

US oil and gas reserves study

2013



Building a better
working world

Table of contents

Study overview	1
Industry backdrop and study highlights	3
Capital expenditures	4
Revenues and results of operations	5
Oil reserves	6
Gas reserves	7
Performance measures	
Proved reserve acquisition costs, finding and development costs and reserve replacement costs	9
Production replacement rates	10
Production costs	11
Company statistics	12
Peer groups	24
EY Americas oil and gas services	25

Study overview

The *US oil and gas reserves study* is a compilation and analysis of certain oil and gas reserve disclosure information as reported by publicly traded companies in their annual reports filed with the United States Securities and Exchange Commission (SEC). This report presents the US exploration and production (E&P) results for the five-year period from 2008 through 2012 for the largest 50 companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to XTO Energy, Inc. and Petrohawk Energy Corporation has also been reflected in this report as described below.

The companies

Due to the significant portion of total US oil and gas reserves held by the companies included herein, their results are generally representative of the US E&P industry as a whole. However, it should be noted that results for these companies and for the E&P industry may be significantly different in other regions of the world.

The companies have been classified into three peer groups: integrated companies (integrateds), large independents and independents. Integrated companies are those that have oil refining activities in addition to exploration and production. Independents do not have oil refining activities but may have midstream operations in addition to their exploration and production activities. The independents were classified as “large” if their 2012 worldwide ending reserves exceeded 1 billion barrels of oil equivalent.

Acquired companies

Due to the significance of the operations of two companies that were acquired during the five-year study period, their capital expenditures, revenues and results of operations, oil reserves and gas reserves have been included in this report for the years prior to their acquisition as further discussed below. This provides a more meaningful comparison throughout the five-year study period.

In June 2010, XTO Energy was acquired by Exxon Mobil Corporation. XTO Energy's 2008 and 2009 capital expenditures, revenues and results of operations, oil reserves and gas reserves have been included in this report. The capital expenditures, revenues and results of operations, oil reserves and gas reserves reported by ExxonMobil for 2010 include activity related to the operations acquired from XTO Energy. XTO Energy's end-of-year 2009 oil reserves and gas reserves have been included in 2010 beginning-of-year reserves with an equal volume included as sales in 2010 to reflect the ExxonMobil transaction

In August 2011, Petrohawk Energy was acquired by BHP Billiton Group. BHP Billiton has a 30 June fiscal year-end and its fiscal year includes the period from 1 July through 30 June. Thus, the capital expenditures, revenues and results of operations, oil reserves and gas reserves reported by BHP Billiton for 2012 include activity related to the operations acquired from Petrohawk Energy from the date of acquisition. Petrohawk Energy's capital expenditures, revenues and results of operations, oil reserves and gas reserves have been included in this report for 2008 through 2011. Petrohawk Energy's end-of-year 2011 oil reserves and gas reserves have been included in 2012 beginning-of-year reserves with an equal volume included as sales in 2012 to reflect the BHP Billiton transaction.

For purposes of the peer group analysis, XTO Energy is designated as a large independent, and Petrohawk Energy is an independent.

Performance measures

The performance measures presented herein were calculated based on the companies' oil and gas reserve disclosure information. EY's methodology for calculating the performance measures is defined below.

- ▶ **Proved reserve acquisition costs** are calculated as proved property acquisition costs and identified related asset retirement obligation costs, divided by proved reserves purchased.
- ▶ **Finding and development costs** are calculated as unproved property acquisition costs, exploration costs, development costs and identified related asset retirement obligation costs, divided by extensions and discoveries, revisions and improved recovery of proved reserves. The calculation excludes the effect of proved reserves purchased.
- ▶ **Reserve replacement costs** are calculated as total capital expenditures divided by extensions and discoveries, revisions, improved recovery and purchases of proved reserves.
- ▶ **Production replacement rate (all sources)** is calculated as extensions and discoveries, improved recovery, revisions, purchases and sales of proved reserves, divided by production.
- ▶ **Production replacement rate (excluding purchases and sales)** is calculated as extensions and discoveries, improved recovery and revisions of proved reserves, divided by production.
- ▶ **Production costs** are calculated as production costs, including production taxes, transportation costs and production-related general and administrative expenses, divided by production.

Many individual companies calculate and report their own performance measures, and companies may use different methods that produce results different from those shown in this report.

The SEC Rule

On 31 December 2008, the SEC issued a final rule titled *Modernization of Oil and Gas Reporting* (the SEC Rule). The SEC Rule was effective for annual reports for fiscal years ending on or after 31 December 2009. The intent of the SEC Rule was to provide investors with a more meaningful and comprehensive understanding of oil and gas reserves. The SEC Rule also sought to modernize and update the oil and gas disclosure requirements to align them with current practices and changes in technology.

Among other changes, the SEC Rule requires companies to estimate proved reserves using the 12-month average beginning-of-month price for the year, rather than year-end prices. The SEC Rule also limits the booking of proved undeveloped reserves to those reserves that are scheduled to be developed within five years, unless specific circumstances justify a longer time. As a result of the five-year requirement, some reserves previously classified as proved undeveloped in 2008 were reclassified in 2009 to unproved reserves, resulting in the recording of downward revisions. The 2009 through 2012 oil and gas reserve volumes presented herein were determined in accordance with the SEC Rule; therefore, some comparisons of 2009 through 2012 results to previous years and the five-year average performance measures are calculated using data presented before and after the SEC Rule was effective.

Report limitations

Users of this report should keep in mind the following limitations on the data presented:

- This report excludes government and privately owned companies and smaller public companies.
- Individual companies did not prepare or review the compiled data presented in this report.
- Oil and gas companies that follow US generally accepted accounting principles (GAAP) are allowed to select either successful efforts accounting or full cost accounting for their oil and gas activities. Some companies included in this report follow US GAAP, while others follow International Financial Reporting Standards (IFRS) as adopted by their applicable country. These variations in standards can result in different results for some companies.
- Data for all companies may not be comparable because of differing interpretations or applications of reporting requirements.
- Oil and gas reserve estimates are imprecise and are revised as additional information about reserves becomes known.

Other

The data included herein is obtained from IHS Herold, Inc. and, in some cases, the individual companies' published annual reports.

The data included herein is based on each year's original disclosures made by the companies. Restatements or other adjustments made to capital expenditures or revenues and results of operations data in subsequent years have not been incorporated herein. Restatements or other adjustments made to oil and gas reserve data are included in the "Other" component of the reserve tables, but these amounts are not included in the performance measure calculations.

Totals presented may not add due to rounding. All amounts are reported in US dollars.

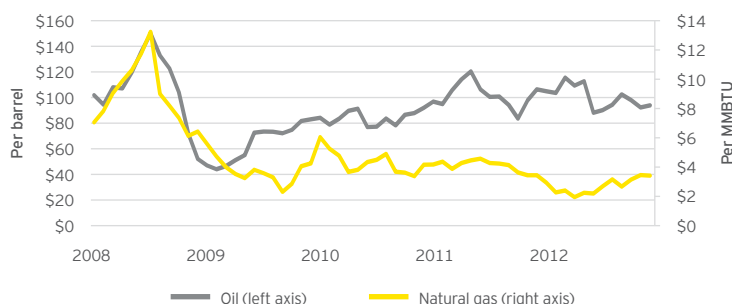
The following units of measurement are used in this report for gas reserves: Mcf (thousand cubic feet), Bcf (billion cubic feet) and Tcf (trillion cubic feet). Natural gas prices are quoted on an MMBTU (million British Thermal Unit) basis.

Certain amounts in this report are presented on a per barrel of oil equivalent (boe) basis. Natural gas volumes are converted to barrels at a ratio of six Mcf to one barrel of oil. This ratio has historically been viewed as being reflective of an approximate thermal equivalence between the two commodities. Prior to 2005, oil and natural gas prices were typically closely linked to this ratio. Since 2005 however, oil and natural gas price movements have reflected their different supply and demand fundamentals and thus have not necessarily moved in unison. In recent years, oil prices have risen sharply while natural gas prices have remained fairly weak. At one point in 2013, the observed market ratio of oil to natural gas prices was as high as 50-to-1, implying that oil was more than eight times more costly than an equivalent amount of natural gas (in thermal terms). However, the volumetric conversion of six Mcf to one barrel of oil continues to be accepted as industry practice indicative of a long-term outlook on commodity pricing. In spite of this, some individual companies may use a higher ratio for their internal performance metrics to more closely reflect market equivalence.

Industry backdrop and study highlights

As depicted in the chart below, the oil and gas industry saw great price volatility over the five-year study period. With the near-collapse of the global financial system and the subsequent recession, price volatility was most extreme in 2008 and 2009 before stabilizing in 2010. Oil prices were relatively strong in 2011 and 2012 with beginning-of-month West Texas Intermediate spot prices averaging \$95.99 per barrel in 2011 and \$94.68 per barrel in 2012. Gas prices have not fared as well as they began to decline in the latter part of 2011 and did not begin to recover until the latter part of 2012. The beginning-of-month Henry Hub spot price averaged \$4.12 per MMBTU in 2011 and dropped to \$2.76 per MMBTU in 2012.

