FIGURE 9  
Barclays Multi-Year Exploration & Production Spending Forecast



Source: Company data and Barclays Research

### International Growth Continues

E&P spending abroad is forecast to reach a record of \$524 billion (+6%) in 2014. This compares to spending of \$496 billion in 2013, which rose 10% from 2012 levels. Sustained high oil prices, the sanctioning of major projects, and the delivery of a large number of offshore rigs in both 2014 and 2015 are driving the increases in spending. Further, we note that international spending is expected to be impacted by flattish Chinese NOC spending in 2014 (due to corruption probes) and slowing capital spending growth from the Majors. A continued focus on developing domestic portfolios for the NAM independents is exacerbating this trend. An uptick in unrest and uncertainty in Africa (as well as administrative delays in Nigeria) are weighing on growth as well. Outside these transitory issues, growth is expected to be strong internationally, led by the Middle East (+14%), Latin America (+13%), and Russia/FSU (+11%).

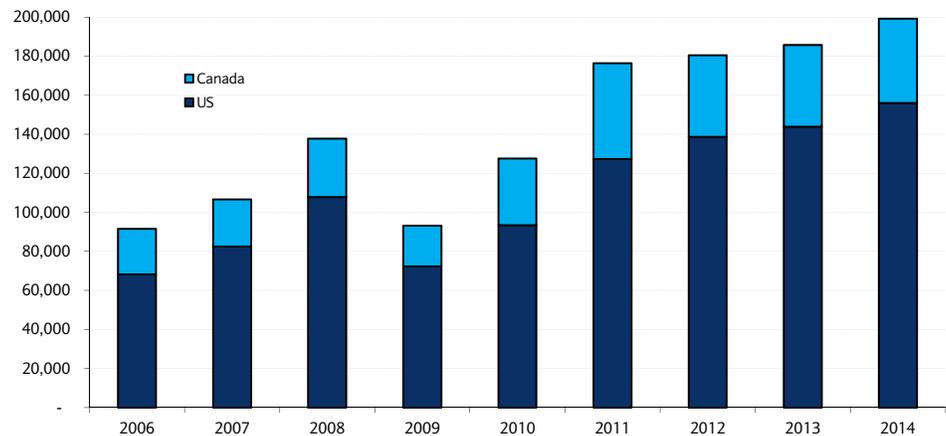
*Our initial survey indicates North American CAPEX to grow 7% in 2014, led by the United States*

## North America Returns

Following several years of intense CAPEX acceleration, 2013 is proving to be a period of digestion for the North American upstream market, particularly the U.S. land market. Following this year's respite, we think North America is poised to resume a steady upward trend in activity levels beginning in 2014 with an initial forecast of 7% growth. We think the modest pause in spending growth in 2013 was the result of a combination of factors including drilling and well service efficiencies in the land market, which enabled the E&Ps to realize lower costs, and a more general capital deployment adjustment on the part of the operators as they assessed resource acreage and began to position for the next phase of the unconventional revolution in North America.

Next year, we anticipate an acceleration in the U.S. in the range of 8.5% growth while Canada should return to modest growth (+3%) following two years of declines. U.S. land spending in 2014 will be characterized by a shift towards full-scale development drilling as NAM independents address the growing inventory of undrilled wells in their acreage by allocating additional capital to the U.S. land market. The Gulf of Mexico continues to be a bright spot, with an additional 17 floaters scheduled to mobilize to the region through 1Q15, giving us visibility on 58 contracted deepwater rigs over the next year and a half. In Canada, the installation of midstream infrastructure, an influx of capital from the majors and NOCs and a burgeoning LNG export market all point to an upward trajectory of E&P spending in Canada for the balance of the decade, in our view. While the impact to 2014 is likely to be rather modest, we see scope for upside in the latter part of the year from incremental activity tied to LNG exports.

FIGURE 10  
Historical and Forecast North American E&P Spending



Note: Dollars in millions  
Source: Company data and Barclays Research

FIGURE 11

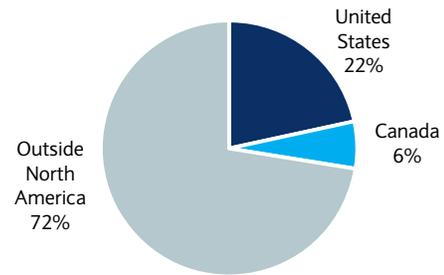
Summary of Oil and Gas E&P Expenditures

	2013A	2014E	+/-	%	Count
US Spending	143,989.3	156,163.6	12,174.4	8.5%	
Canada Spending	41,738.2	43,068.8	1,330.6	3.2%	
<b>NAM Spending:</b>	<b>\$185,727</b>	<b>\$199,232</b>	<b>\$13,505</b>	<b>7.3%</b>	
Int'l Spending:	495,962.6	524,078.5	28,115.9	5.7%	
<b>Worldwide E&amp;P Spending:</b>	<b>\$681,690</b>	<b>\$723,311</b>	<b>\$41,621</b>	<b>6.1%</b>	<b>309</b>

Note: Dollars in millions  
 Source: Company data and Barclays Research

FIGURE 12

2014 E&P Spending by Geography



Source: Company data and Barclays Research

**Sustained Oil Prices Support View of Long-Term Trend in Spending**

The increase in global capital expenditure budgets forecast for 2014 should be supported by the current commodity price environment, in our view. In the North American markets, E&P spending levels have consistently expanded amid the sustained high price for oil over the last several years and we think the trend will continue in 2014 as the industry further shifts into development mode and operators take advantage of attractive well economics, premium service technology and a favorable business environment in which to deploy capital. International oil prices are also supportive of increased spending levels, and we anticipate the large NOCs that dominate spending internationally will continue to expand capital budgets as breakeven economics for most plays outside NAM are favorable at levels well below the current price of Brent.

## KEY DRIVERS OF E&P SPENDING IN 2014

Our spending analysis goes beyond simply gauging year over year changes in E&P capital budgets. We ask the operators a number of questions surrounding commodity price assumptions, technology trends and geo-markets to better understand the key drivers of E&P spending patterns. We find these discussions instructive with respect to the industry's view on capital allocation.

### Commodity Prices Remain Supportive of NAM E&P CAPEX

One of the most important questions we ask our surveyed companies is: "What Oil and Natural Gas price are you assuming to plan your capital budget?" Operators in North America are basing 2014 capital budgets on an average oil price of \$89 WTI and an average natural gas price of \$3.66 Henry Hub (or \$3.33 AECO for Canadians using the Alberta benchmark). These budgeted levels compare to current prices of \$98 WTI, \$4.11 Henry Hub and \$3.79 AECO.

#### 2014 Outlook for WTI Prices will Likely Prove Conservative

Our surveyed companies have consistently used conservative oil prices when budgeting for upstream spending. Since 2000, E&Ps have provided an initial WTI price outlook that has fallen short of the realized price by an average of 21%. With the initial WTI budget assumption for 2014 of \$89/bbl 10% lower than the current price of WTI at \$98/bbl, we think the trend of E&Ps underestimating future oil prices will continue.

We believe conservatism on the part of the North American E&Ps when budgeting for oil prices supports our view that the industry can withstand moderate commodity price volatility and a modest drop in prices over the next year without impacting upstream activity. Barclays Research is currently forecasting an average WTI price of \$98/bbl for 2014, which is in line-with current levels.

*E&Ps are using \$89 WTI for their 2014 CAPEX budgets*

FIGURE 13

#### E&P Budget Assumptions for WTI vs. Actual Prices (\$/bbl)

Year	Actual Price	Initial E&P Outlook	Difference, %	Mid-Year E&P Outlook	Difference, %
2000	\$30.30	\$19.25	-36.5%	\$22.04	-27.3%
2001	\$26.00	\$25.25	-2.9%	\$26.00	0.0%
2002	\$26.10	\$21.09	-19.2%	\$22.00	-15.7%
2003	\$31.00	\$23.22	-25.1%	\$24.11	-22.2%
2004	\$41.50	\$25.29	-39.1%	\$28.44	-31.5%
2005	\$56.70	\$35.81	-36.8%	\$40.85	-28.0%
2006	\$66.20	\$49.89	-24.6%	\$55.70	-15.9%
2007	\$72.40	\$55.65	-23.1%	\$56.90	-21.4%
2008	\$99.70	\$67.91	-31.9%	\$85.23	-14.5%
2009	\$62.10	\$58.30	-6.1%	\$50.18	-19.2%
2010	\$79.60	\$70.16	-11.9%	\$73.56	-7.6%
2011	\$95.10	\$77.32	-18.7%	\$87.02	-8.5%
2012	\$94.08	\$87.17	-7.3%	\$94.57	0.5%
2013E	\$98.00*	\$84.51	-13.8%	\$86.50	-11.7%
2014E	\$97.00*	\$89.44	-7.8%		
Average, 2000-2013			-21.2%		-15.9%

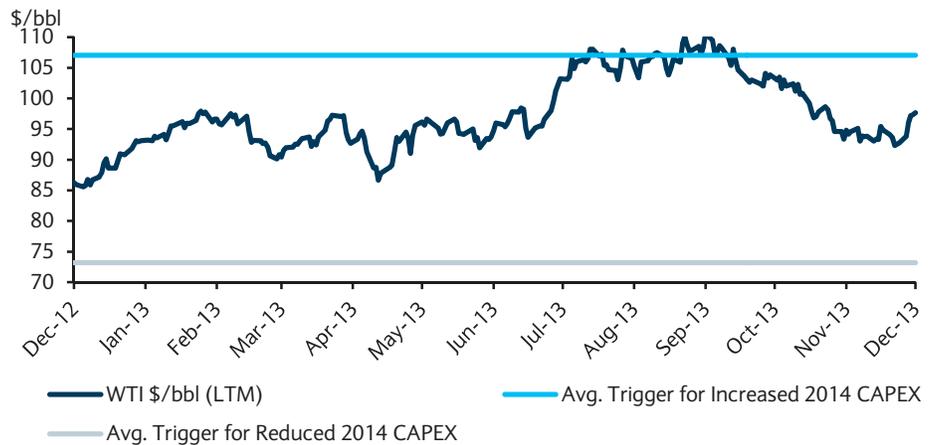
\*2013 and 2014 actual are Barclays Research estimates

Source: Barclays Research, Company Data

### Potential Upside to Current CAPEX Estimates Outweighs Downside Risk

North American operators indicated they would likely increase upstream spending if WTI prices increase moderately from current levels. Additionally, the NAM E&Ps have budgeted in a large cushion should oil prices decline next year. According to our discussions, the average E&P benchmarking off WTI would boost CAPEX if WTI averages \$107/bbl next year (a modest 9% premium over current levels). Conversely, the price at which most E&Ps would begin reducing CAPEX is significantly lower than current levels at \$74/bbl, or a 25% discount to today's price. We think the average thresholds suggested by the operators indicate an attractive upside/downside scenario for spending next year.

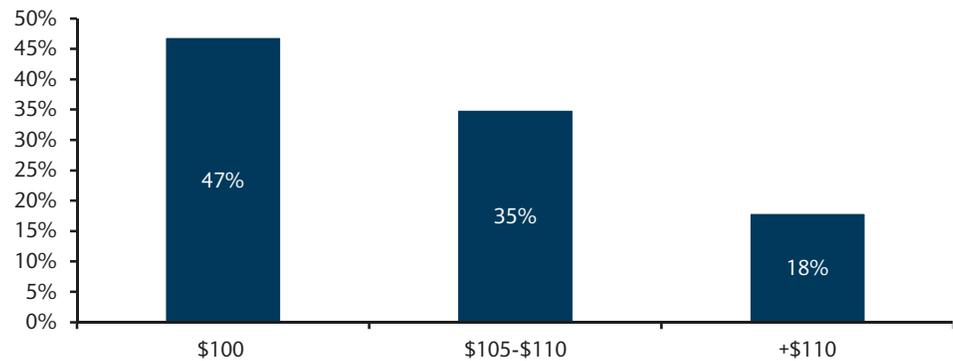
FIGURE 14  
WTI Price Thresholds for Increased/Reduced CAPEX in 2014



Source: Barclays Research, Company Data, Factset

While the average price at which NAM E&Ps will boost CAPEX is \$107/bbl, a large percentage of our surveyed companies indicated they would likely increase spending at levels closer to \$100/bbl. The chart below highlights the percentage of companies that would increase 2014 CAPEX at various price levels for WTI and shows that nearly half of NAM E&Ps would consider raising upstream spend if WTI averages \$100 next year (a slight 2% premium from current levels).

FIGURE 15  
Percent of NAM E&Ps Likely to Boost CAPEX at Various WTI Price Levels



Source: Barclays Research, Company Data

North American E&Ps are budgeting \$3.66/mmbtu for 2014

### Natural Gas Price Assumptions for 2014 are below Current Price Levels

North American operators taking part in our survey have consistently missed the mark in forecasting natural gas prices, though we think the impact of natural gas prices on current spending estimates will likely be lower than in past years given the prolific shift towards oil activity. From 2009 to 2012, E&Ps significantly overestimated the price of natural gas when planning the upcoming year's budget by an average of 31%. It appears the trend of excessive optimism surrounding natural gas prices has reversed course in 2013. Henry Hub prices have averaged \$3.69/mmbtu YTD, which is 6% higher than the initial price assumption offered by the E&Ps a year ago and roughly 2% higher than the assumption offered during the mid-year outlook in June.

Assuming stable natural gas prices the remainder of the year (Barclays Research estimates the average natural gas price for 2013E will finish at \$3.75), 2013 will be the first year since the 2008 peak in which the E&Ps underestimated the full year average price for gas. The data collected for the 2014 outlook suggests a repeat for next year. Current Henry Hub prices, at \$4.11/mmbtu, are 13% higher than the assumption of \$3.66/mmbtu currently factored into operator budgets. Barclays Research estimates the price for natural gas in the U.S. will average \$3.88/mmbtu next year.

