

Energy Analysis

POLICY ANALYSIS GROUP
400 N. Capitol St., NW
Washington, DC 20001
www.aga.org

EA 2013-01

April 10, 2013

PRELIMINARY FINDINGS CONCERNING 2012 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 the past seven years and reserves today are near their 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 2010, domestic dry natural gas reserves grew from 177 Tcf to 305 Tcf (trillion cubic feet) – an increase of over 70 percent, according to the Energy Information Administration (EIA). Growth in domestic reserves also translated into growth in domestic dry gas production – from about 19.1 Tcf in 2000 to over 24 Tcf estimated for 2012.

During 2011 the trend for domestic reserves growth continued and the American Gas Association estimated that more than 100 percent of total domestic annual production was replaced with new natural gas reserve additions and revisions of previous estimates. For 2012 that growth likely slowed not because there is less gas but rather because natural gas prices have fallen, which tend to result in lower reserve estimates and downward revisions of prior reserve estimates. AGA estimates that proved U.S. reserves may still be as high as 300 Tcf, today, even with the negative impact of changes in prices. That estimate is based on data from the 30 large domestic natural gas producing companies identified in this report.

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 500,000 producing gas wells in the United States than in recent history. However, annual production remains at 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 2012, then reserves are expected to have remained about the same as in 2010 – that is significant discoveries and extensions were identified but downward revisions to previous estimates (due primarily to the lowering of field prices) kept reserve levels in 2012 from growing, after accounting for the 24 Tcf of dry production during the year. This highlights a reserves inventory (on-the-shelf) of about twelve years (reserve life = total reserves inventory divided by production), which compares to a reserve life of less than nine years in 2000.

Currently, the volume of natural gas extracted from producing wells 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 12) are not necessarily the 30 largest producers of natural gas, particularly companies below #20 on the list, but are considered representative of the industry. The Energy Information Administration (EIA) 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.

EXECUTIVE SUMMARY

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 12 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 2012, it is likely that the national inventory of gas reserves were slightly lower or remained about the same compared to 2011 and this estimate reflects the results of both the 2011 and 2012 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, 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 2012 were lower than recent years, it is rational that market signals pointed to a leveling 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.

- AGA estimates that for 2012 cumulative producer additions were large, conservatively exceeding 30 Tcf. However, negative revisions to existing reserves (also exceeding 30 Tcf) and domestic production of about 24 Tcf meant little change to the reserves inventory when compared to 2010 (the last year of complete EIA reserves accounting). Therefore, replacement of gas reserves likely only matched production and revisions, which does not point to a growth result for reserves in 2012. Given reductions in wellhead prices during the year, the flattening of recent reserves growth seems reasonable.
- It is expected that domestic year-end 2012 reserves (in total) may be 300 Tcf, which is slightly below the 305 Tcf identified by EIA at year-end 2010.
- ExxonMobil is the largest natural gas reserves holder in the United States with over 26 Tcf followed by BP, Chesapeake Energy, ConocoPhillips and Devon Energy. In fact, ExxonMobil's current reserves position is more than twice the second largest reserves holder (see table 1, page 12). 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.

- Only eleven of the 30 producers noted in this report increased their natural gas reserves position in 2012 over 2011 compared to 20 that increased their position last year (2011 over 2010). The 30 companies listed hold 147.5 Tcf of gas reserves both as a result of new discoveries, extensions and acquisitions. For 2012, incremental natural gas additions (20.8 Tcf) from new discoveries and extensions were offset by net revisions of prior estimates that were strongly negative (-24.6 Tcf).
- During 2012, the 30 companies identified in this analysis were net purchasers of gas reserves rather than net sellers – 6.2 Tcf of purchases compared to 4.5 Tcf of sales. Linn Energy (1.1 Tcf) and BHP (3.3 Tcf) were the companies with the largest purchases of natural gas reserves. BP (1,149 Bcf), Chesapeake (704 Bcf), Equitable Resources (694), Encana (429 Bcf) and EOG Resources (386) Bcf were significant sellers of natural gas reserves.
- Twenty-five of the 30 companies noted in this analysis reported negative net revisions to prior estimates of gas reserves (including improved recovery of gas). The net for all 30 companies was a negative 24.6 Tcf for year-end 2012 compared to positive 2.8 Tcf of revisions from year-end 2009 to year-end 2010. The companies reporting the largest net positive revisions in 2012 were BHP, Anadarko and Chevron, while those reporting large negative revisions included Chesapeake, ExxonMobil, BP, Southwestern, EOG Resources and Ultra Petroleum.