Beginning-of-month spot prices



Source: U.S. Energy Information Administration

Highlights for the companies in this report include:

- ▶ Total capital expenditures increased 20% in 2012 to \$185.6 billion. All categories of spending rose in 2012, with the largest increases being in proved property acquisitions and development spending.
- ▶ After-tax profits for the study companies declined 58% in 2012 to \$19.4 billion. Low natural gas prices drove a 3% decrease in revenues and contributed to the recording of property impairments of \$26.4 billion in 2012. All other major categories of costs also increased.
- ▶ End-of-year oil reserves reached 23.3 billion barrels in 2012. Extensions and discoveries increased in each year of the study period, and the three-year average (2010 through 2012) all sources oil production replacement rate was a healthy 249%.
- ▶ Low natural gas prices resulted in downward revisions of 29.3 Tcf in 2012 and contributed to a 10% decrease in gas reserves. Despite strong extensions and discoveries of 24.6 Tcf in 2012, the all sources gas production replacement rate was (42%) for the year.
- ▶ Proved reserve acquisition costs were \$10.67 per boe in 2012, but varied widely between companies depending on the mix of oil and gas reserves purchased. Finding and development costs surged in 2012 to \$45.03 per boe as associated spending increased while the downward reserve revisions for gas drove a decrease in reserve additions.



Capital expenditures

US – capital expenditures (millions) (a)

	2008	2009	2010	2011	2012
Proved properties acquired	\$ 20,381.8	\$ 3,886.8	\$ 41,853.1	\$ 13,965.5	\$ 21,632.9
Unproved properties acquired	33,520.8	9,756.9	59,310.0	33,327.1	33,790.7
Exploration	16,602.7	14,508.1	16,035.4	21,983.0	26,348.9
Development	68,176.0	46,510.9	62,420.9	85,727.8	103,390.3
Other	995.1	213.8	112.2	203.9	439.3
Total	\$ 139,676.3	\$ 74,876.4	\$ 179,731.6	\$ 155,207.4	\$ 185,602.0

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

Total capital expenditures for the study companies were \$185.6 billion in 2012, representing 20% growth from 2011. All categories of spending rose in 2012, with the largest increases being in proved property acquisitions and development spending.

Property acquisition costs were strong in 2012 at \$21.6 billion for proved and \$33.8 billion for unproved. Total acquisition costs increased 17% in 2012.

BHP Billiton was the leader in both proved (\$4.8 billion) and unproved (\$10.4 billion) property acquisition costs due to its acquisition of Petrohawk Energy. This acquisition provides BHP Billiton with company-operated resources in the Eagle Ford, Haynesville and Permian fields.

Plains Exploration & Production posted property acquisition costs of \$4.1 billion (proved) and \$2.1 billion (unproved) in 2012 as the company acquired interests in various Gulf of Mexico fields from BP and Royal Dutch Shell.

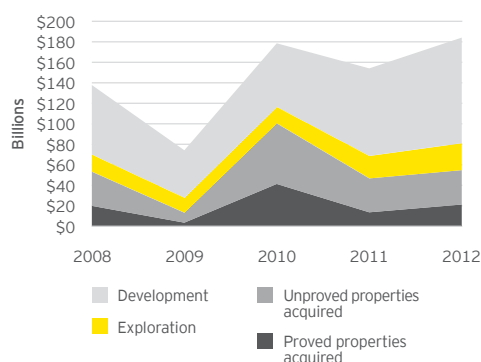
Linn Energy's proved property acquisition costs of \$2.5 billion in 2012 were primarily related to the purchases of properties in Kansas and Wyoming from BP.

Exploration costs were \$26.3 billion in 2012, representing a 20% increase from \$22.0 billion in 2011. Development costs increased 21% from \$85.7 billion in 2011 to \$103.4 billion in 2012.

The largest increases in combined exploration and development spending in 2012 were reported by BHP Billiton (\$4.5 billion), Royal Dutch Shell (\$2.7 billion), Apache (\$2.6 billion) and Marathon Oil (\$2.4 billion).

On a peer-group basis, the large independents led the way in 2012. This group accounted for 48% of total capital expenditures, compared with 29% for the independents and 23% for the integrations. The large independents also accounted for the largest increase in combined exploration and development spending in 2012 as their spending increased 36%, compared with 20% for the integrations and 1% for the independents. As the independents' reserves are generally more weighted toward natural gas, the low gas prices throughout much of 2012 had a substantial impact on their cash flows and spending ability.

Capital expenditures



2012 capital expenditures – leading companies (millions)

Proved properties acquired	
BHP Billiton Group ⁽⁶⁾	\$ 4,746.0
Plains Exploration & Production Company ⁽¹⁾	4,139.0
Linn Energy, LLC	2,531.4
SandRidge Energy, Inc.	1,761.6
Occidental Petroleum Corporation	1,689.0
Unproved properties acquired	
BHP Billiton Group ⁽⁶⁾	\$10,366.0
Chesapeake Energy Corporation	2,981.0
Royal Dutch Shell plc ⁽¹⁾	2,610.0
Apache Corporation	2,329.0
Plains Exploration & Production Company	2,102.6
Exploration	
Royal Dutch Shell plc ⁽¹⁾	\$ 4,908.0
Chesapeake Energy Corporation	2,353.0
Marathon Oil Corporation	1,587.0
ConocoPhillips	1,376.0
Apache Corporation	1,369.0
Development	
Exxon Mobil Corporation ⁽¹⁾	\$ 7,676.0
Chesapeake Energy Corporation	6,733.0
Chevron Corporation	6,597.0
EOG Resources, Inc.	5,577.4
Occidental Petroleum Corporation	5,344.0

(1) (6) See company footnotes on page 24.

Revenues and results of operations

US – revenues and results of operations (millions) (a)

	2008	2009	2010	2011	2012
Revenues	\$ 189,679.3	\$ 125,998.0	\$ 152,018.9	\$ 185,705.5	\$ 180,661.7
Production costs (b)	45,344.8	36,793.1	40,940.3	52,021.1	57,117.1
Exploration expense	5,038.3	4,937.5	4,719.7	5,503.3	6,707.0
DD&A	36,553.4	41,283.5	41,280.5	47,101.6	59,310.4
Impairments	34,288.7	33,861.8	1,071.2	4,864.5	26,373.0
Other expenses (c)	3,950.2	3,252.2	5,097.2	4,972.1	173.0
Pre-tax results of operations	\$ 64,503.9	\$ 5,870.0	\$ 58,910.1	\$ 71,242.8	\$ 30,981.3
Income taxes	23,963.2	1,650.7	20,261.5	24,437.7	11,555.8
Results of operations	\$ 40,540.7	\$ 4,219.3	\$ 38,648.7	\$ 46,805.1	\$ 19,425.5

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

(b) Includes production taxes, transportation costs and production-related general and administrative expenses for companies that separately disclose these expenses.

(c) Includes asset retirement obligation accretion for companies that separately disclose this expense.

After-tax profits for the study companies declined 58% in 2012 as revenues decreased slightly and all major categories of costs increased.

Revenues decreased 3% from \$185.7 billion in 2011 to \$180.7 billion in 2012. Combined oil and gas production increased 7% in 2012 but could not compensate for the depressed natural gas prices. On a per boe of production basis, revenues declined 9% from \$51.41 per boe in 2011 to \$46.56 per boe in 2012.

Production costs rose 10% to \$57.1 billion in 2012. Lease operating costs accounted for most of the increase, rising \$5.1 billion in 2012. Production taxes decreased slightly in connection with the lower revenues.

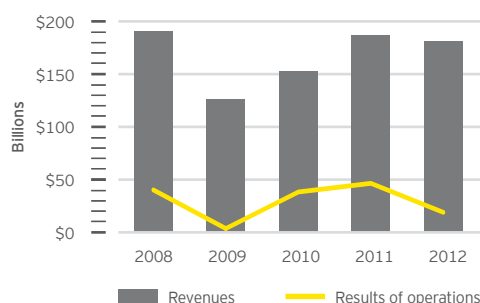
Depreciation, depletion and amortization (DD&A) was \$59.3 billion in 2012, representing a 26% increase from 2011 that was largely due to increased production volumes.

Property impairments of \$26.4 billion were recorded in 2012, primarily due to low natural gas prices. The largest impairments were recorded by Chesapeake Energy (\$3.3 billion), Ultra Petroleum (\$3.0 billion) and EnCana (\$2.8 billion).

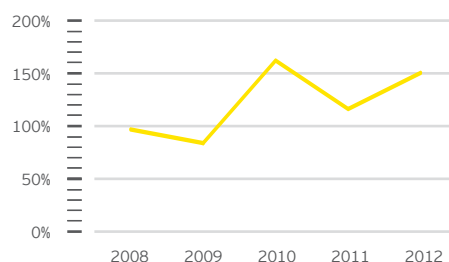
The companies have made strong

investments in their oil and gas operations in recent years. The companies' plowback percentage was 150% in 2012, representing the third consecutive year this measure has been over 100%. The three-year (2010 through 2012) average for the plowback percentage was 141%. The plowback percentage represents total capital expenditures as a percentage of netback (revenues less production costs).

Revenues and results of operations



Plowback percentage



2012 revenues and results of operations – leading companies (millions)

Revenues	
Chevron Corporation	\$ 16,954.0
Exxon Mobil Corporation ⁽¹⁾	16,365.0
BP p.l.c.	16,166.0
ConocoPhillips	15,108.0
Occidental Petroleum Corporation	10,379.0
Results of operations	
Chevron Corporation	\$ 5,356.0
BP p.l.c. ⁽³⁾	4,313.0
ConocoPhillips	3,123.0
Exxon Mobil Corporation ⁽¹⁾	2,850.0
Apache Corporation	1,545.0

(1) (3) See company footnotes on page 24.

