

PREPARED FOR **AMERICAN PETROLEUM INSTITUTE**

PREPARED BY **ICF**
9300 LEE HIGHWAY | FAIRFAX VA

JUNE 2017

Benefits and Opportunities of Natural Gas Use, Transportation, and Production



Arizona

Economic Impacts of Natural Gas

There were 39,667 jobs in Arizona related to natural gas. These jobs represented 1.5 percent of total state jobs. The top three sectors with the greatest number of jobs were natural gas distribution, industrial equipment and machinery repair and maintenance, and gas-fired electric generation. The contribution to the Arizona economy in terms of direct, indirect, and induced value added in 2015 was \$5.04 billion, of which \$2.89 billion was related to the end use segment, \$1.70 billion was from the infrastructure segment, and \$0.45 billion was from the production segment.

Natural Gas Consumers

In 2015, Arizona consumed 337 Bcf of natural gas in all sectors. There were a total of 1.26 million customers. The value of natural gas delivered to consumers was \$1.82 billion.

Arizona has 1.20 million residential customers who consumed 35 Bcf in 2015. Average consumption was 29 Mcf per household. Residential demand was 36 percent for space heating, 47 percent for water heating, 7 percent for cooking, 2 percent for clothes drying, and 8 percent for other uses.

Arizona has 57,000 commercial customers who consumed 31 Bcf in 2015. Average consumption per commercial customer was 538 Mcf. Commercial demand was 52 percent for space heating, 16 percent for water heating, 12 percent for cooking, 5 percent for cogeneration, and 15 percent for other uses.

There are 400 industrial customers who produced 20 Bcf in 2015. Average consumption per industrial customer was 51 MMcf. The top industries for gas consumption were Chemicals (NAICS Code 325), Mining (21), Primary Metals (331), Food (311), and Fabricated Metal Products (332), representing 72 percent of industrial demand.

Arizona has 34 power plants consuming natural gas. Gas consumed was 249 Bcf, representing 30 percent of power generation in the state. Average consumption per customer was 7,337 MMcf.

Natural Gas Infrastructure

In 2015, Arizona had 20 producing oil wells and 6 producing gas wells. There were 16 miles of gas gathering lines and no gas processing plants in the state. In addition, there were 6,694 miles of gas pipelines, no crude oil pipelines, no NGL pipelines, 575 miles of product pipelines, and no CO2 pipelines. There were 24,548 miles of gas distribution mains and 15,166 miles of service lines. There are no natural gas storage sites in the state.

Natural Gas and Oil Production

In 2015, Arizona produced 0.1 Bcf of dry natural gas, and 37,000 barrels of crude.

Exhibit 7-4: Arizona State Factsheet

Arizona		Employment (# of Workers)			Labor Income (\$ million)			Value Added (\$ million)			
Summary	Segment	Category	Direct & Indirect	Induced	Total	Direct & Indirect	Induced	Total	Direct & Indirect	Induced	Total
	End-Use	Power Generation		3,081	4,444	7,525	238	222	460	860	391
Industrial			1,527	5,283	6,811	97	250	347	291	466	757
Residential/ Commercial			2,020	2,740	4,760	133	140	273	531	248	779
Export			385	553	938	27	28	54	29	49	79
Transportation			108	91	199	5	5	8	17	8	26
Infrastructure	Processing		545	1,046	1,591	37	50	87	41	95	136
	Pipelines		2,075	2,733	4,808	143	135	278	281	251	532
	Distribution		4,034	3,654	7,688	285	181	468	675	331	1,006
	Wholesalers, Marketers, Other		92	93	186	6	5	11	15	8	23
Production	Natural Gas/ NGLs		1,764	3,399	5,162	134	167	301	148	303	450
All Segments	Grand Total		15,630	24,037	39,667	1,106	1,182	2,287	2,889	2,150	5,039

Jobs by Top Industries	Rank	NAICS	Industry Sector	Direct and Indirect Jobs
	1	221210	Natural Gas Distribution	1,372
	2	811310	Industrial Equip. & Machinery Repair & Maint.	758
	3	221112	Gas-fired Electric Power Generation	672
	4	237120	Oil & Gas Pipeline Construction	655
	5	236210	Industrial Construction	518
	6	45431NGL	NGL Retail	449
	7	325	Chemical Manufacturing	397
	8	335228	Other Major Household Appliance Manufacturing	250
	9	486210	Pipeline Transportation of Natural Gas	173
	10	4841	Freight Truck	167

Customers	Sector	Customer Count	Consumption Volume (MMcf/ year)	Value of Natural Gas Delivered to Customers (\$million)
	Residential Sector	1,200,783	34,507	\$586
	Commercial Sector	56,793	30,528	\$303
	Industrial Sector	400	20,402	\$84
	Transportation	42	2,434	\$28
	Power Sector	34	249,477	\$823
	All Sectors	1,258,052	337,347	\$1,824

Infrastructure	Gas Distribution Main (miles)	Gas Distribution Services (miles)	Gas Gathering (miles)	Gas Pipelines (miles)	Crude Oil Pipelines (miles)	NGL Pipelines (miles)	Oil Product Pipelines (miles)	CO2 Pipelines (miles)
	24,548	15,166	16	6,694	0	12	575	0

Production	Product	Annual Production
	Dry Natural Gas (mmcf)	95
	Gas Plant Liquids (barrels)	0
	Lease Condensate (barrels)	0
	Crude Oil (barrels)	37,000
	Annual Value Counted Toward Natural Gas Value Chain (\$million)	\$0
Annual Value of All Produced Oil, Gas, NGLs (\$million)	\$2	

Wells	Well Type	Operating Wells	New Wells Drilled
	Oil Wells	20	0
	Gas Wells	6	0
	All Wells	26	0

Annual 2015 Data for Arizona Natural Gas Value Chain Basis