The 30 large natural gas reserves holders identified in this energy analysis accounted for about 50 percent of the natural gas produced in the United States during 2012 – about the same as in 2011. However, this means that nearly 50 percent domestic gas production was delivered by thousands of additional independent gas producers.

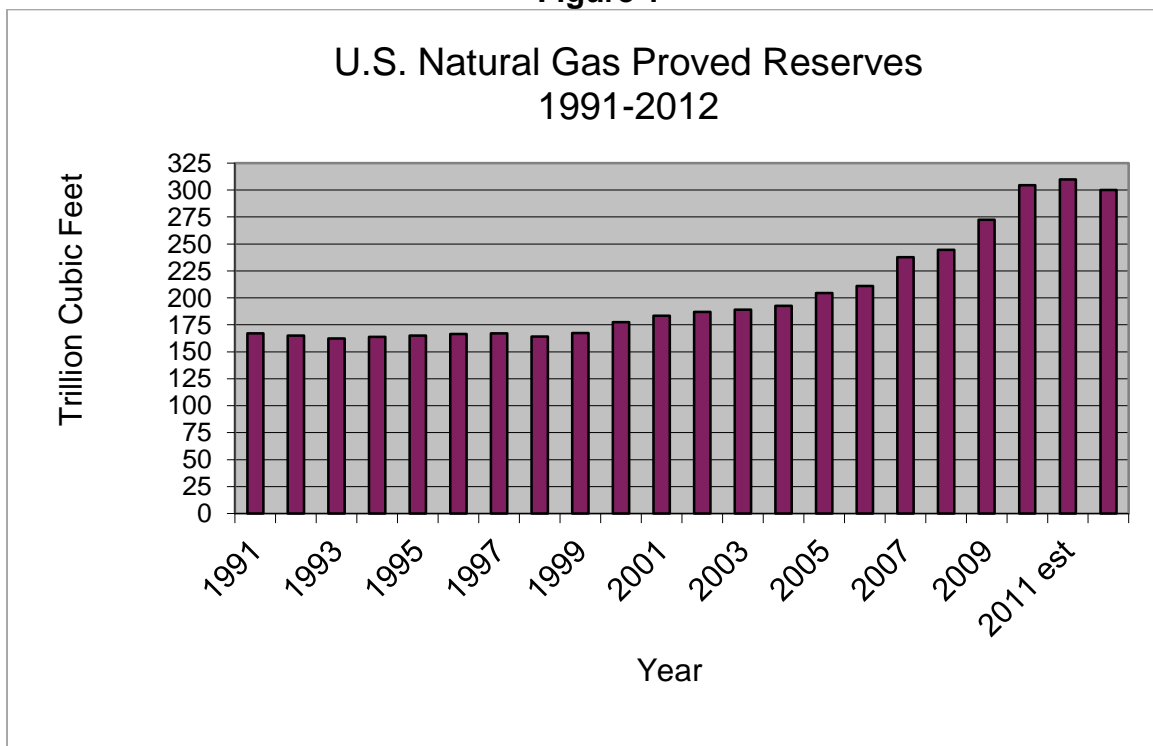
- Domestic dry gas production has risen about 25 percent since 2000, growing from 19.1 Tcf to the current estimate of 24 Tcf in 2012. AGA's current view of future production capability is that it will remain in the 23.0-25.0 Tcf range per annum for the foreseeable future unless significant policy decisions impede access to potential resources or economic activity remains in recession, which tends to eventually couple with significant drops in drilling investments, or natural gas demand prompts another production growth spurt.
- ExxonMobil was the largest producer in 2012 (1,524 Bcf), which points to a very competitive gas supply market. The largest natural gas producer in the United States only supplies about six percent of the natural gas consumed nationwide.
- The 30 companies used in this study replaced less the volume of what was produced during the year. This means that the pattern of extraordinary reserves growth during the past decade has been slowed. Only nine of the companies among the 30 noted in 2012 replaced more than they produced compared to 19 companies in 2011. This makes sense with the steady reductions in wellhead price during much of 2012. Lower natural gas prices ultimately mean that drilling investment is shifted to other targets such as oil and natural gas liquids.

