

EA 2014-01

March 19, 2014

PRELIMINARY FINDINGS CONCERNING 2013 NATURAL GAS RESERVES

KEY FINDINGS

Understanding the size and diversity of U.S. natural gas reserves is a fundamental underpinning for evaluating U.S. production capability and thus the natural gas industry's ability to serve customers of all types. Extraordinary positive trends in U.S. natural gas production and proved reserves growth have existed in the United States for much of the past eight years and reserves today are near the highest in U.S. history. Much of the growth in production capability has been focused onshore in shale and tight sands producing areas. From year-end 2000 to 2011, domestic dry natural gas reserves grew from 177 Tcf to 334 Tcf (trillion cubic feet) – an increase of nearly 90 percent, according to the Energy Information Administration (EIA), and a record for the country. Growth in domestic reserves has also translated into growth in domestic dry gas production – from about 19.1 Tcf in 2000 to 24.3 Tcf estimated for 2013.

During 2011 the trend for domestic reserves growth continued and eventually EIA published a dry gas inventory of 334 Tcf. For 2012 the American Gas Association estimated that the growth likely slowed not because there was less gas in the ground but rather because natural gas prices fell, which tended to result in lower reserve estimates and downward revisions of prior reserve estimates (see *Preliminary Findings Concerning 2012 Natural Gas Reserves*, EA2013-01, April 9, 2013). EIA has yet to publish an official reserves inventory for 2012. Having said that; it appears that domestic reserves are on the rise once again, as the sample of 30 large reserves holders in this study more than replaced their production in 2013 with primarily new sources of gas through extensions and discoveries.

INTRODUCTION

A natural gas drilling and completion rate that averaged over 30,000 wells per year in 2007 and 2008 fell to about 18,000 wells in 2009 and 17,000 wells in 2010. Today, fewer natural gas well completions per year are being added to the more than 480,000 producing gas wells in the United States than in recent history. However, annual production has grown to record levels.

Statistically, the sample of 30 large reserves holders referenced in this report normally account for about 50 percent of domestic reserves and about half of U.S. production. Reserves are those volumes of gas associated with known drilling and are defined specifically for financial reporting by the Securities and Exchange Commission. A term also used to describe natural gas, *resources*, presents a broader view of gas and includes estimates of yet to be discovered natural gas in the country, which are evaluated periodically by groups such as the Potential Gas Committee (Colorado School of Mines). This report is specifically focused on the known quantities identified as *reserves*.

The sample of companies identified in this report year after year is not normalized, which is to say that it may change slightly due to sales and purchases, mergers and acquisitions and other qualifiers. However, if the thousands of smaller producers that account for the other half of U.S. natural gas reserves and production reached similar results during 2013, then reserves are expected to have grown when compared to reserves levels in 2012 – that is significant discoveries and extensions were identified and, in fact, likely exceeded domestic natural gas production, which resulted in domestic reserves growth. A reserves life (inventory on the shelf) of about thirteen years (reserve life = total reserves divided by production) today compares to a reserves life of less than nine years in 2000.

Broadly examined, the volume of dry natural gas extracted from producing wells, today, is about 24 trillion cubic feet, annually. In addition, the drilling of exploratory and development wells adds new volumes to the known reserves inventory or creates a basis for revising previous estimates of natural gas reserves in the ground up or down. For statistical purposes, if these combined reserve additions exceed annual production domestic natural gas reserves “grow.” Conversely, if production and/or downward revisions exceed reserve additions, then reserves fall year over year.

AGA examines the reserves activity of 30 large reserve holders in the United States through annual reporting tools, such as the company *Annual Report, Form 10-K and Form 20-F*, which are submitted to the Securities and Exchange Commission (SEC) by individual companies. The companies (see Table 1, page 9) are not necessarily the 30 largest producers of natural gas, particularly companies below #25 on the list, but are considered representative of the industry. The Energy Information Administration has published official reserves statistics for all companies in aggregate every year since the late 1970s. AGA’s study of annual preliminary reserves changes provides guidance for reserves expectations months ahead of the traditional EIA reporting.