Oil reserves

US – proved oil reserves (a) (million barrels) (b)

	2008	2009	2010 (c)	2011	2012 (d)
Beginning of year	16,572.9	16,067.0	16,943.3	18,956.6	20,734.3
Additions:					
Extensions and discoveries	781.7	940.5	1,686.1	2,528.7	3,789.0
Improved recovery	395.5	170.1	397.4	324.3	520.0
Revisions	(1,200.7)	1,121.2	957.2	556.4	(118.7)
Production	(1,196.0)	(1,387.7)	(1,414.4)	(1,440.2)	(1,621.4)
Purchases	293.8	195.0	1,112.7	305.8	891.1
Sales	(159.9)	(165.9)	(730.4)	(223.1)	(864.4)
Other (e)	579.8	3.1	4.7	(274.1)	0.0
End of year	16,067.0	16,943.3	18,956.6	20,734.3	23,329.9

(a) Includes condensate and natural gas liquids.

(b) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

(c) Beginning-of-year reserves for 2010 include 387.6 million barrels, which represent XTO Energy's end-of-year 2009 oil reserves. Sales for 2010 include 387.6 million barrels, to reflect the sale of XTO Energy's reserves to ExxonMobil.

(d) Beginning-of-year reserves for 2012 include 114.8 million barrels, which represent Petrohawk Energy's end-of-year 2011 oil reserves. Sales for 2012 include 114.8 million barrels, to reflect the sale of Petrohawk Energy's reserves to BHP Billiton.

(e) Includes transfers, reclassifications and other.

Oil reserves reported by the study companies increased 13% in 2012, rising from 20.7 billion barrels in 2011 to 23.3 billion barrels in 2012. Oil reserves grew 45% over the five-year period of 2008 through 2012, largely due to the developments in tight oil formations, but also aided by an increased focus on natural gas liquids because of their higher, more stable prices compared with natural gas.

Extensions and discoveries increased in each year of the study period and reached 3.8 billion barrels in 2012, representing a 50% increase over 2011. Chesapeake Energy has shifted to a more liquids-focused drilling program and recorded the largest oil extensions and discoveries in 2012 (513.4 million barrels).

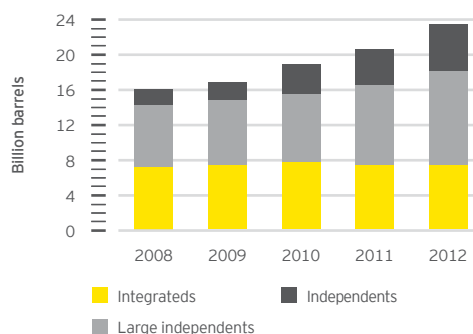
Oil production rose from 1.4 billion barrels in 2011 to 1.6 billion barrels in 2012, a 13% increase. The largest production gains were reported by EOG Resources (22.4 million barrels), Chesapeake Energy (17.2 million barrels) and ConocoPhillips and Marathon Oil (12.0 million barrels each). For the second consecutive year, the largest declines in production were seen by integrated – BP, ExxonMobil and Chevron.

Purchases of oil reserves were 891.1 million barrels in 2012. ExxonMobil (163.0 million barrels) and Plains Exploration & Production (113.2 million barrels) were the leading purchasers of oil reserves.

Sales of oil reserves were 864.4 million barrels in 2012, with the largest sales (excluding Petrohawk Energy) reported by BP (188.0 million barrels) and Chesapeake Energy (107.2 million barrels).

On a peer-group basis, the large independents accounted for the largest absolute increase in oil reserves in 2012, with their end-of-year reserves increasing 1.6 billion barrels (or 17%), while the independents' end-of-year reserves grew 1.0 billion barrels (or 24%) and the integrated's share remained flat.

End-of-year oil reserves



2012 oil reserves – leading companies (million barrels)

Ending reserves	
BP p.l.c.	2,432.0
Exxon Mobil Corporation ⁽¹⁾	2,245.0
ConocoPhillips	2,120.0
Occidental Petroleum Corporation	1,783.0
Chevron Corporation	1,359.0
Production	
Chevron Corporation	166.0
ConocoPhillips	151.0
BP p.l.c.	142.0
Exxon Mobil Corporation ⁽¹⁾	122.0
Occidental Petroleum Corporation	120.0

⁽¹⁾ See company footnotes on page 24.

Gas reserves

US – proved gas reserves (Bcf) (a)

	2008	2009	2010 (b)	2011	2012 (c)
Beginning of year	140,733.1	147,503.5	154,756.5	174,477.6	184,311.4
Additions:					
Extensions and discoveries	19,080.4	27,802.5	28,381.2	27,710.9	24,631.8
Improved recovery	1,866.9	719.9	1,338.2	846.3	1,382.4
Revisions	(6,866.1)	(8,709.9)	1,438.2	(4,252.8)	(29,310.1)
Production	(11,042.9)	(11,744.2)	(11,867.7)	(13,031.4)	(13,554.6)
Purchases	5,600.5	1,201.6	17,382.7	6,540.0	6,839.9
Sales	(2,588.3)	(2,416.6)	(17,018.5)	(7,977.6)	(9,238.1)
Other (d)	720.0	399.7	67.0	(1.6)	(0.1)
End of year	147,503.5	154,756.5	174,477.6	184,311.4	165,062.6

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserves. Activity related to acquired companies has also been reflected as described on page 1.

(b) Beginning-of-year reserves for 2010 include 12,501.7 Bcf, which represent XTO Energy's end-of-year 2009 gas reserves. Sales for 2010 include 12,501.7 Bcf, to reflect the sale of XTO Energy's reserves to ExxonMobil.

(c) Beginning-of-year reserves for 2012 include 3,355.1 Bcf, which represent Petrohawk Energy's end-of-year 2011 gas reserves. Sales for 2012 include 3,355.1 Bcf, to reflect the sale of Petrohawk Energy's reserves to BHP Billiton.

(d) Includes transfers, reclassifications and other.

Downward revisions due to low natural gas prices drove a 10% decrease in gas reserves for the study companies, with end-of-year reserves falling from 184.3 Tcf in 2011 to 165.1 Tcf in 2012.

Extensions and discoveries saw a decrease for the second consecutive year but were still strong at 24.6 Tcf. Active drilling programs led ExxonMobil (4.0 Tcf) and Chesapeake Energy (3.3 Tcf) to report the largest extensions and discoveries in 2012.

Substantial downward revisions of 29.3 Tcf were recorded in 2012 by the study companies due to depressed natural gas prices. This amount represents 16% of the total beginning-of-year 2012 reserves. On an individual company basis, three companies (Plains Exploration & Production, Ultra Petroleum and Quicksilver Resources) had downward revisions that were greater than 50% of beginning reserves.

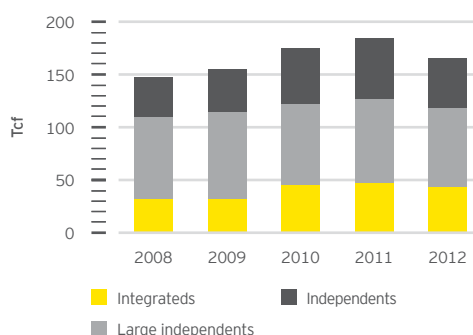
Gas production increased in each year of the five-year study period and climbed 4% to 13.6 Tcf in 2012. BHP Billiton reported the largest increase in production (409.3 Bcf) primarily due to its acquisition of Petrohawk Energy. Chesapeake Energy's gas production grew by 125.0 Bcf, largely due to increased production in the Marcellus Shale and despite production curtailments in the first half of 2012 in response to low prices.

Purchases of gas reserves were 6.8 Tcf in 2012, with BHP Billiton (3.3 Tcf) and Linn Energy (1.2 Tcf) leading the way for their previously discussed acquisitions.

Sales of gas reserves were 9.2 Tcf in 2012. Excluding the 3.3 Tcf related to Petrohawk Energy, the largest sales were reported by Antero Resources (1.6 Tcf), which sold its Arkoma Basin and Piceance Basin assets. These sales were to companies not included in the study and were driven by Antero Resources' strategy to focus on its Appalachian Basin properties.

The large independents held the largest portion (45%) of end-of-year 2012 gas reserves. The independents accounted for 28% while the integrations held 27%.

End-of-year gas reserves



2012 gas reserves – leading companies (Bcf)

Ending reserves	
Exxon Mobil Corporation ⁽¹⁾	26,370.0
BP p.l.c.	11,231.0
Chesapeake Energy Corporation	10,933.0
ConocoPhillips	9,467.0
Devon Energy Corporation	8,762.0
Production	
Exxon Mobil Corporation ⁽¹⁾	1,524.0
Chesapeake Energy Corporation	1,129.0
Anadarko Petroleum Corporation	916.0
Devon Energy Corporation	752.0
ConocoPhillips	685.0

⁽¹⁾ See company footnotes on page 24.



Performance measures

Proved reserve acquisition costs, finding and development costs and reserve replacement costs

US – proved reserve acquisition costs (PRAC), finding and development costs (FDC) and reserve replacement costs (RRC) (a)

\$ per boe

	2008	2009	2010	2011	2012	3-year	5-year
PRAC	\$ 16.62	\$ 9.83	\$ 10.44	\$ 10.01	\$ 10.67	\$ 10.42	\$ 11.23
FDC	51.34	12.83	16.75	18.93	45.03	22.92	23.29
RRC	39.34	12.63	14.68	17.53	32.72	19.44	20.28

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

PRAC rose 7% from \$10.01 per boe in 2011 to \$10.67 per boe in 2012. The top three spenders for proved properties in 2012 posted diverging results as Plains Exploration & Production's 2012 PRAC was \$32.75 per boe compared with \$8.60 per boe for Linn Energy and \$7.61 per boe for BHP Billiton. The reserves purchased by Linn Energy and BHP Billiton were heavily weighted toward gas while the Plains Exploration & Production acquisitions were primarily oil-focused.