2012 DOMESTIC NATURAL GAS RESERVES

The 30 large reserve holders in the United States identified in this *Preliminary Reserves* report hold about 49 percent of the domestic natural gas reserves inventory, while the remaining producers (estimated to number in the thousands) hold the balance of known reserves. ExxonMobil is the largest natural gas reserves holder in the United States followed by BP, Chesapeake Energy, ConocoPhillips and Devon Energy. Seven of the top ten reserves holders are large independent producers of oil and gas – only three are what people normally view as integrated multi-national oil and gas majors.

- The 30 companies represented in this report (Table 1, page 12) have actually decreased their natural gas reserve holdings in 2012 (147.5 Tcf) from 159.6 Tcf in 2011. Actually, twenty companies increased their reserves holdings in 2011 compared to 24 in 2010 and 14 companies in 2009. However, only 11 companies did so in 2012.
- Twenty-seven of the 30 companies cited in this report held more than 1 Tcf of gas reserves at year-end 2011 compared to 26 companies in 2010. For the 2012 sample, 25 companies hold more than 1 Tcf of natural gas reserves.
- As previously noted, the total domestic reserves inventory (Figure 1) increased from the level of 273 Tcf in 2009 (EIA) to 305 Tcf in 2010. After growth once again in 2011, reserves have likely leveled or fallen slightly during 2012 remaining at about 300 Tcf.

Figure 1



Note: 2011 and 2012 reserves estimated by AGA.

2012 NATURAL GAS 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 2012) the 30 companies chosen for this study. In addition, Table 1 shows reserves for year-end 2011 and changes in reserves (additions, deletions and production) during 2012.

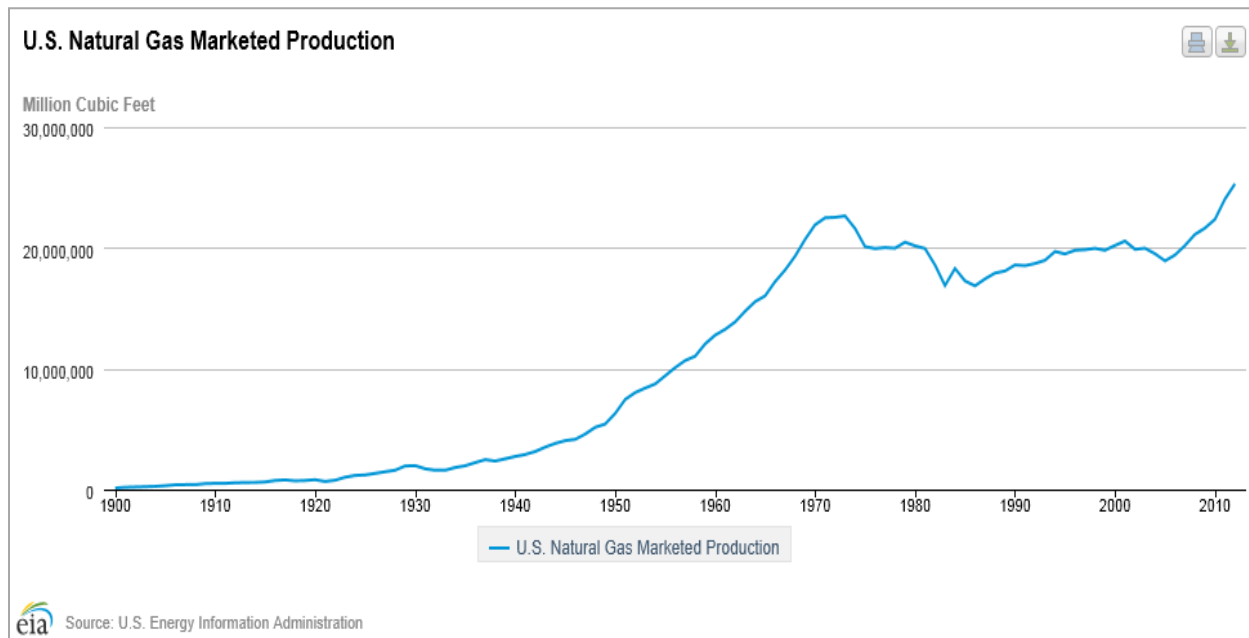
- During the period 2000-2010, the 30 companies in AGA's reserves study generally accounted for 33 to 54 percent (about a third to one-half) of all annual domestic natural gas reserve additions from all domestic producers (resulting from discoveries, extensions, improved recovery and revisions).
- Since total reserve additions from this year's companies were actually negative (-2.6 Tcf), the estimate for all companies ranges from about -4.8 to -7.9 Tcf because the 30 company sample normally accounts for 33 to 54 percent of all reserve additions.
- Companies with the largest net total additions to reserves during 2012 from the AGA sample include ExxonMobil (1,206 Bcf), Anadarko (1,053 Bcf), Range Resources (1,073) and Cabot Oil and Gas (1,076 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.
- During 2012 several companies showed significant negative reserve additions due to revisions of previous estimates. Chesapeake, EOG Resources, Southwestern and Ultra Petroleum each recorded more than 1 Tcf of negative total reserve additions due primarily to revisions made on the basis of lower field prices for natural gas.

