



## Affordable Natural Gas Saves Virginia's Energy Consumers Billions

*Virginia's use of natural gas has substantially increased in recent years. Between 2009 and 2016, the commonwealth's industrial sector, including manufacturing, increased its use of natural gas by almost 55 percent.<sup>1</sup> Natural gas serves as an important feedstock for several industrial products. In addition to powering the commonwealth's industries in order to ensure jobs and economic growth, energy from clean, abundant and affordable natural gas has saved Virginia's families and businesses more than \$10.9 billion between 2006 and 2016.<sup>2</sup>*

Virginia's extensive rail, highway, and port infrastructure networks have enabled the commonwealth to become a major manufacturing base on the East Coast. With the third-largest state-maintained transportation network in the U.S., including six major interstate highways, Virginia is on the move. Additionally, the commonwealth contains 3,500 miles of railway, several commercial airports, and one of the nation's largest seaports.<sup>3</sup> All of this infrastructure depends on affordable, reliable energy. The nearly 8.5 million residents who call Virginia home also count on energy to be at their fingertips as they turn on the lights at night or adjust their home thermostats.<sup>4</sup> Access to energy supports just about everything we do across the commonwealth. It should not be taken for granted and we should work with our local and state governments to guarantee that future Virginians are able to continue to count on domestic energy and the pipeline networks that deliver it to our homes and businesses.

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### What Does Affordable Energy Mean for Virginia?

Many American families struggle daily to pay for rising energy costs. According to a 2015 survey by the U.S. Energy Information Administration, nearly one-third of American households struggled to pay their energy bills to light, heat, and cool their homes. The survey found that roughly "one in three households reported reducing or forgoing basic necessities like food and medicine to pay an energy bill, and 14 percent reported receiving a disconnection notice for their energy service. Households also used less energy than they would prefer to - 11 percent of households surveyed reported keeping their home at an unhealthy or unsafe temperature."<sup>5</sup>



On average, each resident of Virginia spent \$3,024 to meet their energy needs in 2016.<sup>6</sup> With more than 10.6 percent of the population living at or below the poverty line, this translates to at least roughly one-quarter of their income going toward energy expenses.<sup>7 8</sup> That’s over 874,000 Virginians who live in poverty, enough people to fill Richmond Raceway more than 14 times.<sup>9</sup> Fortunately, development of affordable energy resources helps benefit the most disadvantaged among us by reducing the cost of basic necessities such as energy, freeing up resources to pay for adequate housing, clothing, and food.

And it’s not just lower income families that face energy insecurity. Across the nation, more and more families are living paycheck to paycheck – with little to no savings. A January 2018 survey by Bankrate found only 39 percent of Americans had \$1,000 saved to cover a financial emergency.<sup>10</sup> CNBC recently reported that “69 percent of Americans had less than \$1,000 in total savings and 34 percent had no savings at all.”<sup>11</sup>



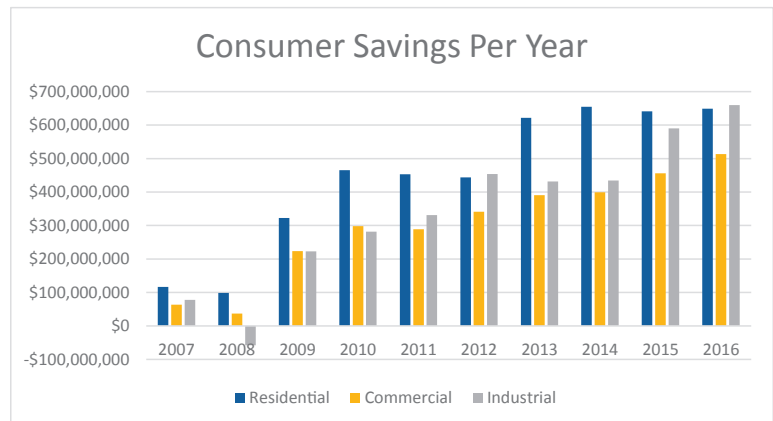
**\$10.9  
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### Virginia’s Energy Production and Usage