FDC surged in 2012 to \$45.03 per boe as associated spending increased 16% while total reserve additions declined 51%. Oil reserve additions for FDC increased 781.1 million barrels but were overshadowed by a 27.6 Tcf decrease in gas reserve additions that was primarily due to the downward revisions recorded in 2012.

RRC were \$32.72 per boe in 2012 compared with \$17.53 per boe in 2011, an increase again driven by increased capital expenditures and a decrease in reserve additions.

The highest FDC and RRC of the study period were in 2008 and were primarily driven by price-related downward reserves revisions for both oil and gas.

Three-year (2010-12) PRAC, FDC and RRC* – leading companies (\$ per boe)

PRAC**	
Antero Resources LLC	\$ 4.23
EnCana Corporation	5.22
PDC Energy, Inc.	5.34
Quicksilver Resources Inc.	6.03
Range Resources Corporation	6.30
FDC	
Antero Resources LLC	\$ 2.83
Range Resources Corporation	5.14
Cabot Oil & Gas Corporation	6.12
Rosetta Resources Inc.	6.96
EQT Corporation	7.63
RRC	
Antero Resources LLC	\$ 2.88
Range Resources Corporation	5.16
Cabot Oil & Gas Corporation	6.12
Rosetta Resources Inc.	6.99
EQT Corporation	7.83

* Based on companies with results for each year of the three-year period.

** Based on companies with proved acquisition costs of at least \$50 million for the three-year period.

Production replacement rates

Oil

US – oil production replacement rates (a)

	2008	2009	2010	2011	2012	3-year	5-year
All sources	9%	163%	242%	242%	260%	249%	191%
Excluding purchases and sales	(2%)	161%	215%	237%	258%	238%	182%

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

Oil production replacement rates increased in each year of the study period, and strong extensions and discoveries in 2012 fueled rates of 258% excluding purchase and sales and 260% for all sources.

Only three companies (BP, Quicksilver Resources and Ultra Petroleum) reported negative oil production replacement rates in 2012 on an excluding purchases and sales basis.

On a peer-group basis, the independents reported sharply higher reserve replacement rates than either the large independents or integrated companies.

2012 oil production replacement rates by peer group

	All sources	Excluding purchases and sales
Integrations	104%	103%
Large independents	308%	309%
Independents	419%	411%

Three-year (2010-12) oil production replacement rates – leading companies*

All sources	
PDC Energy, Inc.	1,081%
Laredo Petroleum Holdings, Inc.	1,042%
EP Energy LLC ⁽¹⁾	982%
Range Resources Corporation	939%
QEP Resources, Inc.	917%
Excluding purchases and sales	
Range Resources Corporation	1,126%
Laredo Petroleum Holdings, Inc.	1,025%
EP Energy LLC ⁽¹⁾	1,024%
Chesapeake Energy Corporation	888%
Rosetta Resources Inc.	857%

* Based on companies with at least 5 million barrels of production for the three-year period and companies that had results for each year of the three-year period.

⁽¹⁾ See company footnotes on page 24.

Production replacement rates

Gas

US – gas production replacement rates (a)

	2008	2009	2010	2011	2012	3-year	5-year
All sources	155%	158%	266%	175%	(42%)	127%	138%
Excluding purchases and sales	128%	169%	263%	187%	(24%)	136%	141%

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

The recording of 29.3 Tcf of downward revisions led to negative production replacement rates in 2012. The (24%) excluding purchases and sales rate in 2012 reflects the downward revisions that were 13% larger than drill bit additions (additions from extensions and discoveries and improved recovery). Net sales of 2.4 Tcf further impacted the all sources rate, which was (42%) for 2012.

On a peer-group basis, the independents whose reserves are most heavily weighted toward gas were hardest hit with an excluding purchases and sales rate of (49%) and an all sources rate of (152%) in 2012. The independents' all sources rate was impacted by the sale of Petrohawk Energy's reserves to BHP Billiton (a large independent).

2012 gas production replacement rates by peer group

	All sources	Excluding purchases and sales
Integrateds	(1%)	13%
Large independents	7%	(27%)
Independents	(152%)	(49%)

Three-year (2010-12) gas production replacement rates – leading companies*

All sources	
Antero Resources LLC	1,287%
BHP Billiton Group	1,230%
Denbury Resources Inc.	888%
Linn Energy, LLC	843%
Continental Resources, Inc.	772%
Excluding purchases and sales	
Antero Resources LLC	1,920%
Continental Resources, Inc.	702%
Range Resources Corporation	687%
National Fuel Gas Company	589%
Swift Energy Company	523%

*Based on companies that had results for each year of the three-year period.

Production costs

US – production costs (\$ per boe) (a)

	2008	2009	2010	2011	2012	3-year	5-year
	\$ 14.93	\$ 11.00	\$ 12.07	\$ 14.40	\$ 14.72	\$ 13.79	\$ 13.45

(a) Includes the 50 largest companies based on 2012 end-of-year oil and gas reserve estimates. Activity related to acquired companies has also been reflected as described on page 1.

Production costs per boe saw a slight 2% increase from \$14.40 per boe in 2011 to \$14.72 per boe in 2012.

Lease operating expenses increased 15% in 2012. However, it appears as though some of the cost pressures seen in 2010 and 2011 have eased with the increase in costs largely attributable to the performance of the integrateds.

The integrateds experienced an 8% increase in production costs per boe while their combined oil and gas production decreased 3% in 2012.

Conversely, the large independents saw production costs per boe fall less than 1% even though their combined oil and gas production increased 15%.

The independents fared well, with a 2% increase in production costs per boe in 2012 to go along with a 7% increase in combined oil and gas production.

Three-year (2010-12) production costs – leading companies (\$ per boe)

EQT Corporation	\$ 2.45
Southwestern Energy Company	5.52
Chesapeake Energy Corporation	6.25
Cabot Oil & Gas Corporation	6.55
Ultra Petroleum Corporation	6.67

Company statistics

US – capital expenditures for the latest fiscal year

Millions

	Proved properties	Unproved properties	Exploration	Development	Other	Total capital expenditures
Anadarko Petroleum Corporation	\$ –	\$ 224.0	\$ 1,064.0	\$ 3,592.0	\$ –	\$ 4,880.0
Antero Resources LLC	10.3	687.4	–	839.2	9.4	1,546.2
Apache Corporation	1,076.0	2,329.0	1,369.0	4,465.0	–	9,239.0
Berry Petroleum Company	70.7	10.7	16.4	714.3	–	812.1
BHP Billiton Group ⁽⁶⁾	4,746.0	10,366.0	690.0	4,460.0	–	20,262.0
Bill Barrett Corporation	6.0	163.0	32.2	754.5	8.3	964.0
BP p.l.c.	256.0	1,111.0	1,069.0	3,866.0	–	6,302.0
Cabot Oil & Gas Corporation	–	88.9	59.2	821.8	–	969.9
Chesapeake Energy Corporation	332.0	2,981.0	2,353.0	6,733.0	–	12,399.0
Chevron Corporation	248.0	1,150.0	511.0	6,597.0	–	8,506.0
Cimarex Energy Co.	2.6	117.7	109.2	1,426.9	12.5	1,669.0
Concho Resources Inc.	828.7	441.0	778.6	725.7	47.3	2,821.3
ConocoPhillips	33.0	564.0	1,376.0	4,561.0	–	6,534.0
CONSOL Energy Inc.	50.0	28.6	130.3	339.6	–	548.6
Continental Resources, Inc.	738.4	745.6	854.4	1,975.7	3.3	4,317.4
Denbury Resources Inc.	491.0	115.3	12.0	1,111.3	–	1,729.6
Devon Energy Corporation	2.0	1,135.0	351.0	4,408.0	–	5,896.0
EnCana Corporation	5.0	235.0	633.0	1,094.0	–	1,967.0
Energen Corporation	79.9	58.6	419.3	749.3	–	1,307.0
EOG Resources, Inc.	0.7	471.3	333.5	5,577.4	80.0	6,463.0
EP Energy LLC ⁽¹⁾	–	51.0	199.0	1,295.0	49.0	1,594.0
EQT Corporation	17.0	117.7	4.8	850.9	–	990.3
EXCO Resources, Inc.	–	47.9	57.3	346.0	1.0	452.2
Exxon Mobil Corporation ⁽¹⁾	192.0	1,731.0	646.0	7,676.0	–	10,245.0
Forest Oil Corporation	–	64.1	268.2	398.9	–	731.2
Hess Corporation	–	179.0	405.0	4,236.0	–	4,820.0