2012 NATURAL GAS PRODUCTION

Table 2 (page 13) shows levels of natural gas production from the 30 companies and is arranged in descending order. The 30 large reserves holders in AGA's preliminary study have typically accounted for 48 to 51 percent of all domestic gas production in an annual period. During 2012, it is estimated that the 30 companies accounted for about 50 percent of all domestic production and held about 49 percent of domestic reserves.

- For the 30 companies sampled for this report, natural gas production was 11.9 Tcf in 2012. That is a 2.4 Tcf increase from the sample of companies in 2007 (9.5 Tcf). Total domestic gas production has increased about 40 percent in aggregate since 1990, growing from 17.2 Tcf to the current volume for 2012 of 24 Tcf.
- The largest domestic natural gas producer in 2012 was ExxonMobil, producing 1,524 Bcf – up from 566 Bcf in 2009 and reflecting the acquisition of XTO, also a large producer of natural gas before being acquired by ExxonMobil. No one company produced more than six percent of U.S. natural gas production in 2012. BP, Devon Energy, Anadarko, ConocoPhillips, Chesapeake Energy, Encana and Southwestern Energy produced in excess of 500 Bcf during 2012. Twenty of the 30 companies produced more than 200 Bcf in 2012 – four more than in 2009.

Figure 2



2012 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 (page 15) 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 2012, new gas additions (extensions and discoveries) were a very strong 20.8 Tcf among the 30 companies, which is slightly more than in 2011 but significantly up from the 14.8 Tcf reported in 2008 and 11.9 Tcf reported in 2007.
- However, for 2012, net revisions (including improved recovery) were strongly negative, also, at -23.4 Tcf.
- Companies reporting over 1.0 Tcf of discoveries and extensions (new gas) during 2012 were ExxonMobil (4,045 Bcf), Chesapeake (3,317 Bcf), Devon Energy (1,124 Bcf) and Equitable Resources (1,654 Tcf). Twenty-one companies discovered 200 Bcf or more of natural gas in 2012 – two less than in 2011 among the respective samples of companies.

2012 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. Table 3 (page 14) shows data from the 30 large companies.

- Production for 2012 is estimated to be 24 Tcf. Reserve additions are conservatively estimated from the sample extrapolated to the whole to have been slightly negative: therefore, reserve replacement (of gas produced) for all producers in 2012 is estimated to have been about 100 percent at best and more likely slightly less than 100 percent.
- Annual reserve replacement exceeded 100 percent in the United States 18 times during the 22-year period 1990-2011. Reserves replacement exceeded 100 percent for 1990, 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010 and is estimated by AGA to have exceeded 100 percent in 2011.
- Figure 1 (page 5) illustrates the growth in reserves for this period. For the years 1991-1993 reserves replacement was between 85 and 88 percent and reserves fell (see Figure 1). It occurred once again in 1998 when reserves replacement was only 83 percent and appears to have done so once again for 2012.

- The 30 companies used in this study replaced less than 100 percent of their produced gas in 2012 with new gas and revisions to prior estimates compared to 240 percent in 2010. Only nine companies replaced 100 percent or more of the gas they produced in 2012 compared to 19 companies in 2011 and 22 companies in 2010.