Virginia only produces a small amount of natural gas, primarily in Buchanan, Dickenson, Lee, Russell, Scott, Tazewell, and Wise counties, located in the commonwealth’s southwestern corner. Virginia reported production of 96.2 billion cubic feet of natural gas in 2017. Approximately 85 percent of Virginia’s natural gas is derived from coalbed methane extracted from coal beds.<sup>12</sup> The commonwealth consumes far more natural gas than it produces. Electric power generation is the largest consumer of natural gas in Virginia. Half of the commonwealth’s power generation relies on natural gas. One-third of Virginia’s households use natural gas for home heating.<sup>13</sup>

Advances in horizontal drilling and hydraulic fracturing have increased production of natural gas across Virginia and the U.S. allowing consumers to save more than \$10.9 billion between 2006 and 2016. Residential users alone saved almost \$4.5 billion. Commercial and industrial users saved over \$6.4 billion combined.<sup>14</sup> These energy savings bring relief to Virginia families and help keep the commonwealth’s industries competitive.



Source: Energy Information Administration; calculations developed by Orion Strategies



Most of the commonwealth’s natural gas supply is delivered to consumers via interstate pipelines from the Appalachian and Gulf Coast regions. The rapid rise in production from the Marcellus shale fields has resulted in increasing supplies arriving from Pennsylvania, with additional pipeline expansions in the Marcellus being planned to help meet Virginia’s growing natural gas demand.

Though Virginia is not known as a significant producer of crude oil, in 2017 the commonwealth reported production of 7,100 barrels of oil coming from Buchanan, Lee, Russell, and Wise counties.<sup>15</sup>

### Oil and Natural Gas Power Virginia’s Economy

According to a PricewaterhouseCoopers study, in 2015 the oil and natural gas industry contributed 125,500 jobs and accounted for nearly \$7 billion in wages for the Old Dominion. These jobs represent the truck drivers, engineers, rig hands, construction workers, and contractors who make oil and gas production and delivery possible.

Their wages invigorate Virginia’s economy via real estate or vehicle purchases, local small businesses, and hospitality destinations such as restaurants and hotels.

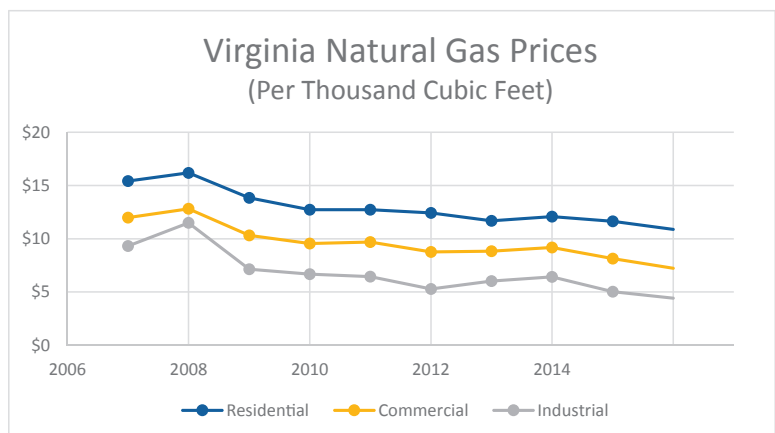
In total, oil and gas provides almost \$12 billion to the commonwealth in value added economic impact, including employee compensation, proprietors’ income, income to capital owners from property, and indirect business taxes.<sup>16</sup>

In 2017, the estimated market value of crude oil produced within Virginia was \$341,000 while the estimated market value of natural gas produced was \$296 million.

Natural gas is essential for manufacturing processes. Nationwide, manufacturing accounts for about 80 percent of industrial natural gas demand with primary uses including drying, melting, machine drive, and space heating.<sup>17</sup> According to the Virginia Manufacturers Association, Virginia is home to more than 5,000 manufacturing facilities that in total employ over 200,000 residents. These facilities contribute \$34 billion to Virginia’s gross state product and account for over 80 percent of the commonwealth’s exports to the global economy.<sup>18</sup>



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Source: U.S. Energy Information Administration



## Looking Ahead

Virginia's pipeline network and potential future access to valuable onshore and offshore energy supplies is under attack by anti-development activists, who continue working to eliminate the production and transportation of safe, affordable sources of energy. These anti-development efforts not only harm the environment, but they also lack solutions to help meet consumer demand and threaten our environmental goals.