SUMMARY OF RESERVES, PRODUCTION AND CHANGES IN RESERVES

Natural gas reserves represent a subset of an estimated total resource base that far exceeds the *on-the-shelf* reserves inventory. Current proved reserves to annual production life will last about 13 years in the U.S. (up from just under 9 years in 2000), while the total resource base from which reserves are developed is estimated at about 100 years given current production levels. Of course, resource base and reserves estimates are shaped by technology and economics and as such are dynamic.

For 2013, it is likely that the national inventory of gas reserves were higher than that estimated in 2012 and this view reflects the results of both the 2012 and 2013 AGA *Preliminary Reserves* studies. This net result reflects production from the reserves inventory during the year, negative revisions tied primarily to lower natural gas field prices (particularly in 2012), positive revisions reflecting geologic information and the addition of new discoveries and extensions of existing fields. Sustaining the national reserves inventory is a prerequisite for sustaining or growing natural gas production, which is necessary to support future long-term market demand and currently provides more than 90 percent of the natural gas consumed in the United States. Given the fact that natural gas prices during 2013 were higher than the prior year, it is rational that market signals pointed to growth of gas production and reserves growth year over year.

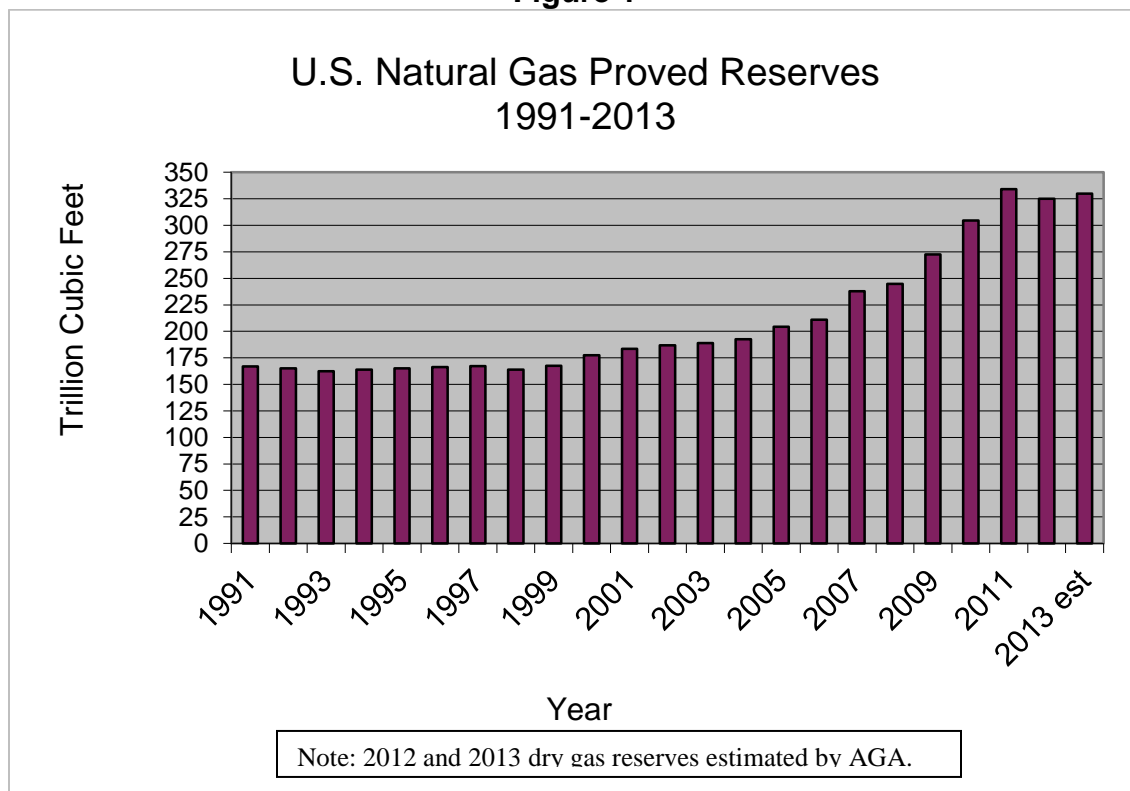
With that said, infrastructure such as new gathering systems linking new supply areas to existing pipelines continue to be developed to guarantee timely delivery of gas to markets. The activities of the 30 large reserves holders identified in this report allow trends among all producers of natural gas to be examined and to demonstrate shifts in the balance between large producers and the smaller independent producing companies.