2012 NET PURCHASES

Table 2 (page 13) 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.

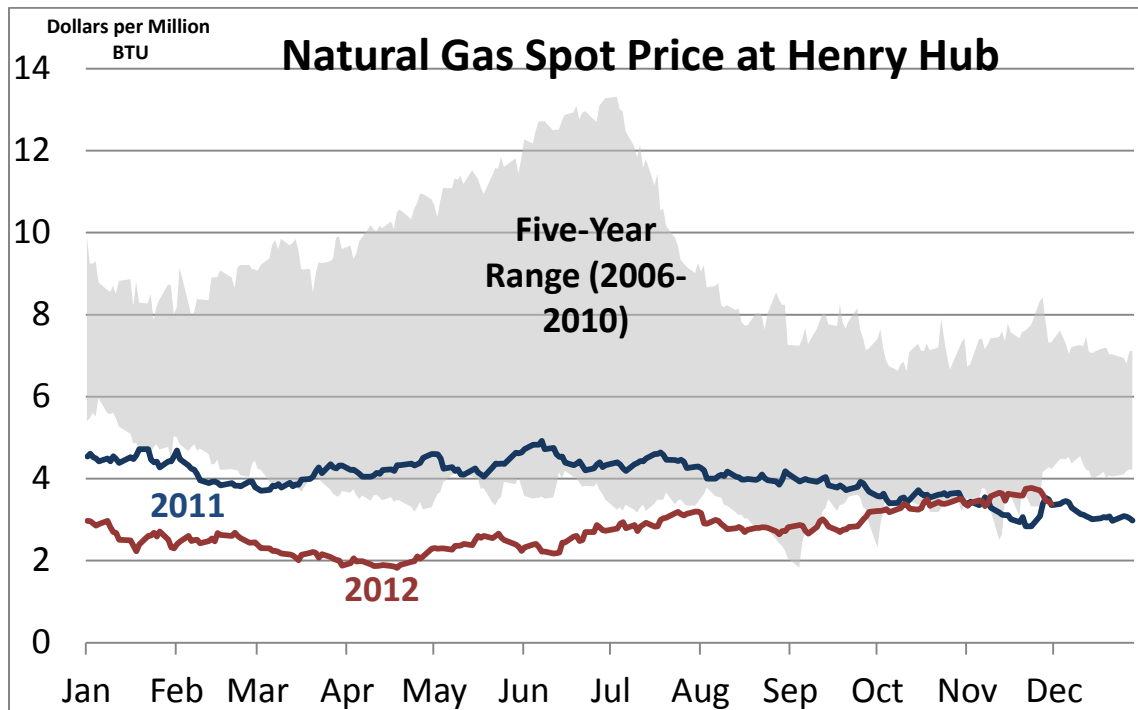
In Table 2, net purchases are shown next to annual production to determine if companies have replaced production with purchases of gas *in-the-ground* rather than through new discoveries.

- Net sales and purchases of natural gas reserves in 2002-2004 were actually net *acquisitions* of reserves for the 30 companies at that time. That trend continued in 2005, as net purchases were a strong 5.0 Tcf for the 30 companies. For 2006 net purchases were over 10 Tcf due primarily to the purchases of large reserves holders Burlington Resources, Kerr-McGee and Western Gas Resources by other large reserves holders (ConocoPhillips and Anadarko).
- However, in 2007, the 30 large reserves holders were net sellers of reserves (3.7 Tcf). During 2008 and 2009, the large reserves holders were slight net sellers of gas resources (366 and 58 Bcf, respectively) and were less active on net as in prior years. During 2010, however, net purchases once again increased dramatically as ExxonMobil completed the purchase of another large gas reserves holder – XTO – during the year. For 2011, 14 of the 30 companies in the 2011 sample of companies purchased more gas than they sold.
- 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.

2012 WELLHEAD PRICES

Table 5 (page 16) shows three years of wellhead price history (2010-2012) for the 30 companies in the AGA sample. As Figure 3 below shows, the general trend for natural gas acquisition prices has recently been declining at Henry Hub. 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.

Figure 3



Source: Energy Information Administration, U.S. Department of Energy.

- 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 remembering that Henry Hub gas acquisition prices went below \$2.50 per mcf in March 2012.

