

A New Texas-Sized **ENERGY BOOM** Looms in the Near Future

By Alan Lammey

Texas and its gigantic energy-focused economy is no stranger to booms and busts, but the newest emerging boom may be different this time around. For many decades, the boom-bust cycle has remained the same. Growth in the U.S. economy triggers a high demand for energy, namely in fossil fuels, including oil and natural gas. The large boost in demand and subsequent large spike in energy prices trigger major production efforts as producers scramble to get a piece of favorable prices for oil and gas. This, in turn, leads to overproduction of the commodity (usually in the midst of a U.S. economic down-turn), which then evolves into a bust cycle as prices

collapse. At this stage, oil and natural gas producers usually under-produce due to lower prices. At some point in the future, demand will rear back. It's off to the races again: rinse and repeat.

However, the most recent energy boom materializing in the Lone Star State may be different as new catalysts, which have not occurred before in the history of energy demand in the U.S., have arisen. While black gold or Texas Tea may have been a boon for the Texas economy in the past, now the looming energy wealth appears slated to come from natural gas. In fact, the U.S. has just recently become a net exporter of liquid natural gas (LNG) exports for the first time in the history of our nation.

Attention Focused on Production as Demand Quietly Gained Traction

Much attention has been placed on supply-side of the gas market with shale-related production being the primary focus in recent years. This has been a rather bearish catalyst for gas, responsible for driving prices from as high as nearly \$14 in 2008 to a \$1 per million British Thermal Units (MMBtu) in early 2016 while supply of dry natural gas production swelled to more than 73 Billion Cubic Feet per day (Bcf/d).

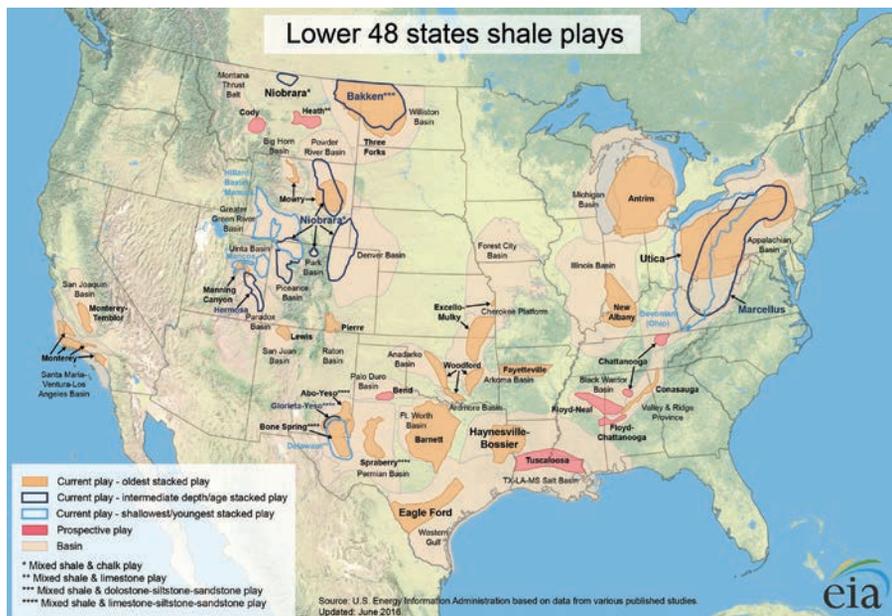
However, prices have lately recovered to the upper-\$2.90s to \$3.30s per MMBtu, particularly as greater attention is turning toward elevated consumption of fuel in the near, medium,

and longer-term future. In fact, lately, there's no doubt that participants in the natural gas market are witnessing rapid changes, particularly on the demand side of the equation. This continues to evolve and swell incrementally larger as the days, weeks, and months roll by. Rather recent, robust projected growth estimates by the Energy Information Administration (EIA) in power generation, industrial demand, and exports suggest that U.S. natural gas consumption could grow to well over 25 percent to 95 Bcf/d or higher by 2020. Keep in mind that current demand for natural gas is hovering near 70 Bcf/d.

Power Generation and Industrial Demand Set to Skyrocket

When it comes to power generation in the last 17 years, the largest percentage of new generating capacity in the U.S. has been gas-fired. Now at about 450,000 megawatts (MW), natural gas accounts for 43 percent of total U.S. capacity. Looking ahead, there is approximately 90,000 MW of new, natural gas plants expected to come online over the next four years alone.