FIGURE 16  
E&P Budget Assumptions for Natural Gas vs. Actual Prices (\$/mmbtu)

Year	Actual Price	Initial E&P Outlook	Difference, %	Mid-Year E&P Outlook	Difference, %
2000	\$4.32	\$2.38	-44.9%	\$2.58	-40.3%
2001	\$4.05	\$3.75	-7.4%	\$4.40	8.6%
2002	\$3.37	\$2.83	-16.0%	\$3.03	-10.1%
2003	\$5.49	\$3.42	-37.7%	\$4.10	-25.3%
2004	\$6.18	\$4.17	-32.5%	\$4.76	-23.0%
2005	\$9.48	\$5.39	-43.1%	\$5.74	-39.5%
2006	\$6.98	\$7.64	9.5%	\$6.96	-0.3%
2007	\$7.12	\$6.70	-5.9%	\$6.74	-5.3%
2008	\$8.89	\$6.78	-23.7%	\$8.07	-9.2%
2009	\$4.16	\$6.35	52.6%	\$4.68	12.5%
2010	\$4.40	\$5.21	18.4%	\$4.65	5.7%
2011	\$4.02	\$4.31	7.2%	\$4.31	7.2%
2012	\$2.82	\$4.08	44.7%	\$2.40	-14.9%
2013E	\$3.75*	\$3.47	-7.5%	\$3.62	-3.5%
2014E	\$3.88*	\$3.66	-5.8%		
Average, 2000-2013			-6.2%		-9.8%

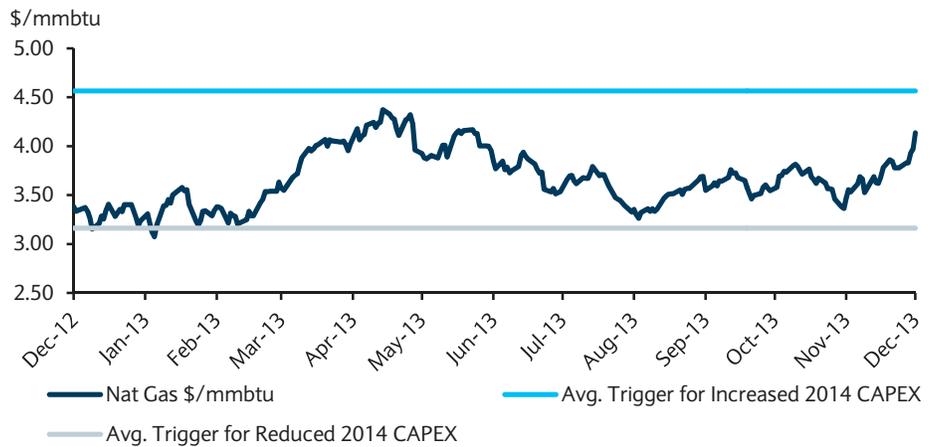
\*2013 and 2014 actual are Barclays Research estimates

Source: Barclays Research, Company Data

### More Balanced Upside/Downside Potential tied to Natural Gas CAPEX

NAM E&Ps suggested that an average natural gas price of \$4.57/mmbtu would likely lead to higher upstream spending next year, a 10% premium over current levels and an 18% premium over the Barclays Research estimate of \$3.88/mmbtu. On the other hand, the average operator we surveyed indicated it would not cut back on its spending plans unless the price for natural gas averaged \$3.16/mmbtu, a 24% discount from current levels and 18% lower than the Barclays Research estimate for next year.

FIGURE 17  
Henry Hub Price Thresholds for Increased/Reduced CAPEX in 2014

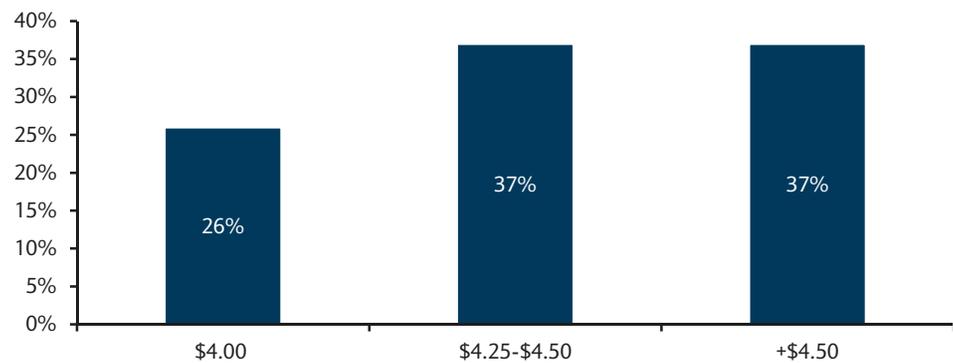


Source: Barclays Research, Company Data, Factset

Similar to the sensitivity breakdown for oil prices assumptions, we discovered that while the average operator would not likely boost CAPEX until price levels reached \$4.57/mmbtu, a good percentage of E&Ps would allocate more capital to upstream activity at higher natural gas prices.

While the average price at which NAM E&Ps will boost CAPEX is \$4.57/mmbtu, a large percentage of our surveyed companies indicated they would likely increase spending at levels closer to \$4.00/mmbtu. The chart below highlights the percentage of companies that would increase 2014 CAPEX at various price levels for Henry Hub prices and shows that over 25% of NAM E&Ps would consider boosting upstream spending if Henry Hub prices average \$4.00 next year (versus current levels of \$4.11).

FIGURE 18  
Percent of NAM E&Ps Likely to Boost CAPEX at Various Henry Hub Price Levels



Source: Barclays Research, Company Data

## International Operators also Baking in Conservatism

Prior to 2011, our survey offered only one blended oil price forecast, given the historically small spread between West Texas Intermediate and Brent (~3% on average from 2000 to 2010). However, after the spread widened in 2010, we began asking the companies to specify which benchmark they are using in their budget assumptions. Those tracking Brent have offered forecasts in line with the tradition of underestimating the actual price; the average Brent price forecast for 2013, offered in last year's survey, was \$98, a 10% discount to the YTD Brent average of \$108.6, and in line with the full year 2013 Barclays Research estimate of \$108. Results for this year's survey are likewise conservative with respondents forecasting an average Brent price of \$98 once again, a 7% discount to the Barclays Research 2013 estimate of \$105.

FIGURE 19  
E&P Budget Assumptions for Brent vs. Actual Prices (\$/bbl)

Year	Actual Price	Initial E&P Outlook	Difference, %	Mid-Year E&P Outlook	Difference, %
2000	\$28.50	\$19.25	-32.5%	\$22.04	-22.7%
2001	\$24.90	\$25.25	1.4%	\$26.00	4.4%
2002	\$25.00	\$21.09	-15.6%	\$22.00	-12.0%
2003	\$28.50	\$23.22	-18.5%	\$24.11	-15.4%
2004	\$38.00	\$25.29	-33.4%	\$28.44	-25.2%
2005	\$55.30	\$35.81	-35.2%	\$40.85	-26.1%
2006	\$66.10	\$49.89	-24.5%	\$55.70	-15.7%
2007	\$72.70	\$55.65	-23.5%	\$56.90	-21.7%
2008	\$98.40	\$67.91	-31.0%	\$85.23	-13.4%
2009	\$62.70	\$58.30	-7.0%	\$50.18	-20.0%
2010	\$80.30	\$70.16	-12.6%	\$73.56	-8.4%
2011	\$110.90	\$77.32	-30.3%	\$87.02	-21.5%
2012	\$111.41	\$97.73	-12.3%	\$100.10	-10.2%
2013E	\$108.00*	\$97.93	-9.3%	\$101.25	-6.3%
2014E	\$105.00*	\$97.78	-6.9%		
Average, 2000-2013			-20.3%		-15.3%

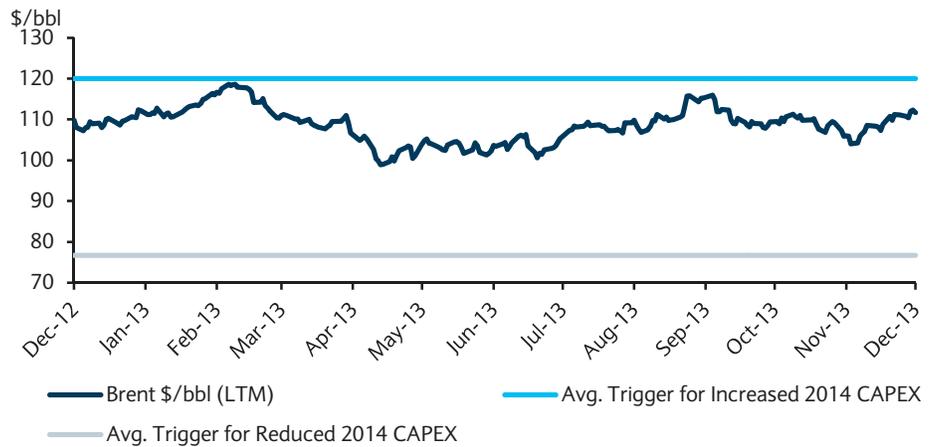
\*2013 and 2014 actual are Barclays Research estimates

Source: Barclays Research, Company Data

### Upside/Downside Potential Attractive

The results from respondents related to operator willingness to increase or reduce budgets based on fluctuations in commodity prices are compelling in our view, with a bias toward the upside. According to our discussions, the average E&P benchmarking off Brent would boost CAPEX if Brent averages \$120/bbl next year (a modest 8% premium over current levels). Conversely, the price at which most E&Ps would begin reducing CAPEX is significantly lower than current levels at \$77/bbl, or a 30% discount to today's price. We think the average thresholds suggested by the operators indicate an attractive upside/downside scenario for spending next year.

FIGURE 20  
Brent Price Thresholds for Increased/Reduced CAPEX in 2014



Source: Barclays Research, Company Data, Factset

### Horizontal Drilling, Stimulation Continue to Drive E&P Spend

For the sixth consecutive year, Fracturing/Stimulation and Horizontal Drilling were most commonly cited among operators as having the greatest impact on their spending plans. 3D/4D Seismic fell, which is not surprising given recent shift away from exploration spending and towards Reservoir Recovery Optimization, which was up significantly. Directional Drilling, MWD/LWD, Artificial Lift, Intelligent Well Completions, and Drill Bit Technology were also frequently mentioned as important technologies used in the oilfield.

FIGURE 21  
Most Important Technologies (ranked by percentage of responses)

	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Fracturing/Stimulation	27%	22%	29%	28%	23%	26%	21%	26%	22%	16%	19%	14%	18%	11%	11%
Horizontal Drilling	24%	24%	26%	25%	23%	22%	16%	14%	16%	16%	14%	15%	14%	17%	12%
Reservoir Recovery Optimization	12%	6%	5%	6%	7%	7%	10%	9%	7%	8%	9%	10%	NA	NA	NA
3D/4D Seismic	11%	19%	10%	19%	20%	19%	22%	22%	25%	29%	27%	29%	36%	58%	58%
Directional Drilling	7%	7%	9%	7%	7%	7%	11%	10%	9%	9%	11%	11%	11%	4%	4%
Measurement / Logging While Drilling	5%	5%	6%	4%	5%	1%	3%	4%	2%	1%	1%	3%	2%	1%	1%
Drill Bit Technology	4%	3%	3%	5%	5%	6%	4%	5%	8%	9%	5%	4%	4%	3%	2%
Artificial Lift	4%	2%	3%	NA											
Intelligent Well Completions	3%	7%	5%	2%	2%	3%	3%	4%	4%	4%	5%	5%	6%	1%	1%
Deepwater Technology	3%	1%	3%	1%	2%	1%	2%	0%	1%	1%	1%	2%	2%	1%	4%
Other	1%	2%	NA												
Expandable Products	0%	2%	0%	1%	1%	1%	0%	0%	0%	1%	1%	0%	NA	NA	NA

Source: Barclays Research

### Oil Prices Still Dominating Budget Decisions

*Continuing the massive shift in activity from gas plays to oil, over 60% of respondents cited oil prices as a key factor in their 2014 CAPEX plans*

Our most recent surveys indicate that oil prices remain the overwhelming determinant of E&P spending, with over 60% of respondents claiming that the price of oil will be a key factor in 2014 budget plans. The renaissance continues in North America and this marks the fourth year in a row in which companies indicated that oil prices weighed more heavily on spending decisions than gas prices. Additionally, a renewed focus on cash flow was a common theme during our conversations and has risen significantly as a priority among E&Ps over the past two years.

FIGURE 22  
Key Determinants of E&P Spending in 2000-2014E (percentage of responses)

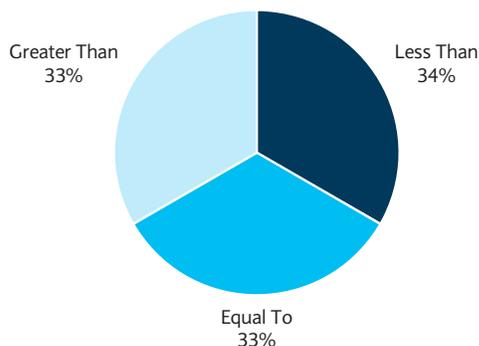
	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Oil Prices	63%	70%	54%	49%	45%	49%	39%	39%	51%	50%	44%	43%	51%	47%	59%
Cash Flow	60%	64%	46%	53%	48%	48%	47%	42%	36%	60%	54%	53%	59%	65%	68%
Drilling Success	37%	39%	31%	25%	21%	26%	39%	35%	34%	43%	43%	30%	30%	44%	41%
Natural Gas Prices	30%	42%	47%	42%	54%	55%	51%	53%	61%	52%	73%	55%	67%	66%	68%
Prospect Availability	27%	30%	32%	22%	18%	23%	45%	42%	53%	58%	51%	55%	39%	60%	45%
Drilling Costs	27%	24%	29%	24%	24%	31%	36%	37%	40%	41%	38%	35%	49%	35%	31%
Capital Availability	20%	24%	32%	26%	35%	29%	23%	28%	23%	32%	39%	36%	37%	43%	52%
Other	7%	6%	NA												

Source: Barclays Research

*More E&Ps are planning to spend below cash flow in 2014 (42%) than in 2013 (34%)*

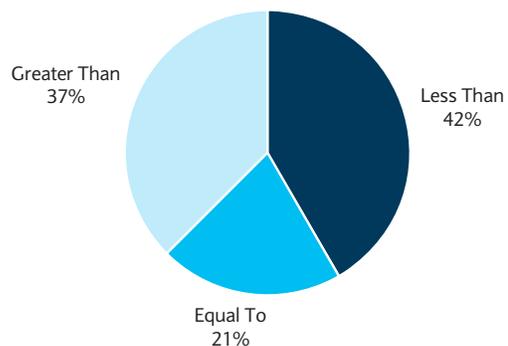
Cash flow has traditionally ranked high as a key determinant for E&P companies and we believe it will remain an important determinant of spending in 2014. We think companies will continue to drill as long as it is economic and they have the cash flow to support drilling. The majority of companies we surveyed (63%) expect to spend within their cash flow during 2014, with 21% projecting expenditures to be equal to cash flow and 42% expecting spending to be less than cash flow. This compares to 67% of companies which expect to spend within cash flow in 2013 including 33% anticipating expenditures will equal cash flow and 34% which expect expenditures will be less than cash flow.