TABLE 1

30 LARGE RESERVES HOLDERS
RESERVES AND CHANGES IN RESERVES 2012
(BILLION CUBIC FEET)

COMPANY	12/31/11 RESERVES	NET REVISIONS	IMPROVED RECOVERY	DISCOVERIES/ EXTENSIONS	SALES	PURCHASES	PRODUCTION	12/31/12 RESERVES	RANK
ExxonMobil	26,366	(2,839)	0	4,045	181	503	1,524	26,370	1
BP	13,552	(1,853)	885	225	1,149	232	661	11,231	2
Chesapeake Energy	15,515	(6,080)	0	3,317	704	14	1,129	10,933	3
ConocoPhillips	10,148	(483)	27	451	0	9	685	9,467	4
Devon Energy	9,507	(1,118)	0	1,124	1	2	752	8,762	5
Anadarko	8,365	635	0	418	199	26	916	8,329	6
Encana	8,432	(1,005)	0	385	429	11	734	6,660	7
BHP	2,730	328	3	128	0	3,297	458	6,029	8
Equitable Resources	5,347	(756)	0	1,654	694	0	259	5,986	9
Range Resources	4,010	77	0	996	73	0	217	4,793	10
EOG Resources	6,046	(1,736)	0	478	386	15	380	4,036	11
Southwestern	5,887	(2,088)	0	919	137	0	564	4,017	12
Consol	3,480	(285)	0	954	0	0	156	3,994	13
Chevron	3,646	318	5	166	6	33	440	3,722	14
Cabot Oil and Gas	2,910	207	0	869	37	0	252	3,696	15
WPX Energy	3,983	(405)	0	409	217	6	407	3,369	16
Apache	2,976	(157)	0	366	1	314	313	3,186	17
Ultra Petroleum	4,779	(2,383)	0	820	0	0	249	2,966	18
Occidental	3,365	(748)	317	19	0	236	300	2,889	19
QEP Resources	2,749	(241)	0	331	0	32	249	2,622	20
Linn Energy	1,675	(559)	0	407	0	1,176	128	2,575	21
Shell	3,259	(1,045)	16	393	6	139	404	2,352	22
Pioneer Natural Res.	2,531	(485)	0	320	17	9	161	2,197	23
Noble Energy	1,976	(266)	0	601	164	0	160	1,987	24
Newfield Exploration	2,329	(525)	0	181	80	1	151	1,755	25
Seneca Resources	675	(56)	0	436	0	0	66	988	26
Forest Oil	1,397	(479)	0	94	17	0	81	913	27
Energen	1,397	(144)	0	61	0	11	76	809	28
PDC energy	672	(289)	0	173	6	87	32	604	29
Fidelity E&P	380	(123)	0	88	2	0	33	239	30
Totals	159,664	(24,583)	1,253	20,758	4,506	6,153	11,937	147,476	

TABLE 2

30 LARGE RESERVES HOLDERS
NATURAL GAS PRODUCTION AND NET PURCHASES 2012
(BILLION CUBIC FEET)

Company	Production	Net Purchases (Sales)
ExxonMobil	1,524	322
Chesapeake Energy	1,129	(690)
Anadarko	916	(173)
Devon	752	1
Encana	734	(418)
ConocoPhillips	685	9
BP	661	(917)
Southwestern Energy	564	(137)
BHP	458	3,297
Chevron	440	27
WPX Energy	407	(217)
EOG Resources	380	(371)
Shell	404	133
Apache Corp.	313	(313)
Occidental	300	236
Equitable	259	(694)
Cabot Oil and Gas	252	(37)
QEP Resources	249	32
Ultra Petroleum	249	0
Range Resources	217	(73)
Pioneer Natural Resources	161	(8)
Noble Energy	160	(164)
Consol	156	0
Newfield Exploration	151	(79)
Linn Energy	128	1,176
Forest Oil	81	(17)
Energen	76	11
Seneca Resources	66	0
Fidelity E&P	33	(2)
PDC Energy	32	81
Totals	11,937	1,647