Reserves and Production

- The 30 large reserve holders in the United States identified in this preliminary reserves report hold about 48 percent of the domestic natural gas reserves inventory, while the remaining producers (estimated to number in the thousands) hold the balance.
- AGA estimates that for 2013 cumulative producer additions were large, conservatively exceeding 35 Tcf. In addition, negative revisions to existing reserves were modest and therefore with domestic production of about 24 Tcf the reserves inventory grew compared to that estimated for 2012 (the last year of complete EIA reserves accounting is currently year-end 2011).
- It is expected that domestic year-end 2013 reserves (in total) may be 330 Tcf, or higher, which is slightly below the 334 Tcf identified by EIA at year-end 2011.
- ExxonMobil is the largest natural gas reserves holder in the United States with over 26 Tcf followed by, Chesapeake Energy, BP, ConocoPhillips and Anadarko. In fact, ExxonMobil's current reserves position is more than twice the second largest reserves holder (see Table 1).
- Seven of the top ten reserves holders included in this report are large independent producers of oil and gas – only three are normally viewed as integrated multi-national oil and gas majors.

- The 30 reserves holders in this study increased their reserves position by nearly 10 Tcf from 145.0 in 2012 to 154.7 in 2013.
- Twenty-six of the 30 companies cited in this report held more than 1 Tcf of gas reserves at year-end 2013 compared to 27 companies in 2012.
- Seventeen of the 30 producers noted in this report increased their natural gas reserves position in 2013 over 2012 compared to only 11 that increased their position last year (2012 over 2011). The 30 companies listed hold 154.7 Tcf of gas reserves both as a result of new discoveries, extensions and acquisitions. For 2013, incremental natural gas additions for the sample companies from new discoveries and extensions (22.4 Tcf) were supplemented by 601 Bcf due to net revisions and improved recovery of natural gas resulting in total reserve additions of 23.0 Tcf.