FIGURE 23  
E&P Spending vs. Cash Flow in 2013



Source: Barclays Research

FIGURE 24  
E&P Spending vs. Cash Flow in 2014



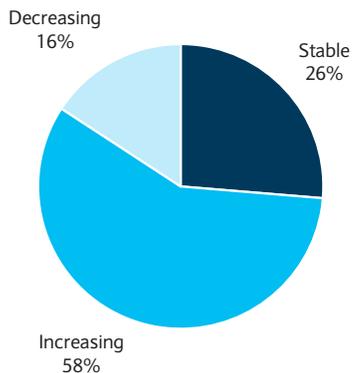
Source: Barclays Research

*We think there is room for growth in exploration budgets as increasingly complex and expensive reserves are pursued*

### Exploration Spending to Remain High, But Growth is Slowing

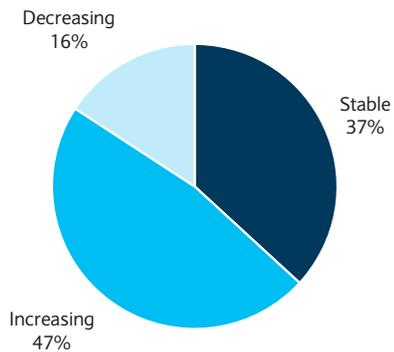
The majority of our surveyed companies (53%) indicated that exploration budgets would remain stable or decrease next year, up from 42% last year. Despite the recent pullback in exploration spending, we believe there is room for budgets to grow given the long term trend towards finding increasingly complex and expensive reserves. While the near-term outlook for exploration is somewhat mixed, we expect exploration budgets to remain elevated over the long term as offshore operators move into deeper waters to search for oil and gas and onshore companies increasingly shift towards unconventional plays.

FIGURE 25  
2013 Exploration Budget versus Total E&P Capital Expenditures



Source: Barclays Research

FIGURE 26  
2014 Exploration Budget versus Total E&P Capital Expenditures



Source: Barclays Research

### Good Outlook for International Exploration

The outlook for the economics of exploration mostly improved for 2014 versus the prior year. International exploration economics continue to be viewed favorably among the regions in our survey, and 63% of companies believe the economics for 2014 are “excellent” or “good.” The outlook in the U.S. also remains positive, and 65% of companies responded “excellent” or “good.” The proportion of companies that responded “poor” decreased most significantly in Canada where the majority of respondents now view the region more positively. Approximately 88% of companies believe conditions in Canada are “good” or “fair,” up from 58% in 2013.

FIGURE 27  
Economics of Exploration in the U.S., Canada, and Outside North America

	Excellent							Good							Fair							Poor						
	2014	2013	2012	2011	2010	2009	2008	2014	2013	2012	2011	2010	2009	2008	2014	2013	2012	2011	2010	2009	2008	2014	2013	2012	2011	2010	2009	2008
United States	24%	28%	15%	8%	2%	5%	11%	41%	56%	42%	38%	44%	53%	49%	35%	12%	42%	37%	43%	34%	35%	0%	4%	2%	17%	11%	8%	4%
Canada	13%	17%	9%	9%	0%	5%	4%	63%	33%	48%	35%	21%	32%	32%	25%	25%	39%	33%	62%	51%	50%	0%	25%	4%	23%	17%	12%	14%
International	18%	29%	26%	24%	26%	18%	23%	45%	46%	42%	37%	53%	37%	43%	27%	13%	32%	28%	12%	39%	30%	9%	13%	0%	11%	9%	5%	4%

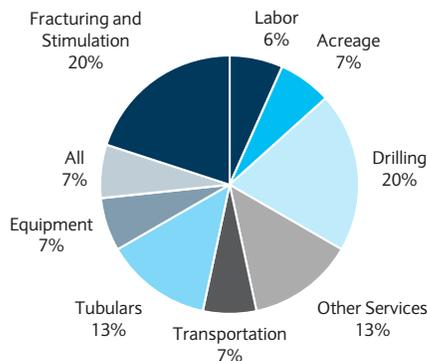
Source: Barclays Research

### Expectations for Higher Pricing Next Year

About 40% of respondents expect fracturing/stimulation and drilling cost increases in 2014

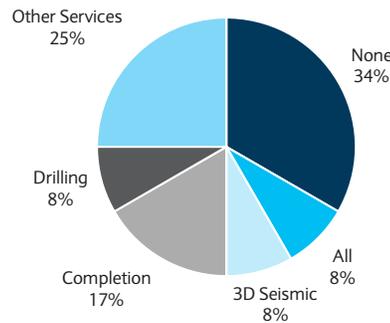
E&P companies are expecting service prices to increase in 2014 and roughly 40% of respondents expect fracturing/stimulation and drilling cost increases in 2014. We expect high levels of utilization will drive prices higher internationally across the full array of service and equipment product lines. We believe that capacity for well servicing and stimulation will tighten in 2014 and price increases may follow and day-rates for land rigs will modestly increase as a higher percentage of the industry fleet will be made up of high-spec units that command better pricing.

FIGURE 28  
% of Respondents who Expect Increased Costs in 2014 (by product area)



Source: Barclays Research

FIGURE 29  
% of Respondents who Expect Decreased Costs in 2014 (by product area)



Source: Barclays Research

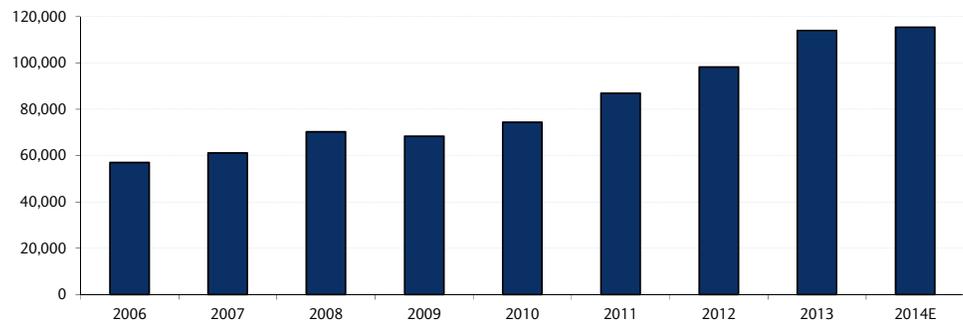
# Company Type and Regional Breakout

## SUPERMAJORS: UNDER-INVESTING IN OUR VIEW

*The European majors, led by Total (as well as Statoil), are leading the call for capital constraints*

Following several years of investor preference for production growth over cash flow growth, the pendulum has recently swung the other way, creating a period of soul searching for the Supermajors. The European majors, led by Total (as well as Statoil), are leading the call for capital constraints and attempting to adhere to investor concerns about cost overruns and lackluster cash returns (particularly in the current yield-hungry environment). As a result, we think there is scope for large projects to be postponed and potentially scrapped in the coming years and expect more scrutiny around ones that remain on the table. **We think this slowing of capital spending growth being expressed by the Majors presents dangers to global oil markets.** This trend is reminiscent of the early-to-mid 2000s, another time the Majors failed to invest, contributing to significant oil price appreciation in the mid-2000s. We expect an increasing divergence of capital allocation strategies will emerge among the Supermajors with some of these companies rising to the competitive challenges presented by the NOCs (which are increasingly pursuing unconventional and offshore opportunities), and others retreating from prior production growth strategies in an effort to satisfy near-term shareholder demands. This dynamic should exacerbate the rise of the NOCs and create more international opportunities for these state-owned players.

FIGURE 30  
Aggregate Supermajor E&P Spending, 2006 to 2014E (\$'s in Billions)



Source: Company Data and Barclays Research

## “The Barclays Supermajors”

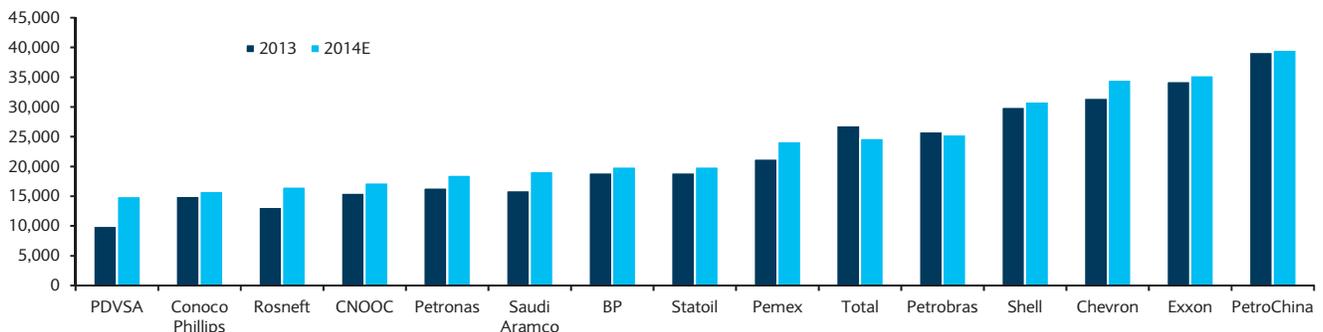
### NOCs Outpacing Majors in “Barclays Supermajor” Spending

Before we take a walk around the world and discuss the outlooks for individual markets, let’s first discuss the “Barclays Supermajors”, a mix of IOCs and NOCs that spend over \$15 billion globally. This year there are two new entrants to this club of mega-spenders, including Rosneft and PDVSA (15 companies in total, up from 13 last year). The dated term “Supermajor” which referred to those companies with fully integrated exploration, production, refining and marketing capabilities is no longer relevant as a new class of global players have evolved. The majority of the new “Supermajors” spend virtually everywhere and this group is anticipated to drive international spending in the coming years. These companies (53% of which are NOCs), are also driving innovation and R&D spending in their home countries and abroad (via new technology hubs around the world). The Barclays Supermajors should continue to scour the globe in search of incremental production and drive international spending higher in the coming years. In aggregate, the Barclays Supermajors are expected to increase 2014 international budgets by 7% (down from 10% in 2013); however, we note that the NOCs included in the Barclays Supermajors are expected to grow spending over 11.5% in 2014 (11% internationally). Further, excluding PetroChina (the world’s largest spender which we expect to exhibit flat spending in 2014 due to transitory corruption probes within the company and in the Chinese government), the NOCs in the Barclays Supermajors would be expected to be up over 15%. On the other hand, the IOCs in this group are increasing spending by an anemic 3% worldwide and 2% internationally.

This group of Barclays Supermajors is shown in Figure 31 and represents about \$357 billion in annual spending or 49% of the total market (up from 45% in 2013) and spends \$302 billion internationally (58% of total international spending). All but two are increasing E&P spending this year, with the exceptions being Petrobras and Total.

In the U.S., the Barclays Supermajors are expected to spend \$42.6 billion, up from \$39.3 billion in 2013 (+8.5%), largely driven by increased U.S. spending by Chevron, ConocoPhillips, and CNOOC. We believe these increases are driven primarily by steadily increasing spending in the U.S. land market and the substantial activity growth that is unfolding in the U.S. Gulf of Mexico (in addition to increased Alaska spend for ConocoPhillips).

FIGURE 31  
The Barclays Supermajors – Worldwide E&P Spending, 2013 and 2014E (\$ in Millions)



Source: Company Data and Barclays Research

## HEALTHY U.S. GAINS DRIVEN BY THE LAND MARKET AND GULF OF MEXICO

*We think activity levels in the U.S. market are poised to resume a steady upward trend in 2014*

*We are forecasting an 8.5% increase in U.S. upstream spending next year*

After a slight breather in 2013 following several years of intense CAPEX acceleration, we think activity levels in the U.S. market are poised to resume a steady upward trend in 2014. Spending gains in the U.S. after the 2009 downturn were impressive, with annual increases in upstream CAPEX averaging ~20% from 2009 through 2012. In 2013, there was a tapering in spending increases, though the trend was still positive as we expect 2013 CAPEX in the U.S. will be roughly 4.3% higher than 2012 levels.

We think the modest pause in spending acceleration in 2013 was the result of a combination of factors including drilling and well service efficiencies in the land market, which enabled the E&Ps to realize lower costs, and a more general capital deployment adjustment on the part of the operators as they assessed resource acreage and began to position for the next phase of the unconventional revolution in North America. We believe well inventories are at the highest levels ever for companies that drill in the United States.

Next year, we anticipate a renewed acceleration and are forecasting an 8.5% increase in upstream spending. We think spending gains will be dominated by the large independents who typically spend more than \$1 billion in the domestic market, though smaller E&Ps are poised to pick up spending as well.

FIGURE 32  
U.S. Spending Breakout by Company Budget Size (\$ in millions)

	2014E	2013E	YoY % Change	Companies Surveyed
Spending less than \$50mm	630	610	3%	46
Spending between \$50mm and \$100mm	852	681	25%	10
Total Spending under \$100mm	1,482	1,291	15%	56
Spending between \$100mm and \$1bn	25,262	24,954	1%	53
Spending more than \$1bn	129,420	117,744	10%	40
Total U.S. Spending	156,164	143,989	8.5%	149

Source: Barclays Research, Company Data

### Shift to Full Scale Development will Require Increased CAPEX in the U.S. Land Market

*We think the next phase of the unconventional revolution in the U.S. will be characterized by full-scale development of the shale plays*

*We continue to believe upstream spending will be dominated by oil directed activity next year*

We believe activity in the U.S. land market in 2014 will be driven by several key trends as the industry moves into the next phase of upstream activity, a phase we think will be characterized by full scale development of the shale plays. Proven oil reserves in the U.S. have surged to the highest level in 30 years and many of the NAM independents – who led the way in exploring the shale frontier during the initial phase of the unconventional revolution – are sitting on multiple years (in some cases decades) worth of drilling inventory. Against this backdrop, we expect the E&Ps – led by the NAM independents – to address the growing inventory of undrilled wells in their acreage by allocating additional capital to the U.S. land market.