Meanwhile, industrial demand for natural gas as a fuel and/or feedstock is on the rise to meet numerous energy requirements for making chemicals, plastics, as well as a multitude of everyday products. In fact, in May 2017, the EIA highlighted that the



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industrial sector, which includes methanol and ammonia—urea-based fertilizer plants—consumed an average of 21.2 Bcf/d of gas in 2016, the highest amount since 2000. Lastly, the area of demand getting the most attention lately is exports.

In addition to healthy exports to Mexico, U.S. LNG exports have hurriedly grown since 2016. The U.S. is even projected to have the capacity to

export upwards of 12 Bcf/d of LNG by 2020. Here lies the game changer: LNG stands to be a sizeable boost not only for the Texas economy and plentiful jobs in the Lone Star State but for the U.S. economy as well.

LNG Undoubtedly the Next Economic Renaissance to Texas

North Texans for Natural Gas, a grass-roots organization, released a

study last month on how just seven LNG export projects in the state could create 176,000 jobs across the country and have an economic impact of over \$145 billion. Of the 24 proposed LNG projects in queue in the U.S., seven are in Texas: Annova LNG, Corpus Christi LNG, Freeport LNG, Golden Pass LNG, Port Arthur LNG, Rio Grande LNG, and Texas LNG.

According to the study, in addition to direct investment, these projects will provide substantial economic stimulation to Texas and regional economies. The report estimates the state's tax coffers would increase by more than \$20 billion. In fact, the projects, such as the Freeport LNG, could reduce the U.S. foreign trade imbalance by approximately one full percentage point. The Cheniere Corpus Christi project by itself would create \$16 to \$20 billion in personal income and \$1.9 to \$2.4 billion in federal tax revenue.

Projected Economic Benefits of LNG Projects Slated to Come to Texas

Texas LNG: This project would create 600 construction jobs, 80 permanent jobs, and \$9.3 billion in government revenue with direct investment of \$1.3 billion. The total economic benefit would be \$22.8 billion. What's more, the company behind the project anticipates paying more taxes than any other current taxpayer in Cameron County over the life of the project.

Annova LNG: Although one of the smaller Texas projects, this initiative is expected to provide average individual salaries for permanent jobs at the facility that are four times higher than the current Cameron County average per capita income of \$25,200. The project will create 675 construction jobs over four years and 175 permanent jobs. It will contribute \$34 million yearly in tax revenues to the county and one-time state and local tax revenues of \$190 million.

Port Arthur LNG: At peak construction, the Sempra/Woodside Energy JV facility will create 3,500 on-site jobs and 100 permanent jobs, generating Texas economic benefits of \$31.8 billion through 2040. The state will receive \$175.7 million in tax revenue each year for a total of more than \$4 billion through 2040. Nationally, the project is expected to generate 34,200 jobs per year (direct, indirect, and induced) from 2018 to 2040.

Freeport LNG: This project would create 3,500 direct jobs and 35,000 induced and indirect jobs across the U.S. Annually, it would generate between \$5.1 and \$7.4 billion in U.S. economic benefits and \$9.3 billion in government revenue with direct investment of more than \$14 billion.

Golden Pass LNG: An even larger initiative, which is an ExxonMobil and Qatar Petroleum joint venture, would

create 45,000 U.S. jobs during construction and 3,000 permanent jobs, generating a total tax revenue of \$4.6 billion. Nine thousand of those jobs alone will be in Texas. The direct investment of \$10 billion in project would generate a total of \$31 billion in economic gains. This project just received its DOE non-FTA approval last month.

Corpus Christi LNG: Cheniere Energy's Corpus Christi project will create 430 permanent jobs, 4,000 jobs during construction, and up to 50,000 jobs across the state. The trade group expects it will generate anywhere from \$971 million and \$1.117 billion for the state tax coffers and up to \$23.27 billion in gross domestic product. Interestingly enough, the Corpus Christi LNG is projected to contribute roughly \$2.7 billion to the GDP of South Texas and approximately \$1.8 billion in wages to regional workers during construction. Moreover, the annual economic impact to Texas once the project is in operation is estimated to be over \$5 billion when factoring in the additional natural gas development needed to meet the project's demands.

Rio Grande LNG: This project should create 6,000 jobs during construction and 3,000 Cameron County permanent jobs. During the life of the project, it is expected to contribute \$23.1 billion to Texas and add \$526 million annually to U.S. GDP.

The bottom line is that Texas's energy economy days ahead are indeed bright with natural gas leading the way. Natural gas has always been a commodity that hasn't acquired as much attention as it deserves. If the aforementioned LNG projects come to fruition coupled with an expected surge from power and industrial demand, natural gas production in the Lone Star State will keep local and regional economies and business booming. **N**

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