Figure 1



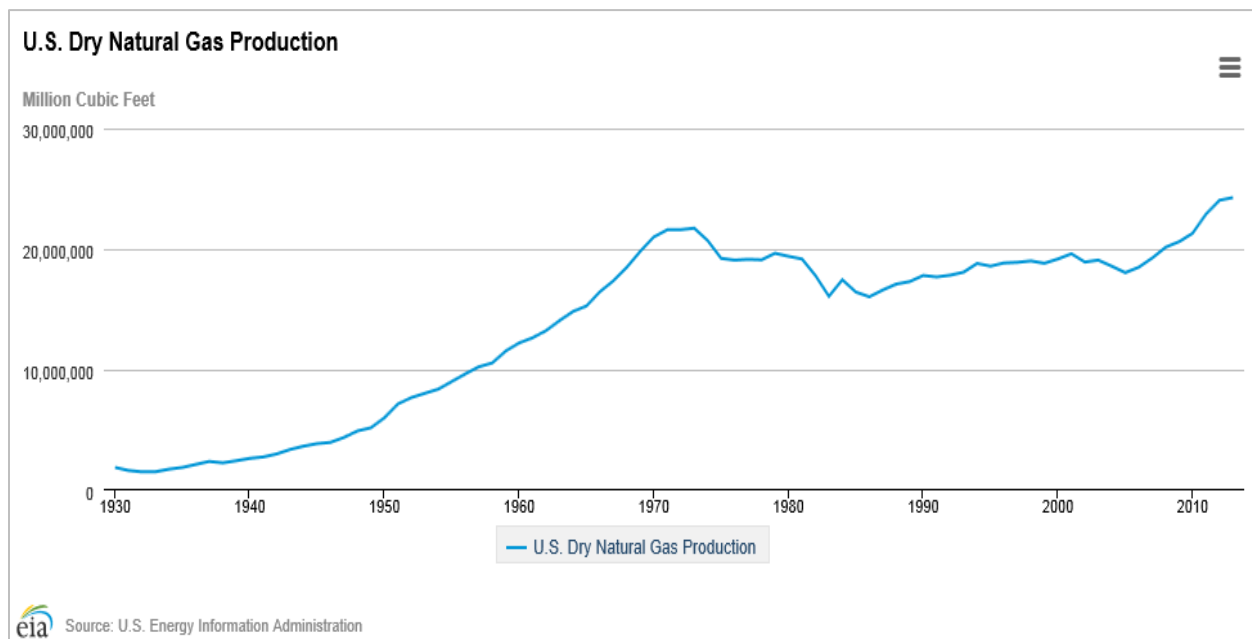
- During 2013, the 30 companies identified in this analysis were net sellers of gas reserves rather than net purchasers – 2.8 Tcf of sales compared to 1.3 Tcf of purchases. Chesapeake (657 Bcf), Apache (596 Bcf) and Forest Oil (485 Bcf) were the companies with the largest sales. Equitable Resources (473 Bcf) and Linn Energy (356 Bcf) were significant purchasers of natural gas reserves in 2013.

- Twelve of the 30 companies noted in this analysis reported negative net revisions to prior estimates of gas reserves (including improved recovery of gas). However, significant improved recovery volumes noted by BP and Occidental netted for a positive addition to gas reserves for the sample.

The 30 large natural gas reserves holders identified in this energy analysis accounted for nearly 50 percent of the natural gas produced in the United States during 2013 – about the same as in 2012. However, this means that 50 percent domestic gas production was delivered by thousands of additional independent gas producers.

- Domestic dry gas production has risen about 27 percent since 2000, growing from 19.1 Tcf to the current estimate of 24.3 Tcf in 2013. AGA's current view of future production capability is that it will remain in the 24.0-25.0 Tcf range per annum (or higher) for the foreseeable future unless (1) significant policy decisions impede access to potential resources or economic activity slows, or (2) on the other side of the coin, gas demand prompts another production growth spurt.
- ExxonMobil was the largest domestic producer in 2013 (1,414 Bcf), down about 110 Bcf from 2012 but very strong and pointing to a very competitive gas supply market (Table 2). The largest natural gas producer in the United States only supplies about six percent of the natural gas consumed nationwide.

Figure 2



Reserve Additions

Examining annual reserve additions can provide a measure of health for the producing segment of the natural gas industry. Total reserve additions in this report are defined as those quantities added to or deleted from natural gas reserves through field extensions, new field discoveries and new discoveries in old fields. They are important because reserve additions replace gas produced each year and serve to maintain the inventory of on-the-shelf gas reserves for future production and eventual delivery to customers.

In addition, positive and negative revisions to previous estimates and improved recovery of gas in place may add or delete reserves from the domestic inventory and are included in total reserve additions. It should be noted that wellhead price can influence the amount of gas *in-the-ground* estimated to be recoverable for new reservoirs and revisions to old reservoirs, alike. New Securities and Exchange Commission rules now require an annual average price to be used in reserves calculations rather than a price designated on the last day of the year – December 31.