TABLE 3

30 LARGE RESERVES HOLDERS
RESERVES REPLACEMENT 2012
(BILLION CUBIC FEET)

Company	Total Reserve Additions	Production	Reserves Replacement %
Chesapeake Energy	(2,763)	1,129	(112)
Southwestern Energy	(1,169)	564	(207)
BHP	459	458	100
BP	(743)	661	(112)
EOG Resources	(1,258)	380	(331)
Ultra Petroleum	(1,563)	249	(628)
Equitable Resources	898	259	347
Newfield Exploration	(344)	151	(228)
ConocoPhillips	(5)	685	(1)
QEP Resources	90	249	36
Devon	6	752	1
Encana	(620)	734	(85)
ExxonMobil	1,206	1,524	79
Anadarko	1,053	916	115
Shell	(636)	404	(157)
Cabot Oil and Gas	1,076	252	427
PDC Energy	(116)	32	(363)
WPX Energy	4	407	1
Apache	209	313	67
Chevron	489	440	111
Linn Energy	(152)	128	(119)
Consol	669	156	429
Seneca Resources	380	66	576
Forest Oil	(385)	81	(475)
Range Resources	1,073	217	495
Energen	(83)	76	(109)
Fidelity E&P	(105)	33	(318)
Noble Energy, Inc.	335	160	209
Occidental	(412)	300	(137)
Pioneer Natural Res.	(165)	161	(103)
Totals	(-2,572)	11,937	(22)

TABLE 4

30 LARGE RESERVES HOLDERS
NEW GAS ADDITIONS 2012
(BILLION CUBIC FEET)

Company	Discoveries/ Extensions	Net Revisions/ Improved Recovery	New Gas %
BP	225	(968)	---
ExxonMobil	4,045	(2,839)	335
Chevron	166	323	34
Shell	393	(1,029)	---
Linn Energy	407	(559)	---
Southwestern Energy	919	(2,088)	---
WPX Energy	409	(405)	---
ConocoPhillips	451	(456)	---
Energen	61	(144)	---
Range Resources	996	77	95
EOG Resources	478	(1,736)	---
Seneca Resources	436	(56)	115
Fidelity E&P	18	(123)	---
Encana	385	(1,005)	---
Ultra Petroleum	820	(2,383)	---
Anadarko	418	635	40
Occidental	19	(431)	---
PDC Energy	173	(289)	---
QEP Resources	331	(241)	368
Apache	366	(157)	175
Devon Energy	1,124	(1,118)	---
Forest Oil	94	(479)	---
Noble Energy, Inc	601	(266)	179
BHP	128	328	28
Pioneer Natural Res.	320	(485)	---
Cabot Oil and Gas	869	207	81
Consol	954	(285)	143
Equitable Resources	1,654	(756)	184
Chesapeake Energy	3,317	(6,080)	---
Newfield Exploration	181	(175)	273
Totals	20,758	(23,330)	---

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

Company	2012 Price	2011 Price	2010 Price
BP	2.32	3.34	3.88
ExxonMobil	2.15	3.45	3.92
Chevron	2.65	4.02	4.25
Shell	3.17	4.54	4.90
Linn Energy	5.48	8.20	8.52
Encana	3.23	5.15	4.38
WPX Energy	3.67	4.32	5.58
ConocoPhillips	2.72	4.01	4.27
Energen	3.79	5.39	6.82
Range Resources	3.93	5.06	5.16
EOG Resources	2.51	3.92	4.30
Seneca Resources	4.27	5.39	6.04
Fidelity E&P	2.89	3.85	4.36
Southwestern Energy	3.44	4.19	4.64
Ultra Petroleum	4.01	5.05	4.88
Anadarko	2.68	3.87	4.12
Occidental	2.62	4.06	4.53
PDC Energy	3.72	4.23	5.13
QEP Resources	4.05	4.74	5.32
Chesapeake Energy	2.07	4.77	5.57
Apache	3.74	4.91	5.28
Devon Energy	3.01	4.02	4.80
Forest Oil	3.51	4.60	5.01
Noble Energy, Inc.	2.61	3.90	4.17
BHP	2.82	3.48	4.80
Pioneer Natural Res.	2.60	3.84	4.18
Cabot Oil and Gas	3.67	4.46	5.69
Consol	4.22	4.90	5.83
Equitable Resources	3.64	4.40	4.59
Newfield Exploration	2.64	4.05	4.09
Est. Median Price	3.21	4.39	4.80

Natural gas prices net of hedging.

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 © 2013 American Gas Association. All Rights Reserved.