	Proved properties	Unproved properties	Exploration	Development	Other	Total capital expenditures
Laredo Petroleum Holdings, Inc.	\$ 16.9	\$ 3.7	\$ 93.3	\$ 831.7	\$ 7.4	\$ 953.0
Linn Energy, LLC	2,531.4	181.1	0.5	1,062.0	4.7	3,779.7
Marathon Oil Corporation	756.0	432.0	1,587.0	2,469.0	-	5,244.0
Murphy Oil Corporation	69.1	107.7	176.2	1,314.8	36.2	1,704.0
National Fuel Gas Company	13.1	13.9	84.6	576.4	10.3	698.3
Newfield Exploration Company	3.0	64.0	929.0	659.0	-	1,655.0
Noble Energy, Inc.	-	68.0	335.0	1,839.0	-	2,242.0
Occidental Petroleum Corporation	1,689.0	613.0	539.0	5,344.0	-	8,185.0
PDC Energy, Inc.	105.3	276.2	20.7	233.1	-	635.4
Petrohawk Energy Corporation	-	-	-	-	-	-
Pioneer Natural Resources Company	16.9	140.5	964.6	1,824.8	58.9	3,005.8
Plains Exploration & Production Company ⁽¹⁾	4,139.0	2,102.6	1,241.1	835.8	-	8,318.6
QEP Resources, Inc.	714.4	692.6	14.3	1,310.0	-	2,731.3
Quicksilver Resources Inc.	-	23.7	35.2	131.9	-	190.9
Range Resources Corporation	-	188.8	379.6	1,090.2	58.0	1,716.6
Rosetta Resources Inc.	-	18.8	93.5	532.0	-	644.3
Royal Dutch Shell plc ⁽¹⁾	567.0	2,610.0	4,908.0	4,026.0	-	12,111.0
SandRidge Energy, Inc.	1,761.6	377.2	120.4	1,705.0	-	3,964.2
SM Energy Company	5.8	115.0	220.9	1,346.2	-	1,687.9
Southwestern Energy Company	-	217.2	194.8	1,492.8	-	1,904.8
Swift Energy Company	37.2	15.6	-	670.3	-	723.1
Talisman Energy Inc.	2.0	37.0	11.0	1,097.0	53.0	1,200.0
Ultra Petroleum Corporation	-	48.0	199.6	587.6	-	835.2
Whiting Petroleum Corporation	19.8	119.2	436.1	1,667.2	-	2,242.2
WPX Energy, Inc.	-	111.0	23.0	1,130.0	-	1,264.0
All companies	\$ 21,632.9	\$ 33,790.7	\$ 26,348.9	\$ 103,390.3	\$ 439.3	\$ 185,602.0
Integrations	\$ 1,263.0	\$ 6,781.0	\$ 7,539.0	\$ 26,401.0	\$ -	\$ 41,984.0
Large independents	8,673.6	19,865.4	11,979.6	48,308.2	196.9	89,023.7
Independents	11,696.2	7,144.3	6,830.3	28,681.1	242.4	54,594.3

⁽¹⁾(6) See company footnotes on page 24.

US – revenues and results of operations for the latest fiscal year (a)

Millions

	Revenues (a)	Production costs (b)	Exploration expense	DD&A (c)	Impairments	Other (income) expense (d)	Income taxes	Results of operations
Anadarko Petroleum Corporation ⁽²⁾	\$ 9,000.0	\$ 2,616.0	\$ 1,484.0	\$ 3,320.0	\$ 364.0	\$ –	\$ 445.4	\$ 770.6
Antero Resources LLC	390.4	185.5	15.3	181.7	13.0	–	(2.0)	(3.2)
Apache Corporation	6,226.0	1,734.0	–	1,984.0	–	112.0	851.0	1,545.0
Berry Petroleum Company	872.6	311.6	20.9	225.9	0.1	–	106.6	207.6
BHP Billiton Group ⁽⁶⁾	4,894.0	1,376.0	275.0	4,964.0	–	–	(745.0)	(976.0)
Bill Barrett Corporation	773.4	204.8	8.8	326.8	67.9	–	121.8	43.3
BP p.l.c. ⁽³⁾⁽⁴⁾	16,166.0	5,326.0	649.0	3,187.0	1,859.0	(1,930.0)	2,762.0	4,313.0
Cabot Oil & Gas Corporation	1,161.6	310.4	37.5	451.4	–	–	161.6	200.7
Chesapeake Energy Corporation	6,278.0	1,492.0	–	2,507.0	3,315.0	–	(404.0)	(632.0)
Chevron Corporation	16,954.0	4,663.0	244.0	3,589.0	–	59.0	3,043.0	5,356.0
Cimarex Energy Co.	1,581.7	402.9	–	484.5	–	13.0	251.2	430.0
Concho Resources Inc.	1,692.4	343.7	39.8	575.1	–	4.2	277.8	451.7
ConocoPhillips	15,108.0	6,606.0	377.0	2,982.0	192.0	390.0	1,438.0	3,123.0
CONSOL Energy Inc.	709.8	337.9	–	203.0	–	39.0	49.6	80.4
Continental Resources, Inc.	2,379.4	423.9	23.5	683.2	122.3	–	428.1	698.5
Denbury Resources Inc.	2,414.7	682.3	–	490.5	–	52.8	457.8	731.3
Devon Energy Corporation	4,679.0	1,558.0	–	1,563.0	1,793.0	40.0	(99.0)	(176.0)
EnCana Corporation	3,365.0	1,142.0	–	1,102.0	2,842.0	–	(623.0)	(1,098.0)
Energen Corporation	1,167.2	306.4	19.4	394.7	–	7.5	157.7	281.6
EOG Resources, Inc.	7,089.4	1,856.2	163.9	2,637.5	294.2	–	761.5	1,376.1
EP Energy LLC ⁽¹⁾	1,587.0	455.0	45.0	578.0	–	–	43.0	466.0
EQT Corporation	793.8	96.2	10.4	409.6	–	–	109.7	168.0
EXCO Resources, Inc.	612.7	207.5	–	303.2	1,346.7	3.9	–	(1,248.5)
Exxon Mobil Corporation ⁽¹⁾	16,365.0	6,516.0	400.0	5,038.0	–	–	1,561.0	2,850.0
Forest Oil Corporation	605.5	156.9	–	275.9	957.6	6.5	173.4	(964.8)
Hess Corporation	4,104.0	1,153.0	426.0	1,406.0	432.0	–	269.0	418.0

	Revenues (a)	Production costs (b)	Exploration expense	DD&A (c)	Impairments	Other (income) expense (d)	Income taxes	Results of operations
Laredo Petroleum Holdings, Inc.	\$ 583.6	\$ 105.0	\$ -	\$ 237.1	\$ -	\$ 1.2	\$ 83.7	\$ 156.6
Linn Energy, LLC	1,725.9	525.0	1.9	579.4	422.5	(1.4)	-	198.5
Marathon Oil Corporation ⁽⁵⁾	3,871.0	1,277.0	564.0	1,431.0	362.0	-	86.0	151.0
Murphy Oil Corporation	1,038.0	305.1	51.9	330.2	71.6	11.4	99.8	168.0
National Fuel Gas Company	488.6	107.0	-	182.8	-	3.1	81.9	113.8
Newfield Exploration Company	1,469.0	466.0	-	661.0	1,488.0	-	(401.0)	(745.0)
Noble Energy, Inc.	2,339.0	539.0	225.0	929.0	73.0	-	201.0	372.0
Occidental Petroleum Corporation	10,379.0	3,607.0	230.0	2,412.0	1,731.0	723.0	508.0	1,168.0
PDC Energy, Inc.	307.1	77.5	22.6	146.9	162.3	4.1	(40.4)	(65.9)
Petrohawk Energy Corporation	-	-	-	-	-	-	-	-
Pioneer Natural Resources Company	3,141.9	823.4	206.3	810.2	532.6	9.9	250.5	509.1
Plains Exploration & Production Company ⁽¹⁾	2,679.7	681.3	40.3	1,137.4	14.5	(0.4)	312.5	493.9
QEP Resources, Inc.	1,393.4	501.1	11.2	838.0	133.4	-	(33.6)	(56.7)
Quicksilver Resources Inc.	538.9	226.5	-	116.0	2,152.1	-	(684.5)	(1,271.3)
Range Resources Corporation	1,393.1	375.5	69.8	445.2	160.8	-	164.4	177.4
Rosetta Resources Inc.	573.0	111.0	-	154.2	-	-	115.7	192.0
Royal Dutch Shell plc ⁽¹⁾	10,194.0	3,135.0	811.0	4,106.0	-	576.0	531.0	1,035.0
SandRidge Energy, Inc.	1,759.3	524.4	-	568.0	-	29.0	(437.6)	1,075.5
SM Energy Company	1,533.4	391.9	90.2	727.9	225.3	-	34.4	63.7
Southwestern Energy Company	1,948.2	505.3	-	765.2	1,939.7	-	(502.7)	(759.3)
Swift Energy Company	554.2	164.3	-	247.2	-	5.1	58.8	78.7
Talisman Energy Inc.	654.0	280.0	12.0	610.0	-	-	-	(248.0)
Ultra Petroleum Corporation	810.0	268.7	-	389.0	2,972.5	-	(679.7)	(2,140.5)
Whiting Petroleum Corporation	2,226.0	548.0	59.1	684.7	107.9	-	309.4	516.8
WPX Energy, Inc.	2,091.0	1,109.0	72.0	939.0	225.0	14.0	(98.0)	(170.0)
All companies	\$ 180,661.7	\$ 57,117.1	\$ 6,707.0	\$ 59,310.4	\$ 26,373.0	\$ 173.0	\$ 11,555.8	\$ 19,425.5
Integrated	\$ 63,783.0	\$ 20,793.0	\$ 2,530.0	\$ 17,326.0	\$ 2,291.0	\$ (1,295.0)	\$ 8,166.0	\$ 13,972.0
Large independents	78,557.2	25,098.2	3,605.4	27,496.5	11,659.6	1,274.9	2,944.4	6,478.1
Independents	38,321.5	11,225.9	571.6	14,487.8	12,422.4	193.1	445.3	(1,024.6)

(a) Amounts are determined from the results of operations table if this disclosure is provided; otherwise, amounts are determined from the income statement. Revenues determined from the income statement include oil and gas sales and hedging and derivatives gains/losses.