Table 1 places in descending order (based on total reserves in 2013) the 30 companies chosen for this study. In addition, Table 1 shows reserves for year-end 2012 and changes in reserves (additions, deletions and production) during 2013.

- During the period 2000-2011, the 30 companies in AGA's reserves study generally accounted for 33 to 54 percent (about a third to one-half) of all annual domestic natural gas reserve additions from all domestic producers (resulting from discoveries, extensions, improved recovery and revisions).
- Since total reserve additions from this year's companies were strongly positive (23.0 Tcf), the estimate for all companies is likewise strong – perhaps 35 tcf or more, conservatively estimated.
- Companies with the largest net total additions to reserves during 2013 from the AGA sample include ExxonMobil (1,298 Bcf), Equitable Resources (1,469 Bcf), Chesapeake (2,548), Cabot Oil and Gas (2,097), Consol (1,849), Range Resources (1,239), Anadarko (1,692) and Southwestern Energy (3,608 Bcf). Each of these companies has significant investment in domestic onshore, unconventional gas resources. During 2010 and 2011, 18 companies accounted for more than 300 Bcf of total reserve additions compared to only 10 companies in 2012. In 2013, eighteen of the 30 companies once again demonstrated 300 Bcf or more of reserve additions.

New Gas Additions and Revisions

Natural gas reserve additions are composed of new gas from extensions and discoveries and revisions of previous estimates, including improved recovery. Each is important to understanding reserve additions. Revisions to existing estimates of reserves and improved recovery can be greatly impacted by developing technology and natural gas prices. That is to say that changing commodity prices often bring revisions as more or less *gas-in-place* is deemed recoverable. Table 4 shows data from 2012 indicating the respective roles of new gas and revisions within the context of total reserve additions for the 30 companies in no particular order.

- For 2013, new gas additions (extensions and discoveries) were a very strong 22.4 Tcf among the 30 companies, which is more than in 2011 and 2012 but significantly up from the 14.8 Tcf reported in 2008 and 11.9 Tcf reported in 2007.
- Net revisions (including improved recovery) were positive for the 30 companies collectively coming in at 601 Bcf in 2013.
- Eight companies reported over 1.0 Tcf of discoveries and extensions (new gas) during 2013.

2013 Reserves Replacement

The natural gas reserves inventory grows when annual additions to reserves exceed annual production. Replacing annual reserves at 100 percent implies that new gas and revisions to existing reserves equal production for a given year. For 1990, 1994-1997, and the thirteen-year period 1999-2011 reserves replacement was actually more than 100 percent and total reserves increased for the nation. Because of the large negative revisions in 2012 it is unlikely that more than 100 percent of production was replaced. However, it is likely that the growth trend asserted itself once again in 2013. Table 3 shows data from the 30 large companies.

- Production for 2013 is estimated to be 24.3 Tcf. Reserve additions are conservatively estimated from the sample extrapolated to the whole to have been about 35 Tcf; therefore, reserve replacement (of gas produced) for all producers in 2013 is estimated to have been about 144 percent.

2012 Net Purchases

Table 2 shows the net results of sales and purchases of reserves by the 30 companies in this report. Sales and purchases of natural gas reserves may occur when companies are purchased or sold during industry consolidation and merger activities. In addition, specific properties are bought and sold that may have significant or marginal reserves value to specific companies. Depending on the point of view, a property is sold by one company no longer interested in the potential or known quantity of gas in place and is purchased by a company expecting to economically develop or grow the reserves. These transactions can occur between any reserves holder, but are often conducted between large and smaller independent companies.

In Table 2, net purchases are shown next to annual production to determine if companies have replaced production with purchases of gas *in-the-ground* rather than through new discoveries.