Rigorous environmental standards and energy production can and do coexist. U.S. energy-related CO<sub>2</sub> emissions have declined during seven of the past ten years, and are now 14 percent lower than in 2005.<sup>19</sup>

Emissions from the U.S. power sector alone have declined 25% since 2005, according to the Department of Energy.<sup>20</sup> In December 2017, the oil and gas industry announced its Environmental Partnership to further reduce emissions of methane and volatile organic compounds.<sup>21</sup> These improvements are occurring at a time when our country has catapulted forward to become the world's leading producer of oil and natural gas.<sup>22</sup>

Consumer Energy Alliance (CEA) works to support and advocate for the continued development of oil and natural gas as well as other traditional and alternative energy sources. CEA also recognizes the vital role that transportation infrastructure like pipelines and transmission lines serve, as they are critical for moving energy throughout Virginia. With the savings that have occurred in recent years, Virginia's policymakers, regulators, and leaders must come together in support of access to energy resources and infrastructure development that will help the commonwealth continue to thrive, and ensure that hard-working families, seniors, households, and small businesses can continue to enjoy the benefits that low prices are bringing to these communities.

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- 1 <https://www.eia.gov/dnav/ng/hist/n3035va2a.htm>
- 2 Calculations developed by Orion Strategies. \$3.425 billion saved by industrial users, \$4.465 billion saved by residential users, and \$3.012 billion saved by commercial users. This number was calculated by using the annual average price per thousand cubic feet of natural gas for residential, commercial, and industrial consumers. This EIA price was then applied to the total MMcf consumed in Virginia, also sourced by EIA. The Consumer Price Index utilized by the Bureau of Labor and Statistics was applied to each year's price in order to adjust each price to 2016 dollars. 2016 was used as a cutoff date as it was the last year for which residential and industrial data were released.
- 3 <https://www.eia.gov/state/analysis.php?sid=VA>
- 4 <http://worldpopulationreview.com/states/virginia-population/>
- 5 <https://www.eia.gov/consumption/residential/reports/2015/energybills/>
- 6 [https://www.eia.gov/state/seds/sep\\_sum/html/pdf/rank\\_pr.pdf](https://www.eia.gov/state/seds/sep_sum/html/pdf/rank_pr.pdf)
- 7 <https://talkpoverty.org/state-year-report/virginia-2018-report/>
- 8 Based upon 2018 HHS Poverty Guidelines. <https://aspe.hhs.gov/poverty-guidelines>
- 9 <http://www.richmondraceway.com/About/About.aspx>
- 10 <https://www.bankrate.com/banking/savings/financial-security-0118/>
- 11 <https://www.cnbc.com/2018/01/18/few-americans-have-enough-savings-to-cover-a-1000-emergency.html>
- 12 <https://www.dmme.virginia.gov/dgmr/naturalgas.shtml>
- 13 <https://www.eia.gov/state/analysis.php?sid=VA>
- 14 Calculations developed by Orion Strategies. \$3.425 billion saved by industrial users, \$4.465 billion saved by residential users, and \$3.012 billion saved by commercial users. This number was calculated by using the annual average price per thousand cubic feet of natural gas for residential, commercial, and industrial consumers. This EIA price was then applied to the total MMcf consumed in Virginia, also sourced by EIA. The Consumer Price Index utilized by the Bureau of Labor and Statistics was applied to each year's price in order to adjust each price to 2016 dollars. 2016 was used as a cutoff date as it was the last year for which residential and industrial data were released.
- 15 <https://www.dmme.virginia.gov/dgmr/oil.shtml>
- 16 [https://www.api.org/~/\\_/media/Files/Policy/Jobs/Oil-and-Gas-2015-Economic-Impacts-Final-Cover-07-17-2017.pdf](https://www.api.org/~/_/media/Files/Policy/Jobs/Oil-and-Gas-2015-Economic-Impacts-Final-Cover-07-17-2017.pdf)
- 17 <http://www.nam.org/Data-and-Reports/Reports/Natural-Gas-Study/Energizing-Manufacturing-Full-Report/>
- 18 <http://www.vamanufacturers.com/>
- 19 <https://www.eia.gov/todayinenergy/detail.php?id=36953>
- 20 <https://www.eia.gov/todayinenergy/detail.php?id=37392>
- 21 <https://theenvironmentalpartnership.org/>
- 22 <https://www.eia.gov/todayinenergy/detail.php?id=36292>