(b) Includes production taxes, transportation cost and production-related general and administrative expenses for those companies that separately disclose these expenses.

(c) Includes asset retirement obligations accretion for those companies that separately disclose this expense.

(1)-(6) See company footnotes on page 24.

US – oil reserves for the latest fiscal year (a)

Million barrels

	Beginning	Extensions and discoveries	Improved recovery	Revisions	Production	Purchases	Sales	Other (b)	Ending
Anadarko Petroleum Corporation	897.0	12.0	–	127.0	(84.0)	–	(48.0)	–	904.0
Antero Resources LLC	181.0	118.0	–	4.0	–	–	(97.0)	–	206.0
Apache Corporation	794.0	156.6	–	(12.0)	(61.4)	16.2	(0.1)	–	893.3
Berry Petroleum Company	185.9	8.5	–	12.1	(10.0)	8.3	(0.6)	–	204.2
BHP Billiton Group ⁽⁶⁾	267.4	5.0	34.1	170.3	(36.6)	73.9	–	–	514.1
Bill Barrett Corporation	30.6	17.3	–	6.6	(2.7)	0.3	(1.3)	–	50.8
BP p.l.c.	2,858.0	23.0	140.0	(280.0)	(142.0)	21.0	(188.0)	–	2,432.0
Cabot Oil & Gas Corporation	20.5	9.6	–	(3.1)	(2.4)	–	(0.2)	–	24.4
Chesapeake Energy Corporation	545.5	513.4	–	(114.8)	(48.9)	4.8	(107.2)	–	792.8
Chevron Corporation	1,311.0	77.0	24.0	104.0	(166.0)	10.0	(1.0)	–	1,359.0
Cimarex Energy Co.	138.1	64.1	–	(7.6)	(18.5)	0.0	(8.4)	–	167.8
Concho Resources Inc.	238.3	60.4	–	(15.9)	(18.0)	30.3	(21.5)	–	273.5
ConocoPhillips	2,009.0	245.0	16.0	–	(151.0)	1.0	–	–	2,120.0
CONSOL Energy Inc.	–	–	–	–	–	–	–	–	–
Continental Resources, Inc.	326.1	166.8	–	33.3	(25.1)	67.1	(7.2)	–	561.2
Denbury Resources Inc.	357.7	14.9	69.5	(7.5)	(24.5)	24.7	(105.8)	–	329.1
Devon Energy Corporation	693.0	179.0	–	(39.0)	(57.0)	–	–	–	776.0
EnCana Corporation	38.2	39.2	–	38.9	(4.2)	0.1	(3.8)	–	108.4
Energen Corporation	183.5	46.9	–	(18.1)	(11.3)	10.5	–	–	211.5
EOG Resources, Inc.	721.9	312.6	–	51.4	(74.8)	1.6	(23.2)	–	989.4
EP Energy LLC ⁽¹⁾	198.5	122.8	–	(7.0)	(11.8)	0.0	(3.9)	–	298.7
EQT Corporation	2.9	0.3	–	0.3	(0.3)	–	–	–	3.2
EXCO Resources, Inc.	6.4	0.9	–	6.2	(1.2)	–	–	–	12.2
Exxon Mobil Corporation ⁽¹⁾	2,008.0	166.0	22.0	23.0	(122.0)	163.0	(15.0)	–	2,245.0
Forest Oil Corporation	76.0	23.5	–	(12.2)	(6.6)	–	(5.8)	–	75.0
Hess Corporation	373.0	108.0	7.0	32.0	(45.0)	–	(2.0)	–	473.0

	Beginning	Extensions and discoveries	Improved recovery	Revisions	Production	Purchases	Sales	Other (b)	Ending
Laredo Petroleum Holdings, Inc.	56.3	57.4	–	(12.4)	(4.8)	1.7	–	–	98.1
Linn Energy, LLC	282.5	50.3	–	(40.6)	(19.7)	98.4	–	–	370.9
Marathon Oil Corporation	279.0	172.0	2.0	9.0	(39.0)	52.0	–	–	475.0
Murphy Oil Corp.	55.3	77.3	–	13.0	(9.5)	6.5	–	–	142.6
National Fuel Gas Company	43.3	1.3	–	1.1	(2.9)	–	–	–	42.9
Newfield Exploration Company	220.0	55.0	–	(4.0)	(14.0)	–	(17.0)	–	240.0
Noble Energy, Inc.	244.0	106.0	–	(57.0)	(24.0)	–	(25.0)	–	244.0
Occidental Petroleum Corporation	1,751.0	7.0	159.0	(69.0)	(120.0)	55.0	–	–	1,783.0
PDC Energy, Inc.	57.2	39.1	–	(10.4)	(2.9)	18.9	(9.8)	–	92.1
Petrohawk Energy Corporation	114.8	–	–	–	–	–	(114.8)	–	–
Pioneer Natural Resources Company	640.8	126.8	7.5	(28.6)	(33.7)	7.4	(0.8)	–	719.4
Plains Exploration & Production Company ⁽¹⁾	249.5	45.7	–	(14.7)	(25.3)	113.2	(1.5)	(0.0)	366.8
QEP Resources, Inc.	144.1	40.3	–	(0.8)	(11.6)	46.9	–	0.0	218.9
Quicksilver Resources, Inc.	105.2	3.9	–	(45.9)	(4.4)	–	(0.1)	–	58.7
Range Resources Corporation	174.0	128.5	–	5.4	(9.8)	–	(12.6)	–	285.5
Rosetta Resources Inc.	86.6	39.2	–	(0.0)	(8.0)	0.2	(2.0)	–	116.0
Royal Dutch Shell plc ⁽¹⁾	838.0	30.0	7.0	90.0	(82.0)	26.0	(6.0)	–	903.0
SandRidge Energy, Inc.	244.8	116.9	–	(22.3)	(18.0)	32.2	(23.6)	–	330.0
SM Energy Company	99.2	47.7	31.9	(6.9)	(16.5)	0.1	(1.0)	–	154.5
Southwestern Energy Company	1.0	0.2	–	(0.0)	(0.1)	–	(0.8)	–	0.2
Swift Energy Company	56.8	24.7	–	16.6	(5.6)	–	–	–	92.5
Talisman Energy Inc.	17.3	11.4	–	(1.5)	(2.5)	–	–	–	24.7
Ultra Petroleum Corporation	33.1	5.4	–	(19.1)	(1.3)	–	–	–	18.1
Whiting Petroleum Corporation	297.8	74.7	–	3.2	(25.9)	–	(8.3)	–	341.4
WPX Energy, Inc.	181.1	37.4	–	(15.5)	(14.8)	–	(1.3)	–	186.9
All companies	20,734.3	3,789.0	520.0	(118.7)	(1,621.4)	891.1	(864.4)	0.0	23,329.9
Integrated	7,388.0	404.0	200.0	(31.0)	(557.0)	220.0	(212.0)	–	7,412.0
Large independents	9,057.8	2,003.4	218.6	81.8	(744.7)	212.0	(220.8)	–	10,608.1
Independents	4,288.5	1,381.6	101.4	(169.5)	(319.7)	459.1	(431.6)	0.0	5,309.8

(a) Includes condensate and natural gas liquids.

(b) Includes transfers, reclassifications and other.

⁽¹⁾(6) See company footnotes on page 24.

US – gas reserves for the latest fiscal year

Bcf

	Beginning	Extensions and discoveries	Improved recovery	Revisions	Production	Purchases	Sales	Other (a)	Ending
Anadarko Petroleum Corporation	8,365.0	418.0	–	635.0	(916.0)	26.0	(199.0)	–	8,329.0
Antero Resources LLC	3,931.0	1,242.0	–	198.0	(87.0)	–	(1,590.0)	–	3,694.0
Apache Corporation	2,976.2	365.9	–	(156.8)	(312.6)	313.9	(0.6)	–	3,185.9
Berry Petroleum Company	534.3	100.1	–	(205.8)	(19.8)	16.7	–	–	425.5
BHP Billiton Group ⁽⁶⁾	2,729.8	128.3	3.3	328.1	(458.4)	3,297.3	–	–	6,028.4
Bill Barrett Corporation	1,181.1	83.4	–	(212.7)	(101.5)	0.3	(211.5)	–	739.1
BP p.l.c.	13,552.0	225.0	885.0	(1,853.0)	(661.0)	232.0	(1,149.0)	–	11,231.0
Cabot Oil & Gas Corporation	2,909.9	869.0	–	207.0	(253.0)	–	(37.0)	0.1	3,696.0
Chesapeake Energy Corporation	15,515.0	3,317.0	–	(6,080.0)	(1,129.0)	14.0	(704.0)	–	10,933.0
Chevron Corporation	3,646.0	166.0	5.0	318.0	(440.0)	33.0	(6.0)	–	3,722.0
Cimarex Energy Co.	1,216.4	372.5	–	(211.4)	(118.5)	0.1	(7.2)	–	1,251.9
Concho Resources Inc.	889.3	189.4	–	(40.5)	(70.6)	157.3	(82.8)	–	1,042.1
ConocoPhillips	10,148.0	451.0	27.0	(483.0)	(685.0)	9.0	–	–	9,467.0
CONSOL Energy Inc.	3,480.0	954.4	–	(284.6)	(156.3)	–	–	–	3,993.5
Continental Resources, Inc.	1,093.8	400.8	–	(174.7)	(63.9)	89.1	(4.0)	–	1,341.1
Denbury Resources Inc.	625.2	10.0	–	(54.7)	(10.7)	20.6	(108.8)	–	481.6
Devon Energy Corporation	9,507.0	1,124.0	–	(1,118.0)	(752.0)	2.0	(1.0)	–	8,762.0
EnCana Corporation	6,511.0	338.0	–	(1,701.0)	(593.0)	8.0	(321.0)	–	4,242.0
Energen Corporation	957.4	61.2	–	(143.7)	(76.4)	10.7	–	–	809.1
EOG Resources, Inc.	6,045.8	477.8	–	(1,736.0)	(380.2)	14.8	(386.2)	–	4,036.0
EP Energy LLC ⁽¹⁾	2,701.0	144.0	–	(657.0)	(239.0)	–	(72.0)	–	1,877.0
EQT Corporation	5,347.4	1,654.2	–	(755.8)	(259.4)	–	(0.7)	–	5,985.8
EXCO Resources, Inc.	1,291.5	96.6	–	(266.5)	(182.7)	–	(2.8)	–	936.1
Exxon Mobil Corporation ⁽¹⁾	26,366.0	4,045.0	–	(2,839.0)	(1,524.0)	503.0	(181.0)	–	26,370.0
Forest Oil Corporation	1,396.5	93.6	–	(479.0)	(81.0)	–	(17.3)	–	912.8
Hess Corporation	360.0	76.0	4.0	10.0	(50.0)	–	–	–	400.0