- During 2012 both sales and purchases were relatively large at 4.5 and 6.2 Tcf, respectively; resulting in net purchases of 1.6 Tcf. Six of the 30 companies listed purchased more than 100 Bcf in 2012, while 10 companies sold more than 100 Bcf among the 30. BP was the leading seller with sales of 1,149 Bcf in 2012, whereas Chesapeake had been the largest seller of reserves the prior two years.
- For 2013 the balance shifted to sales as 2.8 Tcf was sold among the 30 companies compared to on 1.5 Tcf purchased. Chesapeake and Apache were large sellers of reserves in the ground, while Equitable and Linn Energy were significant purchasers.

Wellhead Prices

Table 5 shows three years of wellhead price history (2011-2013) for the 30 companies in the AGA sample. The general trend for natural gas acquisition prices was in 2012 declining at Henry Hub, then growing slightly once again in 2013. With that said; often producers hedge production just as many local gas utilities do as purchasers. Therefore, prices paid to producers net of financial instruments and hedging can be higher or lower than prevailing prices. The data in the table offers a view of general price movements.

- In looking at history, the median price represented by the 30 companies decreased about 14 percent from \$2.36 per thousand cubic feet (mcf) in 1997 to \$2.03 per mcf in 1998, but rebounded about 7 percent to \$2.18 per mcf in 1999. Price volatility but at relatively low prices.
- A more extraordinary increase in wellhead prices developed in 2000 and was reflected in the median price of gas paid to the 30 large reserve holders during 2000 of \$3.61 per mcf. That was a remarkable 65 percent increase as growing demand for natural gas outpaced supply. However, higher commodity prices translated to increased drilling activity and added deliverability of gas into pipelines for transport to customers, particularly in 2000 and 2001.
- For 2005, the combination of a warm summer, which placed more gas in power generation than the year before; supply disruptions due to an active Gulf of Mexico hurricane season; and very cold temperatures in early December added to upward pressure on wellhead natural gas prices. The median wellhead price (including the effects of hedging) increased 34.3 percent over 2004 (for the 30 companies) to \$6.97.
- 2006 saw a slight reduction (7.4 percent) in the wellhead price of natural gas for the 30 companies as the median price slipped to \$6.46 per mcf. However, wellhead prices rose sharply, once again, rising 17% in 2008 to \$7.67 per mcf over the 2007 median price of \$6.56. With economic recession, reductions in gas demand (particularly in the large-volume industrial sector) and strength in natural gas supply prices fell a remarkable 40 percent on average during 2009 to \$4.60 per mcf for the 30 companies only to increase slightly during 2010 to \$4.80 per mcf.
- Finally, median wellhead price among the 2011 sample of producing companies was \$4.39 per mcf, including the influences of hedging activities. During 2012 prices continued to fall with the median settling at about \$3.21 only to rise to \$3.53 per mcf in 2013.