We also believe technology will become a driving factor in capital allocation as operators continue to seek out providers who possess the expertise to efficiently complete and service the growing number of wells poised to come on line over the next year. This of course plays into the strengths of the major integrated service companies and sophisticated SMID caps. Lastly, we continue to believe upstream spending will be dominated by oil directed activity

*We continue to believe upstream spending will be dominated by oil directed activity next year*

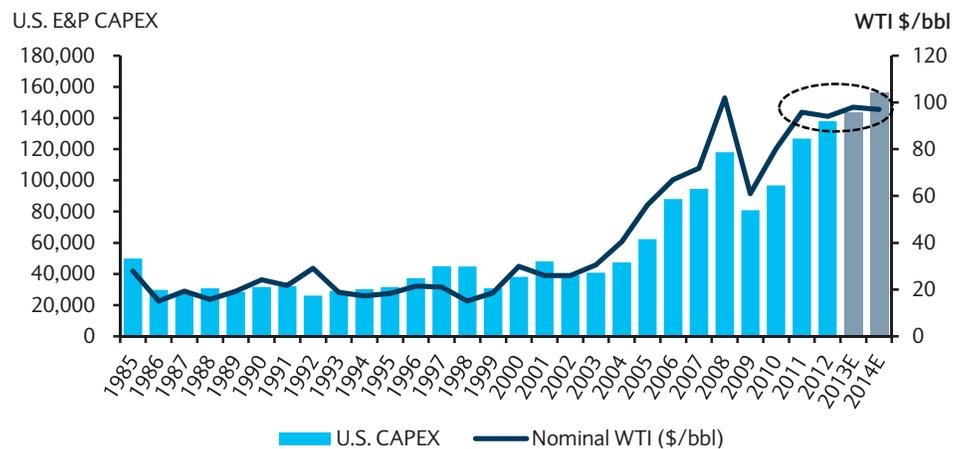
next year. We thinking spending gains in the Permian basin will outpace the rest of the market and are also bullish on activity levels in the Bakken, Eagle Ford, Niobrara and Granite Wash.

### Current WTI Prices are Supportive of Increased Capital Budgets

Historically, the correlation between oil prices in North America and upstream spending in the U.S. has been extremely high (the R-squared between nominal prices for WTI and U.S. upstream CAPEX is over 0.90 from 1985 through 2010). In recent years, however, we have seen a decoupling of the relationship between oil prices and upstream spending as CAPEX levels have risen consistently year over year amid an environment of relatively flat WTI prices. From 2011 to 2013E, upstream CAPEX in the U.S. has increased over 13% while WTI prices have averaged less than a 2% gain.

We believe this phenomenon is explained by the fundamental shift in spending patterns brought on by the unconventional revolution. Unconventional wells cost more than 2x the average conventional well to drill and complete and are also more costly to maintain. We also believe this trend is sustainable – provided oil prices remain relatively stable and do not sustain a prolonged decline below the ~\$80/bbl threshold that would likely result in budget cutbacks from the U.S. E&Ps. Surging U.S. production is also adding to this trend.

FIGURE 33  
U.S. E&P Spending vs. WTI (1985-2014E)



Source: Barclays Research, Thomson ONE, Company Data

*We think the Permian will be a dominant driver of incremental activity in the U.S. land basins next year*

### Basin Outlook Dominated by the Oil Plays

We think the Permian will be a dominant driver of incremental activity in the U.S. land basins next year. Horizontal activity is becoming the predominant form of drilling as operators continue to exploit the unconventional resources in the region and a number E&Ps have plans to ramp unconventional activity in the Permian next year, notably Pioneer Natural Resources. Traditional big spenders in the Permian include Pioneer, Apache, Anadarko, Devon, and Concho – all of which plan to substantially increase spending in the U.S. next year.

*Other oil plays should see activity ramps from the large independents next year as well*

Other oil plays should see activity ramps from the large independents next year as well. In the Bakken, Continental Resources, the most active E&P in the region, has plans to ramp upstream spending by nearly 14% in 2014. The bulk of Continental’s budget will be deployed in the Bakken where the company intends to increase its net well count by 22%. Additional capital (roughly \$900 million) will be allocated to the emerging “SCOOP” play in Oklahoma, where Continental plans to increase its well count by over 30%. Noble Energy is expected to surge upstream CAPEX by over 40% in 2014. Noble is a prolific spender in the

U.S. with a diverse set of assets that includes offshore plays in the Gulf of Mexico; however, we think the most notable spending trend from the company relates to its long-term plans in the Niobrara where the company is targeting a long-term run rate of new well completions that is +40% higher than current levels.

FIGURE 34  
CAPEX Trends from Key U.S. Independent E&Ps

	2013 U.S. CAPEX	2014 U.S. CAPEX	% change
Anadarko Petroleum Corp.	\$5,625	\$6,225	10.7%
Apache	5,550	5,875	5.9%
Concho Resources	1,560	2,047	31.2%
Continental Resources	3,600	4,100	13.9%
Devon Energy	4,340	5,940	36.9%
Noble Energy	2,574	3,632	41.1%
Pioneer Natural Resources	2,550	2,850	11.8%

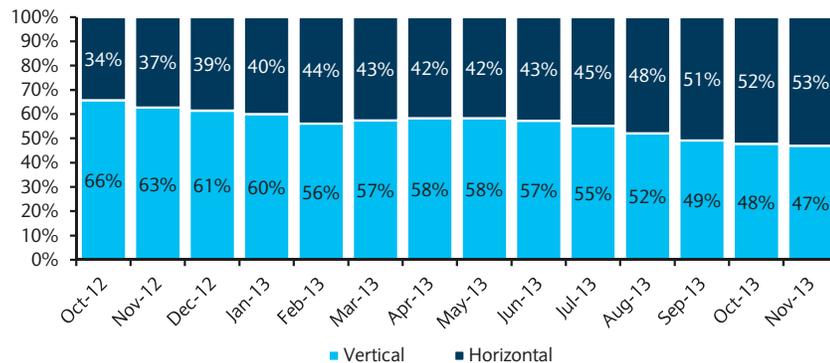
Source: Barclays Research, Company Data

### A Further Look into the Implications for Increased Horizontal Activity in the Permian in 2014

*The Permian could experience net additions for horizontal rigs in the 50-70 unit range*

The Permian has been a challenging basin for many service companies in 2013 due to a supply glut of service equipment across multiple product lines, particularly products tied to new well completions. The outlook is improving and fundamentals should continue to inflect in favor of the service companies throughout 2014, in our view. Our E&P spending data indicates solid spending increases from many of the traditional Permian operators and other industry participants we have spoken with in recent weeks have suggested the Permian could experience net additions for horizontal rigs in the 50-70 unit range, or a ~35% increase from current levels. We think the demand tied to these units would help fully rebalance the market for pressure pumpers and provide better utilization for coiled tubing units, wireline equipment and land rigs.

FIGURE 35  
Permian Horizontal Rig Count (LTM)



Source: RigData, Barclays Research

*We think the companies that will benefit most are those with underutilized assets already positioned in the region that have leverage to well directed service lines*

We think a number of companies will be beneficiaries of the uptick in horizontal drilling in the Permian. The land drillers, particularly HP and PTEN, have strong exposure to the West Texas markets and are likely candidates for additional newbuild awards – several have already been announced. However, we think the companies that will benefit most from the incremental activity are those companies with underutilized assets already positioned in the region that have leverage to well directed service lines. BAS, CJES and KEG have the

strongest overall exposure from their current asset dispositions but we prefer CJES and KEG given the relative quality of the equipment in the respective fleets.

FIGURE 36  
Permian Revenue Contribution Estimates

Company	Revenue Exposure
BAS	44%
CJES	35%
KEG	22%
PTEN	20%
HP	19%
SPN	10%
NBR	8%
TCW	8%
PD	6%
MRC	5%
OIS	5%
ESI	4%

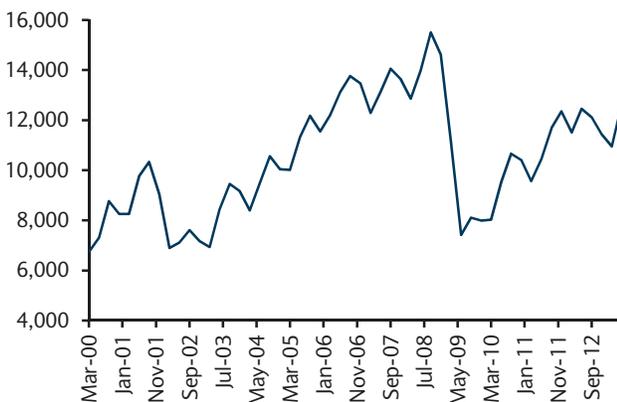
Source: Company data, Barclays Research

*We think the trend of spending less on rigs and more on completions will continue*

**Leverage to the Well Count will Continue to be a Critical Factor**

Just as important as how much the U.S. E&Ps spend next year is the manner in which they spend it. We think the trend of spending less on rigs and more on completions will continue. Additionally, we think an increasing amount of capital will be directed to production phase services. Artificial lift is a critical component to economic production in the liquid shales and the first large batch of new generation oil wells – drilled during the early stages of the oil renaissance – will begin crossing the age threshold when they require more maintenance, repair and workover services. We think this obviously favors those companies with leverage to increasing well counts – the large cap diversifieds and the SMID-cap service companies – and we think the E&Ps will increasingly look to partner with those companies that possess new technology that meets the need for efficient completion and production service work. This is an area where the large caps excel (Baker’s new FLEX pump is a good example of next generation lift technology for oil wells). Select SMID-caps are also moving up the technology curve in the U.S. land basins (CLB’s new Fracorator system is a potentially disruptive technology aimed at meeting demand for more efficient stimulation services).

FIGURE 37  
Total U.S. Well Completions



Source: American Petroleum Institute Quarterly Well Completion Report

FIGURE 38  
Total Footage Drilled (MM feet)



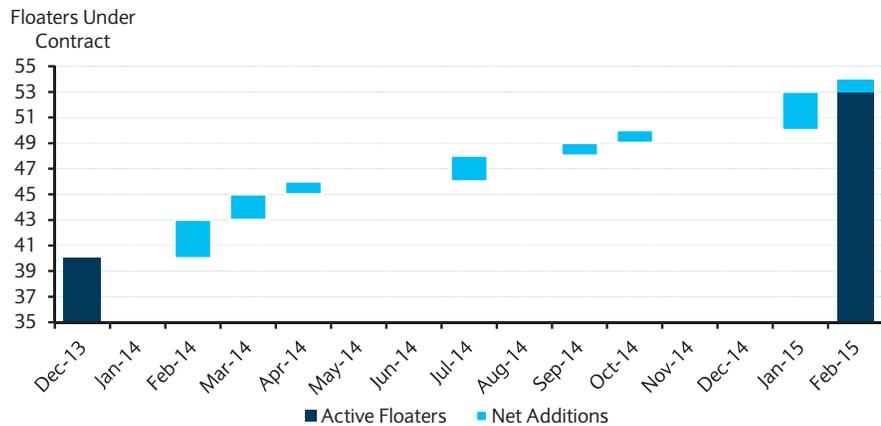
Source: American Petroleum Institute Quarterly Well Completion Report

## Floating Rig Surge to Continue

*We have visibility on 58 contracted deepwater rigs in the GOM over the next year and a half*

We continue to believe the floating rig count in the Gulf of Mexico will reach 60 by 2015. There are currently 40 rigs under contract in the region with the 41<sup>st</sup>, the *West Vela*, poised to commence its seven year contract with BP in the next two weeks. There are an additional 17 floaters scheduled to mobilize to the region or emerge from the yard to commence new contracts through 1Q15 giving us visibility on 58 contracted deepwater rigs over the next year and a half. Our current GOM floater model assumes moderate attrition from the active fleet (we assume roughly four floaters currently active in the GOM will either be cold stacked or depart for other regions over the next year). The implied net gain of 13 floaters suggests the active deepwater count will reach 54 rigs by early 2015. We do not assume any incremental additions above and beyond those rigs that have already secured contracts which provides upside to our current forecast.

FIGURE 39  
Gulf of Mexico Floater Forecast (Current – 1Q15)



Source: IHS-Petrodata, Barclays Research

FIGURE 40  
New Floater Contracts for the Gulf of Mexico

Rig Name	Contractor	Rig Type	Current Location	Future Location	Next Operator	Contract Start Date
Atwood Advantage	Atwood	Drillship	Far East	US GOM	Noble Energy	15-Feb-2014
Ocean Onyx	Diamond Offshore	Semisubmersible	Yard	US GOM	Apache	15-Feb-2014
Sevan Louisiana	Sevan Drilling	Semisubmersible	Far East	US GOM	LLOG	23-Feb-2014
Maersk Drsh Tbn2	Maersk Drilling	Drillship	Far East	US GOM	Marathon	20-Mar-2014
Maersk Viking	Maersk Drilling	Drillship	Far East	US GOM	ExxonMobil	28-Mar-2014
Ocean BlackHawk	Diamond Offshore	Drillship	Far East	US GOM	Anadarko	15-Apr-2014
Noble Bob Douglas	Noble	Drillship	Aus/NZ	US GOM	Anadarko	4-Jun-2014
Ocean BlackHornet	Diamond Offshore	Drillship	Far East	US GOM	Anadarko	25-Jun-2014
Deepwater Invictus	Transocean	Drillship	Far East	US GOM	BHP Billiton	1-Jul-2014
Pacific Sharav	Pacific Drilling	Drillship	Far East	US GOM	Chevron	1-Jul-2014
Noble Sam Croft	Noble	Drillship	Far East	US GOM	PXP	1-Aug-2014
Rowan Resolute	Rowan	Drillship	Far East	US GOM	Anadarko	30-Sep-2014
West Neptune	Seadrill	Drillship	Far East	US GOM	LLOG	1-Oct-2014
Noble Globetrotter II	Noble	Drillship	W Africa	US GOM	Shell	13-Jan-2015
Discoverer Americas	Transocean	Drillship	Indian Ocean	US GOM	Statoil	15-Jan-2015
Rowan Reliance	Rowan	Drillship	Far East	US GOM	Cobalt Intl	31-Jan-2015
Noble Tom Madden	Noble	Drillship	Far East	US GOM	PXP	1-Feb-2015
Transocean Drsh Tbn5	Transocean	Drillship	Far East	US GOM	Chevron	15-Dec-2016

Source: IHS-Petrodata, Barclays Research

*The availability of so many uncontracted floaters minimizes the risk of a net floater reduction in the GOM*

## Don't Forget about the Uncontracted Newbuilds Scheduled for Delivery in 2014

We think it is prudent to acknowledge the 16 newbuild floaters currently under construction and scheduled for delivery next year that have yet to secure initial awards. At present, we are not forecasting any of these units deploy to the GOM; however, it is reasonable to assume that E&Ps looking to high-grade their existing offshore rig base may seek to contract an available unit under construction as a replacement for an older rig. We would not be surprised to see a newbuild contract follow the release of an older generation floater currently working in the region. Such a swap could be viewed as incremental to the 18 floaters that are currently scheduled to mobilize to the GOM or simply as an offset to the loss of a rig from the existing base of 40 contracted rigs. Either way, the availability of so many uncontracted floaters minimizes the risk of a net floater reduction in the GOM, in our view.

**We also would not be surprised if one or more of these rigs are contracted absent any floater releases from the current GOM fleet.** This would give us contract visibility on an incremental rig beyond the 58 currently expected through early 2015. Additionally, on top of the 16 uncontracted newbuild floaters scheduled to complete construction in 2014, there are another 16 uncontracted newbuilds scheduled to deliver in 2015.