	Beginning	Extensions and discoveries	Improved recovery	Revisions	Production	Purchases	Sales	Other (a)	Ending
Laredo Petroleum Holdings, Inc.	601.1	232.4	–	(260.7)	(39.1)	9.2	–	–	542.9
Linn Energy, LLC	1,675.0	407.0	–	(559.0)	(128.0)	1,176.0	–	–	2,571.0
Marathon Oil Corporation	872.0	224.0	–	(29.0)	(129.0)	105.0	–	–	1,043.0
Murphy Oil Corporation	98.4	107.2	–	16.5	(19.4)	7.0	–	–	209.7
National Fuel Gas Company	674.9	436.1	–	(56.5)	(66.1)	–	–	–	988.4
Newfield Exploration Company	2,329.0	181.0	–	(525.0)	(151.0)	1.0	(80.0)	–	1,755.0
Noble Energy, Inc.	1,976.0	601.0	–	(266.0)	(160.0)	–	(164.0)	–	1,987.0
Occidental Petroleum Corporation	3,365.0	19.0	317.0	(748.0)	(300.0)	236.0	–	–	2,889.0
PDC Energy, Inc.	672.1	172.9	–	(289.4)	(32.4)	87.2	(6.4)	–	604.0
Petrohawk Energy Corporation	3,355.1	–	–	–	–	–	(3,355.1)	–	–
Pioneer Natural Resources Company	2,518.4	320.2	–	(485.2)	(157.4)	9.5	(8.0)	–	2,197.5
Plains Exploration & Production Company ⁽¹⁾	1,049.4	83.5	–	(591.4)	(98.5)	79.4	(11.3)	(0.2)	510.8
QEP Resources, Inc.	2,749.4	330.6	–	(240.6)	(249.3)	32.3	–	–	2,622.4
Quicksilver Resources, Inc.	1,828.9	25.9	–	(910.4)	(75.7)	–	(20.6)	–	848.0
Range Resources Corporation	4,009.7	996.1	–	76.9	(216.6)	–	(73.4)	–	4,792.7
Rosetta Resources Inc.	446.0	158.8	–	(10.1)	(33.9)	0.7	(52.1)	(0.0)	509.5
Royal Dutch Shell plc ⁽¹⁾	3,259.0	393.0	16.0	(1,045.0)	(404.0)	139.0	(6.0)	–	2,352.0
SandRidge Energy, Inc.	1,355.1	489.3	–	(538.2)	(93.5)	203.0	(0.5)	–	1,415.0
SM Energy Company	664.0	297.4	125.1	(123.3)	(120.0)	1.2	(11.0)	–	833.4
Southwestern Energy Company	5,887.2	918.6	–	(2,088.0)	(564.5)	–	(136.5)	–	4,016.8
Swift Energy Company	616.8	114.5	–	(97.3)	(36.4)	–	–	–	597.6
Talisman Energy Inc.	1,985.8	(550.0)	–	66.0	(176.8)	–	–	–	1,325.0
Ultra Petroleum Corporation	4,778.6	819.9	–	(2,382.7)	(249.3)	–	–	–	2,966.4
Whiting Petroleum Corporation	285.0	40.9	–	(61.8)	(25.8)	–	(14.0)	–	224.3
WPX Energy, Inc.	3,982.9	409.2	–	(404.8)	(407.0)	5.8	(217.0)	–	3,369.1
All companies	184,311.4	24,631.8	1,382.4	(29,310.1)	(13,554.6)	6,839.9	(9,238.1)	(0.1)	165,062.6
Integrations	47,183.0	4,905.0	910.0	(5,409.0)	(3,079.0)	907.0	(1,342.0)	–	44,075.0
Large independents	79,886.2	10,434.5	347.3	(12,518.8)	(6,448.5)	4,035.4	(1,857.9)	–	73,878.2
Independents	57,242.1	9,292.3	125.1	(11,382.3)	(4,027.0)	1,897.5	(6,038.2)	(0.1)	47,109.4

(a) Includes transfers, reclassifications and other.

⁽¹⁾⁽⁶⁾ See company footnotes on page 24.

US – performance measures (three-year averages) (a)

Costs in \$ per boe; production replacement rates in %

	Production replacement rates							
					Oil		Gas	
	PRAC	FDC	RRC		All sources	Excluding purchases and sales	All sources	Excluding purchases and sales
								Production costs
Anadarko Petroleum Corporation	\$ 4.00	\$ 12.49	\$ 12.45	163%	192%	122%	132%	\$ 11.47
Antero Resources LLC	4.23	2.83	2.88	18,718	27,355	1,287	1,920	10.67
Apache Corporation	16.05	40.60	27.66	341	201	184	58	14.42
Berry Petroleum Company	10.02	69.25	27.59	375	203	(205)	(280)	20.80
BHP Billiton Group ⁽⁶⁾	6.82	41.79	17.70	382	316	1,230	128	10.00
Bill Barrett Corporation	10.32	25.87	23.34	916	784	38	95	10.21
BP p.l.c.	19.46	112.14	72.03	(24)	34	(76)	(9)	16.31
Cabot Oil & Gas Corporation	7.79	6.12	6.12	452	480	402	448	6.55
Chesapeake Energy Corporation	23.02	21.13	21.16	776	888	16	172	6.25
Chevron Corporation	6.48	37.43	30.07	100	99	174	90	17.20
Cimarex Energy Co.	6.23	15.97	15.74	326	344	118	172	10.90
Concho Resources Inc.	15.62	22.81	19.89	406	291	501	328	11.92
ConocoPhillips	19.95	16.82	16.84	150	156	41	49	23.20
CONSOL Energy Inc.	9.72	10.28	10.11	–	–	576	481	12.88
Continental Resources, Inc.	9.60	13.09	12.61	827	711	772	702	11.83
Denbury Resources Inc.	12.08	21.49	15.70	299	264	888	283	25.31
Devon Energy Corporation	9.29	17.78	17.71	244	272	113	127	8.32
EnCana Corporation	5.22	17.55	16.98	700	783	25	96	11.46
Energen Corporation	8.52	29.10	21.11	485	297	60	36	12.44
EOG Resources, Inc.	1.07	20.37	20.26	541	563	(90)	(30)	12.39
EP Energy LLC ⁽¹⁾	7.05	11.93	11.84	982	1,024	54	84	8.10
EQT Corporation	20.02	7.63	7.83	299	291	424	418	2.45
EXCO Resources, Inc.	11.04	25.07	23.18	353	370	102	114	7.01
Exxon Mobil Corporation ⁽¹⁾	7.88	40.12	18.37	238	112	451	132	16.37
Forest Oil Corporation	5.78	118.72	112.94	209	259	(86)	(63)	7.25
Hess Corporation	24.49	34.73	34.23	302	289	168	158	19.80