TABLE 1

**30 LARGE RESERVES HOLDERS
RESERVES AND CHANGES IN RESERVES 2013
(BILLION CUBIC FEET)**

COMPANY	12/31/12 RESERVES	NET REVISIONS	IMPROVED RECOVERY	DISCOVERIES/ EXTENSIONS	SALES	PURCHASES	PRODUCTION	12/31/13 RESERVES	RANK
ExxonMobil	26,370	214	0	1,084	106	153	1,414	26,301	1
Chesapeake Energy	10,933	388	0	2,160	657	5	1,095	11,734	2
BP	11,231	(1,166)	630	39	152	0	635	9,947	3
ConocoPhillips	9,467	286	6	510	16	0	678	9,576	4
Anadarko	8,329	1,276	0	416	4	153	965	9,205	5
Devon	8,762	106	0	471	81	1	709	8,550	6
Equitable Resources	5,986	(376)	0	1,845	1	473	365	7,562	7
Southwestern	4,017	325	0	3,283	0	4	656	6,974	8
BHP	6,029	(1,160)	3	1,675	1	0	491	6,055	9
Range Resources	4,793	385	0	854	101	0	265	5,666	10
Consol	3,905	281	0	1,568	0	0	169	5,585	11
Cabot Oil and Gas	3,696	436	0	1,661	103	0	394	5,295	12
EOG Resources	4,036	264	0	505	69	6	342	4,398	13
Chevron	3,722	(234)	3	951	10	12	454	3,990	14
Encana	4,242	(362)	0	482	1	7	491	3,877	15
WPX Energy	3,369	308	0	312	0	0	359	3,630	16
Ultra Petroleum	2,966	(741)	0	1,410	0	0	225	3,409	17
Linn Energy	2,571	(17)	0	286	24	356	162	3,010	18
Occidental	2,889	(94)	303	14	2	34	289	2,855	19
Apache	3,186	61	0	368	596	1	285	2,673	20
Noble Energy	1,987	262	0	587	145	126	161	2,656	21
QEP Resources	2,622	(288)	0	456	17	1	219	2,555	22
Shell Oil	2,352	(4)	0	250	0	8	407	2,199	23
Pioneer Nat Resources	2,197	(305)	0	206	35	1	158	1,906	24
Newfield Exploration	1,755	(166)	0	187	5	1	124	1,648	25
Seneca Resources	988	53	0	362	0	0	104	1,300	26
PDC Energy	604	(117)	0	366	95	3	20	740	27
Energen	809	18	0	51	0	88	71	720	28
Forest Oil	913	22	0	51	485	0	47	455	29
Fidelity E&P	239	1	0	26	40	0	28	198	30
Totals	144,965	(344)	945	22,375	2,834	1,345	11,782	154,669	

TABLE 2

**30 LARGE RESERVES HOLDERS
NATURAL GAS PRODUCTION AND NET PURCHASES 2013
(BILLION CUBIC FEET)**

Company	Production	Net Purchases (Sales)
ExxonMobil	1,414	47
Chesapeake Energy	1,095	(652)
Anadarko	965	149
Devon	709	(80)
ConocoPhillips	678	(16)
Southwestern Energy	656	4
BP	635	(152)
Encana	491	6
BHP	491	(1)
Equitable	472	473
Chevron	454	2
Shell	407	8
Cabot Oil and Gas	394	(103)
WPX	359	0
EOG Resources	342	(63)
Occidental.	289	32
Apache	285	(595)
Range Resources	265	(101)
Ultra Petroleum	225	0
QEP Resources	219	(16)
Consol	169	0
Linn Energy LLC	162	332
Noble Energy, Inc.	161	(19)
Pioneer Nat Resources	158	(34)
Newfield Exploration	124	(4)
Seneca Resources	104	0
Energen	71	(88)
Forest Oil	47	(485)
Fidelity E&P	28	(40)
PDC Energy	20	(92)
Totals	11,782	(1,489)

TABLE 3

**30 LARGE RESERVES HOLDERS
RESERVES REPLACEMENT 2013
(BILLION CUBIC FEET)**

Company	Total Reserve Additions	Production	Reserves Replacement %
Chesapeake Energy	2,548	1,095	233
Southwestern Energy	3,608	656	550
BHP	519	491	106
BP	(497)	635	----
EOG Resources	769	342	225
Ultra Petroleum	669	225	297
Equitable Resources	1,469	365	403
Newfield Exploration	21	124	17
ConocoPhillips	802	678	118
QEP Resources	168	219	77
Devon	577	709	81
Encana	120	491	24
ExxonMobil	1,298	1,414	92
Anadarko	1,692	965	175
Shell	246	407	60
Cabot Oil and Gas	2,097	394	532
PDC Energy	249	20	1,245
WPX Energy	620	359	173
Apache	368	285	129
Chevron	720	454	159
Linn Energy	269	162	166
Consol	1,849	169	1,094
Seneca Resources	415	104	399
Forest Oil	73	47	155
Range Resources	1,239	265	468
Energen	69	71	97
Fidelity E&P	27	28	96
Noble Energy, Inc.	849	161	527
Occidental	223	289	77
Pioneer Natural Res.	(99)	158	----
Totals	22,976	11,782	195