FIGURE 41

### Un-contracted Newbuild Floaters Scheduled for Delivery in 2014

Rig Name	Current Market Category	Contractor	Construction Status	Delivery Date
Dalian Developer	Drillship >7500	Odfjell Drilling	Under Construction	31-Mar-2014
Sevan UDW4	Semi >7500	Seadrill	Under Construction	30-Apr-2014
West Saturn	Drillship >7500	Seadrill	Under Construction	30-Apr-2014
Opus Tiger 1	Drillship 3001-5000	Opus Offshore	Under Construction	1-May-2014
Maersk Drsh Tbn3	Drillship >7500	Maersk Drilling	Under Construction	30-May-2014
Pacific Meltem	Drillship >7500	Pacific Drilling	Under Construction	15-Jun-2014
Ocean BlackRhino	Drillship >7500	Diamond Offshore	Under Construction	30-Jun-2014
Maersk Drsh Tbn4	Drillship >7500	Maersk Drilling	Under Construction	15-Jul-2014
ENSCO DS-8	Drillship >7500	Ensco	Under Construction	15-Aug-2014
West Jupiter	Drillship >7500	Seadrill	Under Construction	30-Aug-2014
COSLProspector	Semi Harsh Deepwater	COSL	Under Construction	30-Sep-2014
ENSCO DS-9	Drillship >7500	Ensco	Under Construction	15-Nov-2014
West Carina	Drillship >7500	Seadrill	Under Construction	30-Nov-2014
Brava Star	Drillship >7500	Queiroz Galvao	Under Construction	15-Dec-2014
Opus Tiger 2	Drillship <=3000	Opus Offshore	Under Construction	28-Dec-2014
Ocean BlackLion	Drillship >7500	Diamond Offshore	Under Construction	31-Dec-2014

Source: IHS-Petrodata, Barclays Research

## CANADA POISED FOR A RETURN TO GROWTH

*We project a 3% increase in Canadian E&P spending in 2014, though we believe our survey under-represents the impact of foreign spending*

*CNOOC and Petronas are poised for significant spending increases in the Canadian unconventional plays in 2014*

After two years of declining spending driven by weak natural gas prices, wide oil price differentials and challenged small-cap E&P balance sheets, Canada appears set for a return to growth. We forecast upstream E&P spending in Canada to be \$43 billion in 2014, up 3.2% from \$41.7 billion in 2013. The installation of midstream infrastructure, influx of capital from the majors and NOCs and a burgeoning LNG export market all point to an upward trajectory of E&P spending in Canada for the balance of the decade, in our view. While the impact to 2014 is expected to be rather modest, we see scope for upside in the latter part of the year from incremental activity tied to LNG exports. *We anticipate stair steps in activity in 2015 and 2016 as the LNG opportunity materializes.*

Smaller Canadian E&Ps remain somewhat hamstrung by the state of their balance sheets and commitment to the “growth and income” model. The smaller independents continue to be cautious, but if commodity prices hold at current levels, we believe there is scope for upside to activity in 2014, particularly in the second half as oil differentials likely ease. Our survey’s results point to incremental spending growth primarily from the large independents as well as NOCs that have bought up Canadian assets in recent years. However, given the challenges in determining precise drilling programs in country for several NOCs, we believe our spending estimates likely under-report their impact, implying a better outlook for Canadian oil service companies than our headline number suggests.

### Majors, NOCs delivering incremental spending in Canada...

Over the past few surveys, we have seen an increase in investment in Canada by the majors and national oil companies. PetroChina’s joint venture with EnCana to develop the Duvernay followed shortly after CNOOC’s acquisition of Nexen and Petronas’s takeover of Progress Energy. ExxonMobil closed its acquisition of Celtic Exploration in March as well. Talisman announced earlier this month it will sell 75% of its Montney assets to Petronas for \$1.5 billion. Each of these deals is leading to higher CAPEX spending in Canada, and increasing the influence of the NOCs on E&P spending in Alberta and (increasingly) British Columbia.

CNOOC (with Nexen) leads the pack in Canadian spending growth, with an estimated \$600 million increase over 2013 to roughly \$2 billion, followed closely by Petronas/Progress with a \$525 million hike in spending to about \$1.6 billion. Calfrac is a primary beneficiary of this increased spend given the company’s contract with Petronas for three additional spreads in the B.C. portion of the Montney. Chevron and Apache (JV partners in the Kitimat LNG project) are also budgeting higher upstream spending in Canada next year.

FIGURE 42  
Canadian Spending Breakout by Company Budget Size

	2014E	2013E	YoY % Change	Companies Surveyed
Spending less than \$50mm	499	527	-5%	25
Spending between \$50mm and \$100mm	1,057	1,167	-9%	14
Total Spending under \$100mm	1,555	1,694	-8%	39
Spending between \$100mm and \$1bn	13,272	13,257	0%	38
Spending more than \$1bn	28,241	26,787	5%	15
Total Canadian Spending	43,069	41,738	3.2%	92

Source: Company data, Barclays Research

*Greater adoption of pad drilling should lead to reduced seasonality and thus higher asset utilization for service companies*

**...which will drive further efficiency gains at the wellsite**

The Canadian shift from vertical to unconventional took hold considerably later this past cycle than in the U.S., and therefore Canada has a higher delta going forward in achieving the efficiency gains in drilling and completing unconventional wells. However, the transition is now well underway, and we believe the rise of the majors and NOCs in Canada will lead to increased 24-hour operations, more pad drilling and greater contract coverage, benefitting the biggest Canadian service and drilling competitors.

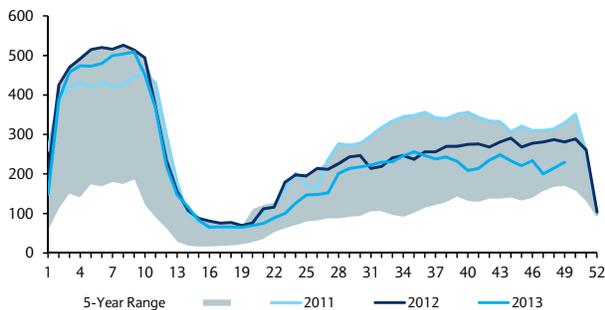
We view adoption of these efficiency methods as critical for Canada as it can allow operators to continue operations further into the spring break up season by reducing the need to move equipment over long distances. Recent newbuild rig contracts tied to the Horn River and Liard are based on 350 rig days a year and we expect more of these contracts in the coming years. For example, increased use of pad drilling is driving production growth in the Montney. Talisman reports that spud to total depth has been reduced from 60 days in 2009 to 36 days in 2012 in the Montney, while drilling and completion costs fell by 27% in 2012 from 2009 levels.

**Optimism quietly building in Canadian gas plays**

*The Canadian gas rig count is up 50% year-over-year on average in 2H13, led by incremental activity targeting shale gas*

While the Canadian oil rig count is down 15% year-over-year thus far in 2H13 compared to the 2H12, the natural gas rig count has averaged 50% higher than 2H12 levels, leaving the overall count in line with last year's average. These shifts in activity have been driven by diverging price differentials (a narrowing for AECO while WCS has widened out again) coupled with incremental drilling programs in the Montney, Duvernay and Horn River. British Columbia has been a primary beneficiary, where the rig count is up ~19% YTD, largely due to the portions of the Montney and Horn River in that province. The Montney and Horn River have attracted 63% of the \$7 billion invested in Canadian E&P joint ventures since 2010. In Alberta, drilling activity has been rising in 2H13, mostly in the Alberta portion the Montney and the still emerging Duvernay.

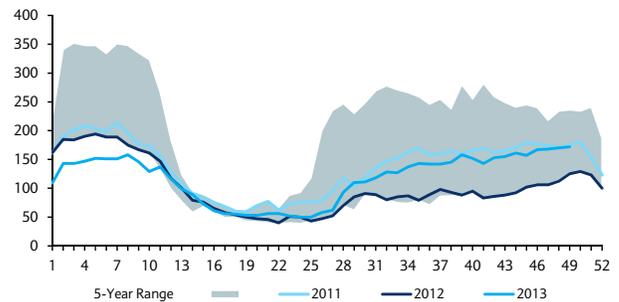
FIGURE 43  
Canadian Oil Rig Count



Source: Baker Hughes

*While AECO differentials have improved, WCS differentials remain elevated*

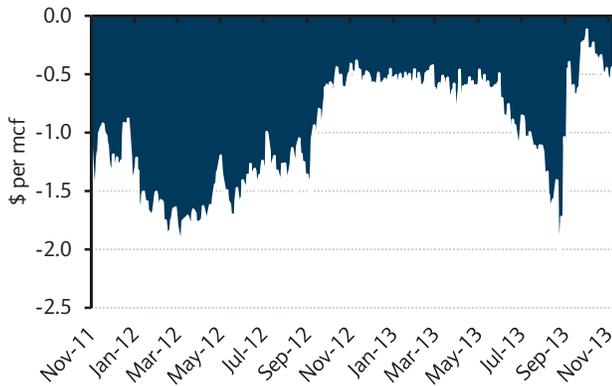
FIGURE 44  
Canadian Natural Gas Rig Count



Source: Baker Hughes

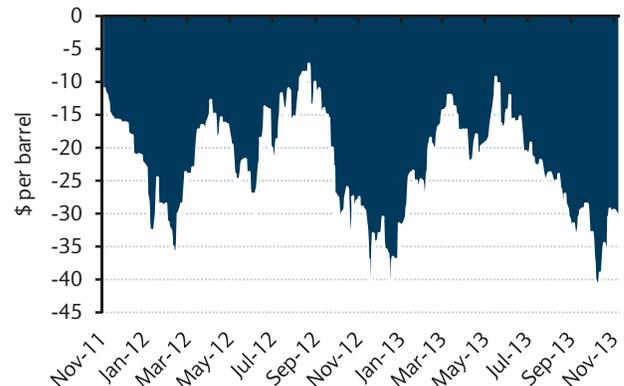
However, Canadian gas producers continue to face a structural headwind in the form of growing U.S. production, particularly in the Marcellus, which could make the Northeast U.S. self-sufficient on a year-round basis by 2015. AECO-Henry Hub differentials have widened on average in 2013 to -\$0.73/mmbtu, roughly double last year's -\$0.37 average. Volatility in gas differentials has been exacerbated by changes to TransCanada's toll structure in 2013, and the forward curve is implying expectations for lower differentials in 2014 (-\$0.40-\$0.45/mmbtu). Our commodities research colleagues expect the AECO basis to average -\$0.55/mmbtu in 2014 and widen to -\$0.70 in 2015. While the basis discount is expected to widen, nominal AECO prices should strengthen marginally, along with Henry Hub, to an average of \$3.33/mmbtu in 2014 and \$3.45 in 2015. Longer-term, Canadian gas appears likely to remain under pressure until LNG exports ramp towards the end of this decade.

FIGURE 45  
AECO-HH Differential: On the mend in 4Q



Source: Bloomberg, Barclays Research

FIGURE 46  
WCS-WTI Differential: Relief may not come before 2H14



Source: Bloomberg, Barclays Research

*New processing and refining capacity is on the way, but the impact should be fairly muted until 2H14*

**Oil differentials should narrow in 2H14**

The WCS-WTI oil price differential has narrowed to around \$30/bbl, still wide by historical levels but a significant improvement from the \$42/bbl reached on November 5th. The wide differential is the result of refineries in the U.S. and Canada remaining offline and production from oil sands projects exceeding increased takeaway capacity. New processing and takeaway capacity (including new rail facilities, new heavy refining capacity, and pipeline transport connections) should be able to handle incremental heavy oil supplies and ease the discount, though our commodities team does not expect a material improvement until 2H14, after Enbridge’s Line 6B and Flanagan South come online, enhancing connectivity to U.S. and Eastern Canadian refiners. Approval of the northern leg of the Keystone XL pipeline, which will transport oil from Alberta to Cushing, remains the most significant catalyst for improving takeaway bottlenecks, in our view.

*The LNG upcycle is coming in 2015*

**LNG export activity could be a boost to 2H14**

While gas producers have grown modestly more optimistic, their best hope for material improvements in the supply-demand dynamic for Canadian gas is LNG exports to Asia. Canadian gas production has seen a steady slide since 2008, and the country is currently producing only ~13 bcf/day, down from ~16 bcf/day last cycle. There are nine proposed liquefaction facilities, totaling 10-15 bcf/day; even a fraction of that capacity of 5 bcf/day coming to fruition could require a ~40% increase in production. Three projects have

FIGURE 47  
Proposed Canadian LNG export terminals

Project	Location	Operator	Start Year	Capacity (bcf/day)	Capacity (mt/yr)	Contracted (bcf/day)	NEB Approval	Resource Base	Pipeline Access
BC LNG (Douglas Channel)	Kitimat	Douglas Channel EP	2017	0.25	1.8	0.25	approved	existing production	existing infrastructure
Triton LNG		Altagas/Idemitsu	2017	0.3	2.3		pending	West Canadian gas	existing infrastructure
Pacific Northwest LNG	Prince Rupert	Petronas/Japex	2018	2.6	20	0.08	pending	Montney, Horn River	Prince Rupert Gas Transmission (2 bcf/day)
LNG Canada	Kitimat	Shell/PetroChina/Kogas/Mitsubishi	2019	1.6	12		approved	Montney, Horn River	Coastal Gas Link Project (1.7 bcf/day)
Kitimat LNG	Kitimat	Chevron/Apache	2020	1.3	10		approved	Horn River	Pacific Trail Pipeline (up to 1 bcf/day)
Prince Rupert LNG	Prince Rupert	BG Group	2020	1.8	14		pending	Montney, Horn River	Spectra West Coast pipeline expansion (3 bcf/day)
Goldboro LNG	Goldboro (Nova Scotia)	Pieridae Energy Canada	2020	1.3	10	0.66		existing production	existing infrastructure
Woodfibre LNG	Squamish	Pacific Oil & Gas	2020+	0.3	2.1		pending	existing production	existing infrastructure
WCC LNG	Kitimat or Prince Rupert	Exxon/Imperial	2020+	3.9	30		pending	West Canadian gas	
<b>Total</b>				<b>13.5</b>	<b>102.2</b>	<b>0.98</b>			

Source: Company filings, Barclays Research

received approval from the NEB and one, Douglas Channel; is approved and fully contracted, though its small capacity means the facility will have little impact on the market when it comes online (scheduled for 2017). With several projects slated for 2018 starts, we believe some incremental LNG-related activity could materialize in the latter part of 2014 as operators delineate their acreage in the key LNG gas plays.