	Production replacement rates							
					Oil		Gas	
	PRAC	FDC	RRC	All sources	Excluding purchases and sales	All sources	Excluding purchases and sales	Production costs
Laredo Petroleum Holdings, Inc.	\$ 5.31	\$ 13.68	\$ 13.51	1,042%	1,025%	386%	376%	\$ 8.65
Linn Energy, LLC	10.25	26.27	12.70	647	165	843	65	13.69
Marathon Oil Corporation	14.14	34.96	27.49	435	279	159	105	20.49
Murphy Oil Corporation	9.01	17.49	17.10	601	573	315	303	20.81
National Fuel Gas Company	5.72	11.22	10.96	58	74	603	589	7.91
Newfield Exploration Company	12.00	44.56	41.66	378	414	(62)	(33)	12.29
Noble Energy, Inc.	6.54	29.68	21.77	156	205	201	124	10.56
Occidental Petroleum Corporation	16.98	66.06	35.54	154	88	111	(27)	18.69
PDC Energy, Inc.	5.34	18.40	12.61	1,081	856	95	(4)	9.58
Petrohawk Energy Corporation	–	–	–	–	–	–	–	–
Pioneer Natural Resources Company	1.89	18.21	17.46	433	417	43	45	12.87
Plains Exploration & Production Company ⁽¹⁾	31.10	64.65	47.12	339	174	(25)	28	14.90
QEP Resources, Inc.	13.57	16.23	15.82	917	711	114	110	8.31
Quicksilver Resources Inc.	6.03	(9.05)	(12.13)	(209)	(208)	(186)	(228)	12.04
Range Resources Corporation	6.30	5.14	5.16	939	1,126	522	687	7.31
Rosetta Resources Inc.	8.76	6.96	6.99	846	857	301	470	7.64
Royal Dutch Shell plc ⁽¹⁾	7.66	46.00	41.76	179	175	102	103	18.06
SandRidge Energy, Inc.	20.70	12.71	14.85	704	601	407	487	15.06
SM Energy Company	19.31	14.67	14.67	392	457	231	252	10.54
Southwestern Energy Company	7.85	16.32	16.32	(132)	91	125	141	5.52
Swift Energy Company	–	12.79	13.81	276	309	449	523	14.71
Talisman Energy Inc.	66.43	21.92	22.94	894	852	293	289	7.44
Ultra Petroleum Corporation	–	(195.38)	(195.38)	(175)	(175)	(11)	(11)	6.67
Whiting Petroleum Corporation	38.91	25.93	26.01	280	294	(4)	22	17.37
WPX Energy, Inc.	14.30	20.36	19.72	423	369	43	57	13.24
All companies	\$ 10.42	\$ 22.92	\$ 19.44	249%	238%	127%	136%	\$ 13.79
Integrates	\$ 8.26	\$ 43.25	\$ 25.67	118%	105%	228%	87%	\$ 16.91
Large independents	11.16	20.81	18.85	271	276	55	125	13.28
Independents	13.18	16.44	15.75	496	449	156	192	10.87

(a) Performance measures are based on less than three years of results for companies that have been in operation less than three years.

⁽¹⁾⁽⁶⁾ See company footnotes on page 24.

US – rankings for the latest fiscal year

	Total capital expenditures	Results of operations	Oil reserves		Gas reserves	
			Beginning	Ending	Beginning	Ending
Anadarko Petroleum Corporation	14	10	6	7	6	6
Antero Resources LLC	33	36	29	29	14	16
Apache Corporation	5	5	8	9	19	18
Berry Petroleum Company	42	22	26	30	46	47
BHP Billiton Group	1	46	19	14	22	7
Bill Barrett Corporation	39	35	44	42	34	40
BP p.l.c.	11	2	1	1	3	2
Cabot Oil & Gas Corporation	38	23	45	45	20	15
Chesapeake Energy Corporation	2	42	12	10	2	3
Chevron Corporation	6	1	5	5	15	14
Cimarex Energy Co.	30	18	32	32	33	31
Concho Resources Inc.	20	17	23	24	38	33
ConocoPhillips	9	3	2	3	4	4
CONSOL Energy Inc.	48	32	–	–	16	13
Continental Resources, Inc.	16	12	15	13	35	29
Denbury Resources Inc.	26	11	14	21	43	46
Devon Energy Corporation	12	40	10	11	5	5
EnCana Corporation	24	47	42	36	7	10
Energen Corporation	34	21	27	28	37	39
EOG Resources, Inc.	10	6	9	6	8	11
EP Energy LLC	32	16	25	22	23	26
EQT Corporation	37	28	48	48	10	8
EXCO Resources, Inc.	49	48	47	47	32	35
Exxon Mobil Corporation	4	4	3	2	1	1
Forest Oil Corporation	43	45	36	40	30	36
Hess Corporation	15	19	13	16	48	48

			Oil reserves		Gas reserves	
			Beginning	Ending	Beginning	Ending
Laredo Petroleum Holdings, Inc.	40	29	39	37	45	43
Linn Energy, LLC	18	24	17	17	29	22
Marathon Oil Corporation	13	30	18	15	39	32
Murphy Oil Corporation	28	27	40	34	50	50
National Fuel Gas Company	45	31	41	43	40	34
Newfield Exploration Company	31	43	24	26	25	27
Noble Energy, Inc.	23	20	22	25	27	25
Occidental Petroleum Corporation	8	7	4	4	17	20
PDC Energy, Inc.	47	38	37	39	41	41
Pioneer Natural Resources Company	19	14	11	12	24	24
Plains Exploration & Production Company	7	15	20	18	36	44
QEP Resources, Inc.	21	37	31	27	21	21
Quicksilver Resources Inc.	50	49	33	41	28	37
Range Resources Corporation	27	26	30	23	12	9
Rosetta Resources Inc.	46	25	35	35	47	45
Royal Dutch Shell plc	3	9	7	8	18	23
SandRidge Energy, Inc.	17	8	21	20	31	28
SM Energy Company	29	34	34	33	42	38
Southwestern Energy Company	25	44	49	49	9	12
Swift Energy Company	44	33	38	38	44	42
Talisman Energy Inc.	36	41	46	44	26	30
Ultra Petroleum Corporation	41	50	43	46	11	19
Whiting Petroleum Corporation	22	13	16	19	49	49
WPX Energy, Inc.	35	39	28	31	13	17

Peer groups

Integrateds

BP p.l.c.
Chevron Corporation
Exxon Mobil Corporation
Hess Corporation
Royal Dutch Shell plc

Large independents

Anadarko Petroleum Corporation
Apache Corporation
BHP Billiton Group
Chesapeake Energy Corporation
ConocoPhillips
Devon Energy Corporation
EnCana Corporation
EOG Resources, Inc.
EQT Corporation
Marathon Oil Corporation
Noble Energy, Inc.
Occidental Petroleum Corporation
Pioneer Natural Resources Company
Range Resources Corporation

Independents

Antero Resources LLC
Berry Petroleum Company
Bill Barrett Corporation
Cabot Oil & Gas Corporation
Cimarex Energy Co.
Concho Resources Inc.
CONSOL Energy Inc.
Continental Resources, Inc.
Denbury Resources Inc.
Energen Corporation
EP Energy LLC
EXCO Resources, Inc.
Forest Oil Corporation
Laredo Petroleum Holdings, Inc.
Linn Energy, LLC
Murphy Oil Corporation
National Fuel Gas Company
Newfield Exploration Company
PDC Energy, Inc.
Plains Exploration & Production Company
QEP Resources, Inc.
Quicksilver Resources, Inc.
Rosetta Resources Inc.
SandRidge Energy, Inc.
SM Energy Company
Southwestern Energy Company
Swift Energy Company
Talisman Energy Inc.
Ultra Petroleum Corporation
Whiting Petroleum Corporation
WPX Energy, Inc.

Company footnotes

- (1) Amounts presented for EP Energy, ExxonMobil, Plains Exploration & Production and Royal Dutch Shell include investments accounted for by the equity method.
- (2) Revenues and results of operations amounts presented for Anadarko Petroleum exclude Deepwater Horizon settlement and related costs that were included by the company in its results of operations disclosure.
- (3) Revenues and results of operations amounts presented for BP do not reflect any costs relating to the Gulf of Mexico oil spill.
- (4) BP's disclosure of its results of operations contains a combined item for impairments and (gains) losses on sale of businesses and fixed assets. Impairments that were specifically identified in the company's footnotes have been presented as impairments while the remainder of the combined item is presented in other (income) expense.
- (5) Marathon's disclosure of its results of operations contains a combined item for DD&A and impairments. Impairments that were specifically identified in the company's footnotes have been presented as impairments while the remainder of the combined item is presented in DD&A.
- (6) BHP Billiton has a 30 June fiscal year-end and thus its fiscal year data includes 1 July through 30 June.

EY Americas

oil and gas services

EY has established itself as one of the most effective professional service organizations working in the energy and energy services industries. Our Energy Center, which is a multidisciplinary team of EY professionals, focuses exclusively on serving the energy industry and enables us to quickly and effectively address our energy clients' complex issues. Our exploration and production specialty practice leverages the extensive industry experience and technical knowledge of our professionals.

Our commitment is to provide exploration and production clients with a comprehensive approach that integrates our knowledge of the industry and our experience in assurance, tax transactions and advisory to provide customized and efficient services.

For more information, contact:

Americas Oil & Gas Sector Leader

Marcela Donadio
+1 713 750 1276
marcela.donadio@ey.com

Assurance

John Russell
+1 713 750 1492
john.russell2@ey.com

Transaction Advisory Services

Jon McCarter
+1 713 750 1395
jon.mccarter@ey.com

Tax

Steve Landry
+1 713 750 8425
stephen.landry@ey.com

Advisory

Carlos Assis
+55 21 3263 7212
carlos.assis@br.ey.com

About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization and may refer to one or more of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

How EY's Global Oil & Gas Center can help your business

The oil and gas sector is constantly changing. Increasingly uncertain energy policies, geopolitical complexities, cost management and climate change all present significant challenges. EY's Global Oil & Gas Center supports a global practice of more than 9,600 oil and gas professionals with extensive experience in providing assurance, tax, transaction and advisory services across the upstream, midstream, downstream and oilfield service sub-sectors. The Center works to anticipate market trends, execute the mobility of our global resources and articulate points of view on relevant key sector issues. With our deep sector focus, we can help your organization drive down costs and compete more effectively.

© 2013 EYGM Limited.
All Rights Reserved.

EYG/OC/FEA No. DW0278
BSC No. 1305-1073438
ED None

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, or other professional advice. Please refer to your advisors for specific advice.

ey.com

Connect with us



Visit us on LinkedIn



Follow us on Twitter @EY_OilGas



See us on YouTube