TABLE 4

**30 LARGE RESERVES HOLDERS
NEW GAS ADDITIONS 2013
(BILLION CUBIC FEET)**

Company	Discoveries/ Extensions	Net Revisions/ Improved Recovery	New Gas %
BP	39	(536)	---
ExxonMobil	1,084	214	84
Chevron	951	(234)	132
Shell	250	(4)	102
Linn Energy	286	(17)	106
Southwestern Energy	3,283	325	91
WPX Energy	312	308	50
ConocoPhillips	510	292	64
Energen	51	18	74
Range Resources	854	385	69
EOG Resources	505	264	66
Seneca Resources	362	53	87
Fidelity E&P	26	1	96
Encana	482	(362)	402
Ultra Petroleum	1,410	(741)	211
Anadarko	1,276	416	25
Occidental	14	209	6
PDC Energy	377	(117)	147
QEP Resources	456	(288)	271
Apache	307	61	83
Devon Energy	106	471	82
Forest Oil	51	22	70
Noble Energy, Inc	587	262	69
BHP	1,675	(1,157)	323
Pioneer Natural Res.	206	(305)	---
Cabot Oil and Gas	1,661	436	79
Consol	1,568	281	85
Equitable Resources	1,845	(376)	126
Chesapeake Energy	2,160	388	85
Newfield Exploration	187	(166)	891
Totals	22,375	601	97

TABLE 5
30 LARGE RESERVES HOLDERS
PRICE OF GAS SOLD AT THE WELLHEAD (INCLUDING HEDGES)
(\$/Mcf)

Company	2013 Price	2012 Price	2011 Price
BP	3.00	2.32	3.34
ExxonMobil	2.15	2.15	3.45
Chevron	3.37	2.65	4.02
Shell	3.92	3.17	4.54
Linn Energy	3.62	2.87	4.35
Encana	4.34	3.23	5.15
WPX Energy	2.99	3.38	4.32
ConocoPhillips	3.52	2.72	4.01
Energen	4.19	3.66	5.20
Range Resources	4.03	3.93	5.06
EOG Resources	3.32	2.51	3.92
Seneca Resources	4.10	4.42	5.60
Fidelity E&P	2.96	2.91	3.84
Southwestern Energy	3.65	3.44	4.19
Ultra Petroleum	3.57	4.01	5.05
Anadarko	3.50	2.68	3.87
Occidental	3.37	2.62	4.06
PDC Energy	3.29	3.63	3.74
QEP Resources	4.25	4.05	4.74
Chesapeake Energy	2.23	2.07	4.77
Apache	3.84	3.74	4.91
Devon Energy	3.25	3.01	4.02
Forest Oil	3.16	2.37	3.71
Noble Energy, Inc.	3.59	2.66	4.24
BHP	3.29	2.82	3.48
Pioneer Natural Res.	3.41	2.75	4.07
Cabot Oil and Gas	3.56	3.67	4.46
Consol	4.30	4.22	4.90
Equitable Resources	4.51	4.62	5.65
Newfield Exploration	3.97	3.57	5.43
Est. Median Price	3.53	3.21	4.39

In issuing and making this publication available, AGA is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is AGA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. The statements in this publication are for general information and represent an unaudited compilation of statistical information that could contain coding or processing errors. AGA makes no warranties, express or implied, nor representations about the accuracy of the information in the publication or its appropriateness for any given purpose or situation.

This publication shall not be construed as including, advice, guidance, or recommendations to take, or not to take, any actions or decisions in relation to any matter, including without limitation, relating to investments or the purchase or sale of any securities, shares or other assets of any kinds. Should you take any such action or decision, you do so at your own risk. Information on the topics covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

Copyright © 2014 American Gas Association. All Rights Reserved.