### **2014 should offer several LNG-related catalysts**

*We see several positive catalysts for Canada in 2014, including announcements tied to off-take agreements, pipeline contracts and export facility FIDs*

The major hurdles to Canadian LNG exports include securing long-term off-take agreements with Asian buyers as well as securing pipeline capacity to transport gas from the shales to the Western B.C. coast. Long-term contracts with Asia remain the key hurdle to achieving final investment decisions (FIDs) for the projects in our view, and we believe multiple projects are capable of signing agreements (and therefore reach FID) in 2014 and 2015. However, we acknowledge the challenges in negotiating these contracts and at present the bid-ask remains wide.

LNG buyers are seeking price diversification and emphasize gas-linked agreements while Canadian exporters prefer oil-linked pricing. LNG developers have offered equity participation in the facilities as a sort of middle ground, though the eventual success of this strategy is far from certain as gas-linked LNG is making inroads in other parts of the world. Anadarko noted at our CEO Energy Conference that off-take agreements for Mozambique's proposed liquefaction facilities will include a blend of oil- and Henry Hub-indexed pricing competitive with U.S. exports. In a global LNG market, the Canadian producers must compete with these projects for Asian demand. Ultimately, we expect the bid-ask spread to narrow and for multiple Canadian projects to move forward.

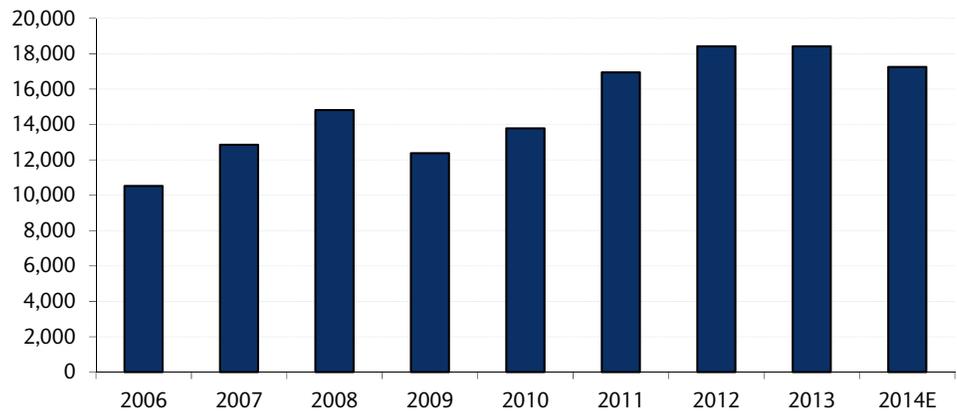
We think as many as 10-15 more LNG-directed newbuild rig contracts could be announced in 1Q14 as operators begin positioning for 2H14 activity. *Precision recently noted* that contract negotiations for LNG newbuilds are now in an advanced stage. Given a relatively balanced pressure pumping market in Canada, we expect announcements to tie up additional horsepower, particularly for 2H14.

## NORTH AMERICAN INDEPENDENTS CONTINUE INTERNATIONAL EXODUS

*Spending by the North American Independents internationally is expected to drop in 2014*

A wave of shareholder activism targeted at the North American independents has compelled this group to right-size international portfolios and look to unconventional opportunities at home. As a group, spending by the North American Independents internationally is expected to drop in 2014 (down over 4% from 2013), as the majority of companies appear to be shifting exploration and production expenditures to the U.S. given the ongoing oil renaissance, the potential early days of a gas cycle, and an improving outlook in the Gulf of Mexico. The international exodus is being led by Hess (down 8%), Murphy (-18%), and Marathon (-14%). Anadarko's international spending is also expected to be down substantially in 2014. This is the second year the North American independents have chosen to lower international exposure and we think this trend could continue as increasingly aggressive NOCs create a more competitive international landscape and investor tolerance for political risk increasingly wanes.

FIGURE 48  
E&P Spending by Select North American-Based E&P Companies Outside of North America



Note: Dollars in millions

Source: Company data and Barclays Research

\* Our estimates include leading Independent international spenders including, Apache, Hess, Anadarko, Occidental Petroleum Corp., Talisman Energy and others.

## MIDDLE EAST: SAUDI DRIVING SPENDING

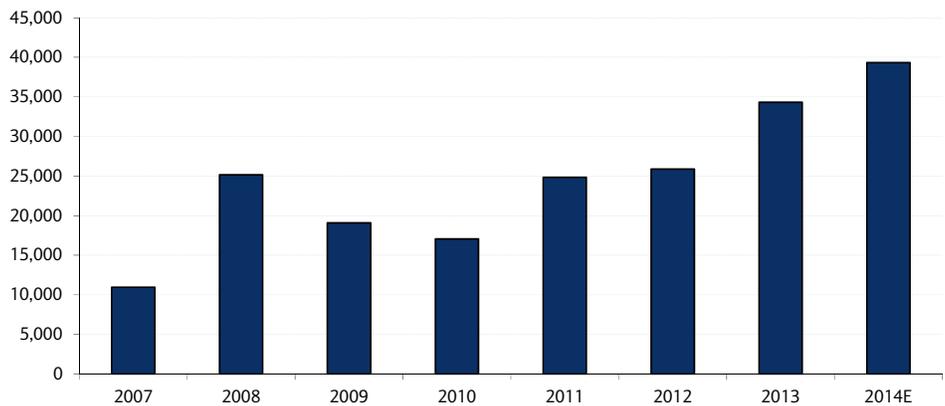
*Aramco is undergoing a period of rapid change and evolution as the Kingdom looks to boost gas production in an effort to export more oil*

Spending in the Middle East is expected to increase by 14% next year led by continued strong growth in Saudi Arabia (Saudi Aramco expected to increase spending by 20%) and in Kuwait (KOC up 20%).

In Saudi Arabia, Aramco is undergoing a period of rapid change and evolution as the Kingdom looks to boost gas production in an effort to export more oil. As a result, Aramco is increasing its unconventional activities and boosting its shallow-water rig count in the Red Sea (primarily deep gas). We expect this focus on technology will create opportunities for premium service providers, as well as present potential for R&D partnerships with Western service companies. Overall, it should create a higher quality revenue environment for service companies as well as a larger market opportunity as unconventional spending continues to grow.

While we continue to believe that *Iraq remains one of the largest E&P spending growth story this decade*, we note that a return of civil unrest has made for a more challenging operating environment and has compelled numerous western IOCs to venture north (against the Central Government’s wishes) to Kurdistan. The Syrian civil war and the ongoing Iranian nuclear crisis have turned Baghdad and Basra into proxy battlefields, and some unrest recently impacted Baker Hughes and Schlumberger’s operations. We think there is continued scope for near-term disruptions in the country; however, longer term we expect the structural growth story to help drive regional spending higher. Continued Western IOC interest in Kurdistan, as well as the continued legitimization of its oil industry through relationships with Turkey, should also help drive E&P spending.

FIGURE 49  
E&P Spending by Select Middle East Companies



Note: Dollars in millions

Source: Company data and Barclays Research.

\* Our estimates include leading Middle East spenders including Saudi Aramco, Kuwait Oil Company, Abu Dhabi National Oil Co. (ADNOC) and others.

## LATIN AMERICA: STRONG GROWTH EXPECTED TO CONTINUE

Latin American E&P spending is projected to rise by 13% in 2014. Spending gains are expected to be led by significant pickups in activity in Mexico (Pemex up 14%), Venezuela (PDVSA up 50%), and Colombia and Ecuador (Pacific Rubiales up 37% and PetroAmazonas up 36%).

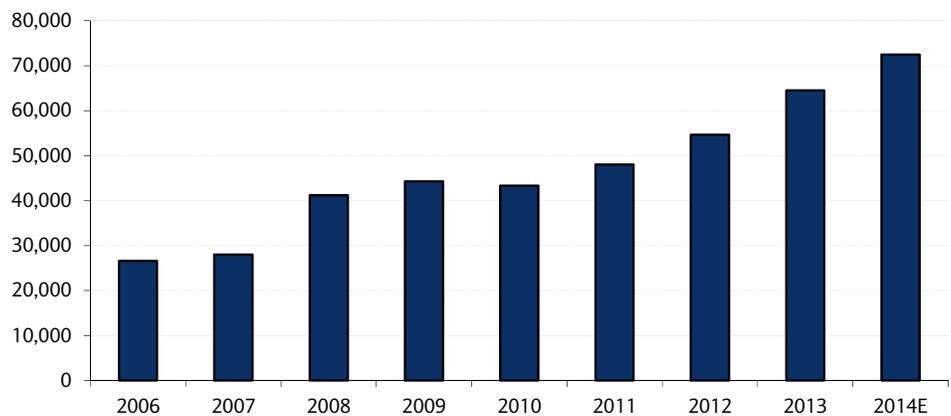
*We believe Mexican energy reform would have positive implications for incremental E&P spending growth through this decade, particularly for deepwater*

Mexico is on the cusp of constitutional change that would open its energy sector to outside investment. We view this as necessary for the country to boost production through the development of deepwater and shale resources to reach its goal of 3mb/d by 2018. The right leaning PAN party is pushing for the ability to book reserves while members of the PRI party remain concerned over sovereignty. However, while timing has slipped slightly, we think reform is imminent and could lead to additional drilling in early 2015. We believe this would have positive implications for incremental E&P spending growth through this decade, particularly for deepwater.

Petrobras has been the driving force behind Latin American spending for the past several years, as well as worldwide offshore activity. However, we expect the quasi-state company to take a pause in 2014 (-2%) in an effort to lower leverage levels and attempt to better balance spending and cash flow.

Behind Mexico and Venezuela (which we note could prove overly-optimistic), we think several smaller oil producing countries in the region will increasingly help fuel spending growth. We anticipate an uptick in offshore activity off Peru following CNPC's recent acquisition of \$2.6 billion in assets from Petrobras. Pacific Rubiales continues to boost activity in Colombia and we think spending there will continue to trend higher in the coming years following a slate of recent exploration successes by a range of players, from large companies (like Ecopetrol and Pacific Rubiales), to smaller players like Canacol Energy.

FIGURE 50  
E&P Spending by Select Latin American Companies



Note: Dollars in millions

Source: Company data and Barclays Research

\* Our estimates include leading Latin American spenders including, Petrobras, Pemex, PDVSA, Ecopetrol SA, and others.

## RUSSIA AND FSU: GEARING UP FOR ARCTIC AND UNCONVENTIONAL EXPLORATION

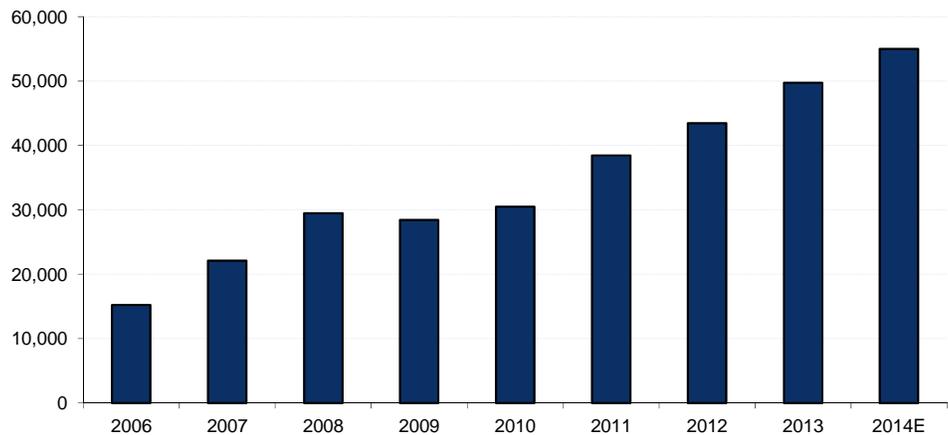
*Investments associated with developing the Russian Arctic have been estimated to be up to \$100 billion over the life of the projects*

Spending for select Russian and FSU companies is expected to grow by 11% in 2014, led by significant increases in exploration and production activity by oil-focused Russian players, including Rosneft, Lukoil, and Gazprom Neft. Lifting costs in Russia continue to increase as new greenfields are explored and as horizontal drilling and other techniques at brownfields in Western Siberia are increasingly deployed.

We expect Rosneft to continue to assert itself in Russia and be the driving force behind Russian spending growth in the coming years. The company is kicking off exploration in the western Barents this summer with Exxon. While all eyes will be on Rosneft and Exxon's Arctic program, we note that there is an expected backlog of over 90 offshore Russian Arctic wells to be drilling by 2020. As a result, we expect meaningful exploration to move forward in the Russian Arctic regardless of this summer's results due to the strategic nature of the reserves for Russia. Investments associated with developing the Russian Arctic have been estimated to be up to \$100 billion over the life of the projects.

The potential for shale development in Russia is also significant in our view. However, while the government is eager to boost shale production, questions remain as to if the recent tax moves will be enough to boost activity as there are still concerns around infrastructure and equipment, expertise, and a lack of mid-sized independents. However, considering the strategic importance of shale in Russia (intended to help maintain production over 10mb/d as mature fields decline and ahead of new Arctic production coming online), we think further concessions will be made to entice additional investment.

FIGURE 51  
E&P Spending by Select Russian Companies



Note: Dollars in millions

Source: Company data and Barclays Research.

\* Our estimates include leading Russian spenders including, Gazprom, Lukoil, Rosneft and others.

## EUROPE: SOLID OUTLOOK DESPITE CAPITAL DISCIPLINE CALLS

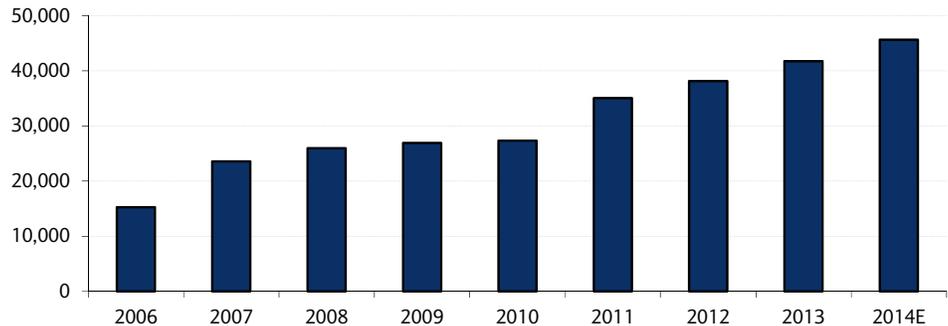
Spending for select European exploration and production companies is expected to increase by 8% in 2014 led by OMV (expected to be up 49%) and Eni (up 10%). A number of smaller regional players are also anticipated to increase spending, including Cairn Energy and Det Norske. Statoil, which has been vocal about capital discipline and cost inflation in Norway, is expected to grow CAPEX 6% to over \$16 billion.

