Experts: The U.S. Has an Abundant Supply of Natural Gas

<table>
<thead>
<tr>
<th>Reserve Estimate (tcf)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Gas Committee</td>
</tr>
<tr>
<td>ICF</td>
</tr>
<tr>
<td>U.S. Geological Survey</td>
</tr>
<tr>
<td>Advanced Resources International</td>
</tr>
</tbody>
</table>


“There have been a number of reports and studies that attempt to identify the total amount of technically recoverable shale gas resources—the volumes of gas retrievable using current technology irrespective of cost—available in the United States. These estimates vary from just under 700 trillion cubic feet (tcf) of shale gas to over 1,800 tcf (see Table).” – pg. 4

“To put these numbers in context, the United States consumed just over 24 tcf of gas in 2010, suggesting that the estimates for the shale gas resource alone would be enough to satisfy between 25 and 80 years of U.S. domestic demand.” – pg. 4

“The estimates for recoverable shale gas resources also compare with an estimate for total U.S. gas resources (onshore and offshore, including Alaska) of 2,543 tcf. Based on the range of estimates below, shale gas could therefore account for between 29 percent and 52 percent of the total technically recoverable natural gas resource in the United States.” – pg. 5

Congressional Research Service, “Natural Gas in the U.S. Economy: Opportunities for Growth” (Nov. 6, 2012):

“Over the last decade U.S. natural gas reserves have climbed tremendously, 72% since 2000 and 49% since 2005. In recent years, the increase in reserves is mostly attributed to development of shale gas, which has grown from 10% of U.S. natural gas reserves in 2007 to 32% in 2010.” – pg. 1

“To more fully understand the changes to the U.S. natural gas sector it is more appropriate to look at reserves and estimates for undiscovered, technically recoverable resources (UTRR). UTRR is an estimate of what can be extracted using current technology regardless of price. Using UTRR plus reserves, the United States has a natural gas resource base of 1,809 tcf or enough gas for approximately 79 years of production at 2011 levels.” – pg. 2

“Compared with data from 2006, U.S. undiscovered technically recoverable resources (UTRR) for natural gas has jumped almost 25%. Even this measure may not accurately reflect what will be extracted from the ground as technology is constantly changing. Just over the last few years, industry has been able to improve its shale gas extraction rate from about 5% to about 15%, thereby tripling what is recoverable.” – pg. 2-3

National Regulatory Research Institute, “LNG Exports: What State Utility Commissions Need to Know” (Nov. 8, 2012):

“Total U.S. natural gas production rose from 23.5 trillion cubic feet in 2006 to 28.6 trillion cubic feet in 2011, an increase of over 20 percent.” – pg. iv

“Domestic demand for gas grew at a far slower rate over the same period, resulting in a gas surplus. During that time, domestic natural gas prices fell sharply, dropping further below prices in European, Asian, and other foreign markets.” – pg.1

Baker Institute at Rice University, “Shale Gas and U.S. National Security” (July 2011):

“In fact, shale gas production in the United States has increased from virtually nothing in 2000 to over 10 billion cubic per day (bcdf) in 2010, and it is expected to more than quadruple by 2040, reaching over 50 percent of total U.S. natural gas production by the 2030s.” – pg. 9

Deloitte, “Made in America The economic impact of LNG exports from the United States” (November 2011):

“Producers can develop more reserves in anticipation of demand growth, such as LNG exports. Indeed, LNG export projects will likely be backed by long-term supply contracts, as well as long-term contracts with buyers. There will be ample notice and time in advance of the exports to make supplies available. The price impact is then determined by how supply costs will change as a result of more rapid depletion of domestic resources.” – pg. 8

“...The impact of LNG exports would be fairly small to domestic gas markets and almost imperceptible to the power market. The domestic gas resource base, represented by the supply curve in Figure 13, is estimated to be adequate to supply projected demand levels for at least 50 years at moderate prices. The volume of LNG exports represents a relatively small increment to the total demand.” – pg. 18

ICF Resources, Testimony of Harry Vidas before the House Energy and Commerce Committee’s Subcommittee on Energy and Power (Feb. 5, 2013):

“ICF’s estimate for the remaining technically recoverable U.S. natural gas resource base is 3,850 trillion cubic feet (Tcf), representing about 155 years of current annual consumption. Our total assessed remaining recoverable natural gas resource base for the U.S. plus Canada is 4,990 trillion cubic feet (Tcf), representing about 180 years of current consumption in the two countries.”