*We are encouraged to see there is continued support for expanding offshore drilling in Norway following recent elections*

In Norway, exploration efforts targeting additional giant discoveries to replace lost production will likely drive exploration spending through the remainder of the decade. In the aftermath of the recent parliamentary election, we are encouraged to see there is continued support for expanding offshore drilling in Norway, particularly in the Norwegian Arctic (Barents Sea). While the acreage on the Norwegian shelf between the Norwegian Sea and the Barents Sea has been deemed off limits for the foreseeable future, government support for exploring the Barents should contribute to increased demand for harsh environment equipment for the remainder of the decade (particularly in potentially prolific and formerly disputed territory with Russia where drilling has yet to commence).

Interest in the Central North Sea remains robust as well and focus on frontier sections of the region is elevated, including the West of Shetland (where various European Majors are active).

FIGURE 52  
E&P Spending by Select European Companies



Note: Dollars in millions

Source: Company data and Barclays Research

\* Our estimates include leading European spenders including, Eni, Statoil, BG Group and OMV.

## INDIA, ASIA AND AUSTRALIA: PAUSE IN CHINESE SPENDING

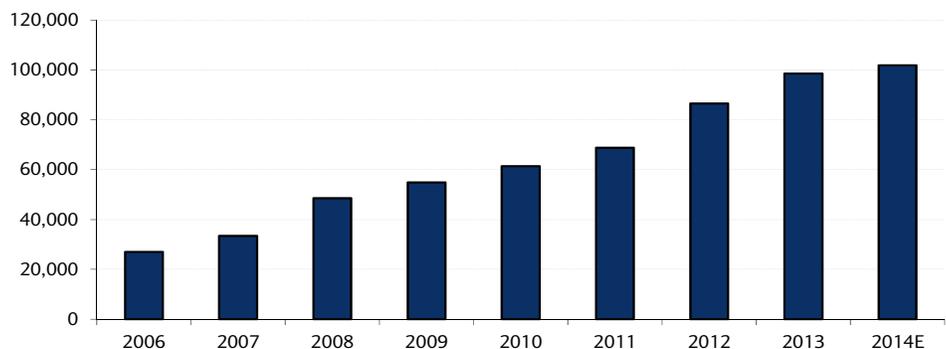
Spending for select companies in India, Asia and Australia is expected to increase by a modest 3% in 2014, a slowdown from three years of growth in the mid to high teens. The pause in spending is due to several factors in our view, most notably the ongoing corruption probes inside Chinese state owned enterprises (SOEs), particularly CNPC. As a result, we anticipate spending at Sinopec to be flat, Petrochina up ~1%, and CNOOC to be up 6%. Other regional players outside China are also expected to decrease spending, including BHP (-10%), PTTEP (-21%), and Inpex (-18%). We think the region will continue to be a major driver of spending growth through the remainder of the decade and view 2014 as a transitory year.

*While Chinese shale is still largely in a pilot phase we think there is substantial scope for the country to boost its tight gas production in the coming years*

We think the coming development of unconventional gas in China presents a significant opportunity for the oil services market and will lead to a change in spending patterns in China and act as a driver of CAPEX in the coming years. While the country's previously stated goal of producing 6.5 bcm by 2015 and 80 bcm by 2020 (up from a minimal amount today) seems aggressive, we think substantial capital and outside expertise will be diverted to the challenge. Overall, the country has set a goal of boosting natural gas to 7.5% of domestic energy consumption by 2015 and 10% by 2020% (from 5% today). However, we note that over 2/3 of the increase by 2015 is expected to come from piped gas and LNG imports (leaving 30-40 bcm coming from an increase in domestic production, representing roughly 24% of the targeted incremental growth). While Chinese shale is still largely in a pilot phase (PetroChina aims to produce 1.5 bcm of commercial shale gas by 2015.), we think there is substantial scope for the country to boost its tight gas production in the coming years, with help from the western service companies.

We estimate that roughly 80%-90% of Chinese E&P spending (\$50-\$60bn in total) is absorbed by state-owned service companies. However, we expect the Chinese market to open further (potentially as much as 50% in five years) as rooting out inefficiencies and corruption is a focus and the development of unconventional resources is imperative to meeting growing demand and addressing pollution problems. This shift towards a larger addressable market opportunity, against a 5-10% annual growth rate backdrop, presents a compelling long-term outlook, in our view, outweighing the transitory pause in spending this year.

FIGURE 53  
E&P Spending by Select Indian, Asian & Australian Companies



Note: Dollars in millions

Source: Company data and Barclays Research.

\* Our estimates include leading Indian, Asian & Australian spenders including, PetroChina, Sinopec, CNOOC, Petronas, ONGC and others.

## AFRICA: MINIMAL NEAR-TERM GROWTH EXPECTED

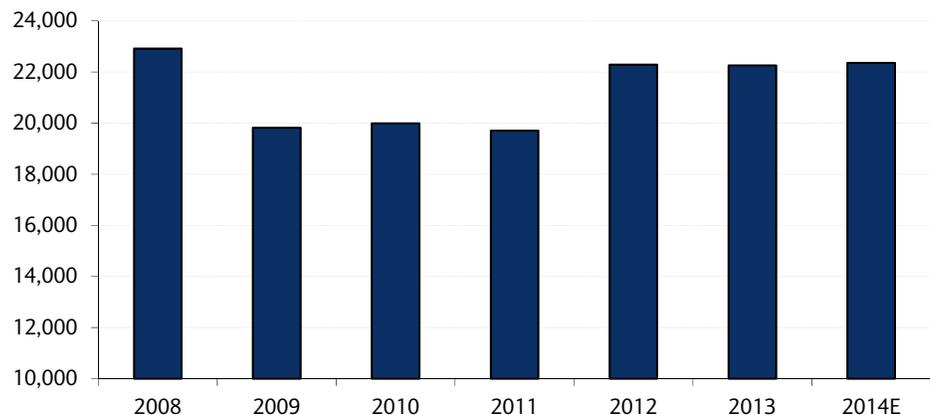
Exploration and production expenditures in Africa are expected to be flat in 2014. Africa investment has been slowing since the Arab Spring and while the region is burgeoning with new opportunities in the east, some old challenges are reappearing and growing in the west and north. We expect solid spending growth in Angola (Sonangol up by 10%) to be offset by lower CAPEX in Algeria (Sonatrach down by 10%), and flat spending in Nigeria (by NNPC). Our analysis of spending for the region does not include spending by the Supermajors, which are grouped separately; however, we note that many of these companies are attempting to sell African acreage in an effort to limit political risk and focus more on below ground challenges (versus above ground obstacles).

Interest is waning somewhat in West Africa and the Gulf of Guinea due to a return of piracy, continual administrative delays, and skepticism over the Nigerian government's ability to deliver a Petroleum Industry Bill. While exploration remains underway further north, notably Sierra Leone and Liberia (led by Chevron), we note that enthusiasm is waning for prospects in these countries. In North Africa, we expect increased activity and interest off Morocco.

The impacts of a major new discovery in Algeria recently (1.3 billion barrels) remain unknown as the effects of the In Amenas hostage crisis early this year are still being felt. Questions over tax reforms and liberalization of the hydrocarbon industry loomed over the country's petroleum industry prior to In Amenas attack, and we think growth could remain nascent for the coming few years (or until meaningful reform and security assurances are made).

While the major deepwater gas discoveries off Tanzania will continue to drive East African spending in our view, we note that operators are increasingly looking for hydrocarbons onshore as well (from the Puntland region of Somalia to Mozambique). Tullow and other international independents will likely continue to lead the way onshore East Africa; however, we expect an uptick in smaller pure-play regional players in the coming years as well, including companies like Wentworth Resources, Horn Oil and Africa Oil.

FIGURE 54  
E&P Spending by Select African Companies



Note: Dollars in millions

Source: Company data and Barclays Research

\* Our estimates include leading African spenders including, Nigerian National Petroleum Corp (NNPC), Sonangol, Sonatrach, Tullow, and others.

FIGURE 55  
Valuation Methodology for Overweight Stocks

Valuation Methodology	
<b>U.S. Large Cap Oil Service &amp; Equipment</b> <span style="float: right;">Industry View: Positive</span>	
Baker Hughes	Our 12-month price target of \$79 is based on 7.0x our 2015 EV/EBITDA estimate (EV of \$6.4 billion and 2015 EBITDA of \$917 million).
Cameron International	Our 12-month price target of \$77 is based on 17.2x our 2015 earnings estimate of \$4.50.
Halliburton	Our 12-month price target of \$76 is based on 14.4x our 2015 earnings estimate of \$5.20.
National Oilwell Varco	Our 12-month price target of \$93 is based on 12x our 2015 earnings estimate of \$7.75.
Schlumberger	Our 12-month price target of \$124 is based on 17.9x our 2015 earnings estimate of \$6.95.
Weatherford International	Our price target of \$22 is based on 12.4x our 2015 earnings estimate of \$1.75.
<b>U.S. Mid &amp; Small Cap Oil Service, Equipment and Onshore Drilling</b>	
Calfrac Well Services	Our price target of CAD\$45 is based on 6.5x EV/EBITDA multiple (Enterprise value of \$2.55 billion and \$392 million EBITDA).
Chart Industries	Our price target of \$118 is based on 24.2x our 2015 EPS estimate of \$4.90.
C&J Energy Services	Our price target of \$30 is based on 4.5x our 2015 EV/EBITDA estimate (EV of \$1.5 billion and 2015 EBITDA of \$332 million).
Core Laboratories	Our price target of \$200 is based on 25x our 2015 EPS estimate.
Dresser-Rand Group	Our price target of \$64 is based on 15x our 2015 EPS estimate of \$4.25.
Dril-Quip	Our price target of \$127 is based on 19.9x our 2015 EPS estimate plus \$6 in excess cash on DRQ's balance sheet.
Frank's International	Our 12-month price target of \$32 is based on 17.9x our 2015 earnings estimate of \$1.80.
Global Geophysical	Our \$4 price target is based on 5.5x our 2015 EV/EBITDA estimate (Enterprise Value of \$477 million and 2015 EBITDA of \$87 million).
ION Geophysical Corporation	To derive our \$6 price target we apply a multiple of 6.5x to 2015 EBITDA generated by ION's legacy business (\$167 million) and 10x to estimated equity in earnings from the company's INOVA joint venture with BGP (\$2 million).
Key Energy Services	Our price target of \$10 is based on 4.5x our 2014 EV/EBITDA estimate (Enterprise Value of \$2.3 billion and 2014 EBITDA of \$504 million).
MRC Global	Our price target of \$37 is based on 8.5x our 2015 EV/Adjusted EBITDA estimate (Enterprise value of \$4.75 billion and Adjusted EBITDA of \$559 million).
Oceaneering International	Our 12-month price target of \$96 is based on 19.9x our 2015 earnings estimate of \$4.80.
Oil States International	Our price target of \$124 is based on 7.3x 2015 EV/EBITDA (EV of \$7.2 billion and EBITDA of \$974 million).
Patterson-UTI Energy	Our 12-month price target of \$26 is based on 4.0x our 2015 EV/EBITDA estimate (Enterprise Value of \$4.3 billion and 2015 EBITDA of \$1.1 billion).
Superior Energy Services	Our price target of \$93 is based on 1x our 2015 BVPS estimate.
Thermon Group Holdings	Our price target of \$30 is based on 11x our estimated 2015 EBITDA (EV of \$1,037 million and EBITDA of \$94 million).
Trican Well Service	Our price target of CAD\$21 is based on 7.5x EV/EBITDA multiple (Enterprise value of \$3.7 billion and \$497 million EBITDA).
<b>U.S. Offshore Contract Drilling &amp; Supply Vessels</b>	
Atwood Oceanics	Our 12-month price target of \$79 is based on 7.0x our 2015 EV/EBITDA estimate (EV of \$6.4 billion and 2015 EBITDA of \$917 million).
GulfMark Offshore	Our price target of \$58 is based on 6.5x our 2015 EV/EBITDA estimate (Enterprise Value of \$1.9 billion and 2015 EBITDA of \$303 million).
Hornbeck Offshore	Our price target of \$92 is based on 7.0x our 2015 EV/EBITDA estimate (EV of \$4.1 billion and 2015 EBITDA of \$593 million).
Ocean Rig	Our 12-month price target of \$28 is based on 7.0x our 2015 EV/EBITDA estimate (EV of \$6.9 billion and 2015 EBITDA of \$986 million).
Pacific Drilling	Our 12-month price target of \$13 is based on 7.0x our 2015 EV/EBITDA estimate (EV of \$5.7 billion and 2015 EBITDA of \$815 million).
Rowan Companies	Our price target of \$48 is based on 6.5x our 2015 EBITDA estimate (Enterprise Value of \$8.0 billion and 2015 EBITDA of \$1.22 billion).
Seadrill	Our price target of \$53 is based on a 7.5% dividend yield on a \$4.00 annualized dividend.
Tidewater	Our 12-month price target of \$76 is based on 7.0x our estimated 2015 EV/EBITDA (EV of \$4.8 billion and 2015 EBITDA of \$682 million).
Transocean Inc.	Our price target of \$70 is based on 6.5x our 2015 EBITDA estimate (Enterprise Value of \$32.6 billion and 2015 EBITDA of \$5.0 billion).
<b>European Oil Services &amp; Drilling</b> <span style="float: right;">Industry View: Positive</span>	
Hunting	Our price target for Hunting has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (15% pa) until a turn in 2017 when revenues fall (10% pa) until 2018. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 10%, in-line with the 10% that we use for the sector. The valuation is then checked against historical trading multiples.
Maire Tecnimont	Maire Tecnimont: Our price target for Maire Tecnimont has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2012-2014F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2015 when revenues fall (10% pa) until 2017. Margins used for 2015-17F period are comparable to those over the 2006-2008 period. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 12%, ahead of the 10% that we use for the sector to account for its low free float and liquidity. The valuation is then checked against historical trading multiples.
Petroleum Geo-Services	Our price target for PGS has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2017 when revenues fall (10% pa) until 2019. Margins used for 2016-19F period are comparable to those over the 2004-2008 period. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 11%, ahead of the 10% that we use for the sector to account for the volatility seen in Norwegian-listed stocks and extreme cyclicality seen in the seismic industry. The valuation is then checked against historical trading multiples.
Polarcus	Our price target for Polarcus has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2017 when revenues fall (10% pa) until 2018. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 13%, ahead of the 10% that we use for the sector to account for the volatility seen in Norwegian-listed stocks, the extreme cyclicality seen in the seismic industry and the low market capitalization of the stock. The valuation is then checked against historical trading multiples.
Saipem	Our price target for Saipem has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2018 when revenues fall (10% pa) until 2018. Margins used for 2015-18F period are below those achieved during the 2004-2009 period. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 9%. We do not apply a premium to our base-case DCF to reflect the current uncertainty. The valuation is then checked against historical trading multiples.
SBM Offshore	Our price target for SBM Offshore has been derived from a DCF-based methodology. For the lease fleet we build up cash flows on a contract-by-contract basis and discount at 8.2%. For terminal value we use twice the book value remaining at the end of each contract. For the turnkey division we use a 8.2% discount rate and forecast performance until 2015. The valuation is then checked against historical trading multiples.
Subsea 7 SA	Our price target for Subsea 7 SA has been derived from a dcf-based methodology. We have used our forecast cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2017 when revenues fall (10% pa) until 2018. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 10%, in-line with the 10% that we use for the sector. We have then applied a 30% premium in-line with what we use for the sector. The valuation is then checked against historical trading multiples.
Technip	Our price target for Technip has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (15% pa) until a turn in 2017 when revenues fall (10% pa) until 2019. Margins used for 2016-19F period are comparable to those over the 2004-2008 period. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 10%, in-line with the 10% that we use for the sector. The valuation is then checked against historical trading multiples.
Wood Group	Our price target for Wood Group has been derived from a DCF-based methodology. We have used our forecasted cash flows for the 2013-2015F period and thereafter assumed a cyclical growth (10% pa) until a turn in 2017 when revenues fall (10% pa) until 2018. Margins used for 2016-18F period are comparable to those over the 2004-2009 period. Our terminal value is then taken on a (WACC-g) basis assuming 3% long-term growth. Our discount rate used is 10%, in line with the 10% that we use for the sector. We have then applied a 30% premium in line with historical trading patterns and the 0-30% that we use for the sector.
<b>Asia Ex-Japan Oil Services &amp; Rigbuilders/Shipyards</b> <span style="float: right;">Industry View: Positive</span>	
Anton Oilfield Services	We base our HK\$6.30 PT for Anton Oil on a target P/E of 2014E. We use 20x to account for the value investors are placing on the company in return for a period of high earnings growth. Our target 20x P/E still represents a 30% discount to the peak multiples achieved by the international oil service companies at the peak of earlier cycles. We then test our valuation using a three-stage DCF-based valuation (using WACC of 11%, and terminal growth rate of 3%). We account for the high growth period the company is currently going through in our first stage, and factor in a fade in earnings growth and likely decline in return on capital employed in the second stage, before using a terminal growth rate of 3% in the third stage.
COSL	Our 12-month price target of HK\$22.80 for COSL is derived from our sum-of-the-parts valuation, which we believe is appropriate as COSL has a diversified oil service model with four main segments: drilling, well services, marine support and geophysical. We assign a multiple to each of these segments based on a range for global peers that offer similar margins and operating characteristics in the medium term. We also cross check our valuation using a DCF-based methodology, assuming a gradual decline in margins for 2012-16. Our terminal value is then taken on a WACC-g basis assuming 3.5% long-term growth. We use a discount rate of 11%. We then check the valuations of both methods against the historical trading multiples with our Global Oil Services coverage.
Hilong Holdings	Our 12-month price target of HK\$6.00 for Hilong is based on a target P/E of 15x. We view 15x, which is a c20% discount to the peak-cycle multiples of c20x for international peers as appropriately conservative given the strong earnings expectations we have for the company. We test our valuation using a three-stage DCF-based valuation (using a WACC of 11%, and terminal growth rate of 3%). We account for the high growth period the company is currently going through in our first stage, and factor in a fade in earnings growth and likely decline in return on capital employed in the second stage, before using a terminal growth rate of 3% in the third stage. The valuation using both methods is then checked against historical trading multiples with our Global Oil Services coverage.
Keppel Corp.	Our 12-month price target of S\$13.10 for Keppel is derived from our sum-of-the-parts valuation because Keppel has a diversified business model with four main segments: offshore & marine (rig building), property, infrastructure and investments. We use a target P/E of 17x to value the company's rig-building business, which is a premium to SembMarine's historical average P/E of 16x, and current market values or the Barclays Research price targets for covered companies (Keppel Land and M1) to value the company's listed-subsidiaries. We have also tested our valuation for Keppel's offshore and marine business using a DCF-based methodology, and our terminal value is then taken on a WACC-g basis assuming 4% long-term growth. Our discount rate used is 9%. The valuation using both methods is checked against historical trading multiples for our Global Oil Services coverage.

Source: Barclays Research

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**Materially Mentioned Stocks (Ticker, Date, Price)**

**Anton Oilfield Services** (3337.HK, 03-Dec-2012, HKD 3.08), Overweight/Positive, J  
**Baker Hughes** (BHI, 03-Dec-2012, USD 42.72), Overweight/Positive, C/D/J/K/L/M/N  
**C&J Energy Services** (CJES, 02-Dec-2013, USD 23.87), Overweight/Positive, C/J  
**Cameron International** (CAM, 03-Dec-2012, USD 53.87), Overweight/Positive, C/D/J/K/L/N/O  
**Chart Industries Inc.** (GTL5, 03-Dec-2012, USD 59.56), Overweight/Positive, C/J  
**Core Laboratories** (CLB, 03-Dec-2012, USD 102.54), Overweight/Positive, C/J/K/M/O  
**Dresser-Rand Group Inc.** (DRC, 03-Dec-2012, USD 52.67), Overweight/Positive, C/J/K/M/N  
**Dril-Quip Inc.** (DRQ, 03-Dec-2012, USD 70.78), Overweight/Positive, C/J/O  
**EnSCO plc** (ESV, 03-Dec-2012, USD 58.39), Equal Weight/Positive, C/J/K/N  
**Global Geophysical Services** (GGS, 03-Dec-2012, USD 4.09), Overweight/Positive, C/J/K/M/O  
**GulfMark Offshore, Inc.** (GLF, 03-Dec-2012, USD 31.82), Overweight/Positive, C/J/O  
**Halliburton Co.** (HAL, 03-Dec-2012, USD 33.08), Overweight/Positive, A/C/D/J/K/L/M/N  
**Hornbeck Offshore Services** (HOS, 03-Dec-2012, USD 36.49), Overweight/Positive, A/C/D/J/K/L/M/N/O  
**Hunting** (HTG.L, 03-Dec-2012, GBp 807.0), Overweight/Positive, D/J/K/L/N/Q  
**ION Geophysical Corp.** (IO, 03-Dec-2012, USD 6.22), Overweight/Positive, J  
**Key Energy Services** (KEG, 03-Dec-2012, USD 6.75), Overweight/Positive, C/J  
**MRC Global** (MRC, 03-Dec-2012, USD 27.88), Overweight/Positive, A/C/D/E/J/K/L/M/O  
**National Oilwell Varco** (NOV, 03-Dec-2012, USD 67.96), Overweight/Positive, A/C/D/J/K/L/M/N  
**Noble Corp.** (NE, 03-Dec-2012, USD 34.25), Rating Suspended/Positive, C/D/E/J/K/L/M/N

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**Ocean Rig UDW Inc.** (ORIG, 02-Dec-2013, USD 20.64), Overweight/Positive, F/J  
**Oceaneering International** (OII, 03-Dec-2012, USD 52.73), Overweight/Positive, D/J/K/L/M/N  
**Oil States International, Inc.** (OIS, 03-Dec-2012, USD 70.38), Overweight/Positive, C/D/F/J/K/L/N  
**Pacific Drilling SA** (PACD, 02-Dec-2013, USD 11.58), Overweight/Positive, A/C/D/J/K/L/M

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Patterson-UTI Energy (PTEN, 03-Dec-2012, USD 17.57), Overweight/Positive, C/J  
Petroleum Geo-Services (PGS.OL, 03-Dec-2012, NOK 94.60), Overweight/Positive, D/J/K/L/M/N  
Polarcus (PLCS.OL, 03-Dec-2012, NOK 5.90), Overweight/Positive, J  
Rowan Companies (RDC, 03-Dec-2012, USD 31.64), Overweight/Positive, A/C/D/J/K/L/M  
Saipem (SPMI.MI, 03-Dec-2012, EUR 34.27), Overweight/Positive, D/J/K/L/M/N  
Schlumberger Ltd. (SLB, 03-Dec-2012, USD 71.02), Overweight/Positive, J/K/N  
Seadrill Limited (SDRL, 03-Dec-2012, USD 38.79), Overweight/Positive, C/J/K/N  
Sembcorp Marine (SCMN.SI, 03-Dec-2012, SGD 4.46), Equal Weight/Positive, D/J/K/L/N  
Singamas Container Holdings Ltd. (0716.HK, 03-Dec-2012, HKD 1.85), Equal Weight/Neutral, J  
Subsea 7 SA (SUBC.OL, 03-Dec-2012, NOK 130.40), Overweight/Positive, D/J/K/L/M/N  
Superior Energy Services Inc. (SPN, 03-Dec-2012, USD 19.98), Overweight/Positive, C/J/K/N/O  
Technip (TECF.PA, 03-Dec-2012, EUR 88.52), Overweight/Positive, C/D/J/K/L/M/N  
Tenaris S.A. (TS, 03-Dec-2012, USD 39.64), Equal Weight/Positive, J/K/M  
Thermon Group Holdings (THR, 03-Dec-2012, USD 24.67), Overweight/Positive, C/D/J/L/O  
Tidewater Inc. (TDW, 03-Dec-2012, USD 44.90), Overweight/Positive, J  
Transocean Ltd. (RIG, 03-Dec-2012, USD 46.08), Overweight/Positive, C/D/J/K/L/M  
Trican Well Service (TCW.TO, 03-Dec-2012, CAD 12.37), Overweight/Positive, J  
Weatherford International (WFT, 03-Dec-2012, USD 10.24), Overweight/Positive, C/D/J/K/L/M/N  
Wood Group (WG.L, 03-Dec-2012, GBP 7.76), Overweight/Positive, C/D/F/J/K/L/M/N  
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Adani Ports and SEZ Ltd. (APSE.NS)	Air China (0753.HK)	AirAsia Bhd (AIRA.KL)
AirAsia X Bhd (AIRX.KL)	Anhui Expressway Co., Ltd. (0995.HK)	Asia Aviation PCL (AAV.BK)
Beijing Capital International Airport (0694.HK)	Cathay Pacific Airways (0293.HK)	China COSCO Holdings Co., Ltd. (1919.HK)
China Eastern Airlines (0670.HK)	China Merchants Holdings (International) Co., Ltd. (0144.HK)	China Rongsheng Heavy Ind. (1101.HK)
China Shipping Container Lines Co., Ltd. (2866.HK)	China Shipping Development Co., Ltd. (1138.HK)	China Southern Airlines (1055.HK)
ComfortDelGro (CMDG.SI)	COSCO Pacific Limited (1199.HK)	Essar Ports Ltd. (ESRS.NS)
Evergreen Marine Corp Ltd. (2603.TW)	GMR Infrastructure Ltd. (GMRI.NS)	Gujarat Pipavav Port Ltd. (GPPL.NS)
GVK Power & Infrastructure Ltd. (GVKP.NS)	Hopewell Highway Infrastructure Ltd. (0737.HK)	Hutchison Port Holdings Trust (HPHT.SI)
IL&FS Transportation Networks Ltd. (ILFT.NS)	International Container Terminal Services Inc. (ICT.PS)	IRB Infrastructure Developers Ltd. (IRBI.NS)
Jaiprakash Associates Ltd. (JAIA.NS)	Jiangsu Expressway Co., Ltd. (0177.HK)	Malaysia Airports Holdings Bhd (MAHB.KL)
Neptune Orient Lines Ltd. (NEPS.SI)	Orient Overseas (International) Ltd. (0316.HK)	Pacific Basin Shipping Ltd. (2343.HK)
Reliance Infrastructure Ltd. (RLIN.NS)	Shenzhen Expressway Co., Ltd. (0548.HK)	Sichuan Expressway Co., Ltd. (0107.HK)
Singamas Container Holdings Ltd. (0716.HK)	Sinotrans Shipping Ltd. (0368.HK)	Wan Hai Lines (2615.TW)
Westports Holdings Bhd (WPHB.KL)	Yang Ming Marine Transport (2609.TW)	Yangzijiang Shipbuilding (Holdings) Ltd. (YAZG.SI)
Zhejiang Expressway Co., Ltd. (0576.HK)		

**Asia ex-Japan Oil & Gas**

Anton Oilfield Services (3337.HK)	Bharat Petroleum Corp., Ltd. (BPCL.NS)	Cairn India (CAIL.NS)
China Oilfield Services (COSL) (2883.HK)	China Steel Chemical (1723.TW)	CNOOC (0883.HK)
EZRA Holdings (EZRA.SI)	Formosa Chemicals (1326.TW)	Formosa Petrochemical (6505.TW)
Formosa Plastics (1301.TW)	Gail India (GAIL.NS)	Hilong Holding, Ltd. (1623.HK)
Hindustan Petroleum Corp., Ltd. (HPCL.NS)	Honghua Group (0196.HK)	Indian Oil Corp., Ltd. (IOC.NS)
Keppel Corp. (KPLM.SI)	Nan Ya Plastics (1303.TW)	Oil & Natural Gas Corp., Ltd. (ONGC.NS)
Oil India (OILI.NS)	PetroChina (0857.HK)	PETRONAS Chemicals (PCGB.KL)

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Sinopec (0386.HK)	SPT Energy Group (1251.HK)	TSRC Corp. (2103.TW)
<b>European Oil Services &amp; Drilling</b>		
Aker Solutions (AKSO.OL)	AMEC plc (AMEC.L)	CGG (GEPH.PA)
Hunting (HTG.L)	Maire Tecnimont (MTCM.MI)	Petrofac (PFC.L)
Petroleum Geo-Services (PGS.OL)	Polarcus (PLCS.OL)	Saipem (SPMI.MI)
SBM Offshore (SBMO.AS)	Subsea 7 SA (SUBC.OL)	Technip (TECF.PA)
Tecnicas Reunidas (TRE.MC)	TGS (TGS.OL)	Wood Group (WG.L)
<b>North America Oil Services &amp; Drilling</b>		
Atwood Oceanics Inc. (ATW)	Baker Hughes (BHI)	Basic Energy Services (BAS)
Bristow Group Inc. (BRS)	C&J Energy Services (CJES)	Calfrac Well Services (CFW.TO)
Cameron International (CAM)	CARBO Ceramics (CRR)	Chart Industries Inc. (GTLS)
Core Laboratories (CLB)	Diamond Offshore Drilling (DO)	Dresser-Rand Group Inc. (DRC)
Dril-Quip Inc. (DRQ)	Ensco plc (ESV)	Ensign Energy Services (ESI.TO)
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Pacific Drilling SA (PACD)	Parker Drilling (PKD)	Patterson-UTI Energy (PTEN)
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