

The Oil and Gas Industry's Role in Yellowstone County's Economy

By Scott Rickard PhD

Yellowstone County's oil and gas industry is significant in both size and scope. From exploration for new energy supplies to the retail sales of gasoline, thousands of local households are employed by the industry and many thousands more by the additional local spending that county oil and gas firms generate.

Exploration and Drilling

Exploration and drilling for oil and gas has long been a part of Yellowstone County's economy. A commercial oil well was drilled in neighboring Carbon County in 1915. Natural gas was first discovered and developed in the Cedar Creek (Baker-Glendive) anticline this same yearⁱ. In 2011 Yellowstone County oil wells produced 14,000 barrels of crude oil and generated \$98 thousand dollars in state and local tax revenue.

Even with this local production, nearly all of the 1,500 workers employed in Yellowstone County in the exploration, drilling, and extraction of crude oil and natural gas are working on sites outside of the county. These employees received over \$42 million in wages and benefits. This includes 50 of MT's 70 petroleum engineers, with an average mean wage of over \$163,000 per yearⁱⁱ.

Transportation to Markets

Pipelines transporting crude oil to refineries and natural gas and refined products to markets are also important parts of Yellowstone County's energy economy. Over 50 years ago the Yellowstone pipeline was completed at a cost of over \$20 million dollars, linking Billings' fuel supplies to Spokane markets. In 2011 the centrally-assessed value of all Montana pipelines was nearly \$1.2 billion dollars, and pipelines crossing Yellowstone County pay \$2.5 million in centrally-assessed property taxes.

Over 350 Yellowstone county workers are involved in collecting and transporting crude oil, natural gas, and refined petroleum products by pipeline to local or distant markets. Pipeline transportation firms and natural gas distributors employ over 180 workers, while petroleum bulk stations and terminals and petroleum product wholesalers account for another 150 positions.

Refining

Yellowstone County represents the large majority of Montana's refining industry. The three petroleum refineries in Yellowstone County directly employ over 950 workers. Average compensation for these positions is over \$170,000 per worker, making this industry one of the best paid in the county.

Refinery property taxes pay significant roles in local government's budgets. Yellowstone's three refineries have a combined assessed value of \$1.5 billion dollars and represent three of the top four largest industrial companies in the state. For the fiscal year ending June 30th, 2011, Yellowstone County government collected \$39 million dollars in property taxes and the city of Billings collected nearly \$32 millionⁱⁱⁱ. *The property taxes paid by the three refineries account for \$19.6 million or over one-quarter of total city and county property taxes paid.*

Retail Sales

For many readers, petroleum products mean transportation. Yellowstone county residents, businesses, and governments own an estimated 139,000 automobiles, trucks, and busses, and nearly 19,000 motorcycles^v. In 2011 Montanans and visitors drove gas and diesel fueled vehicles an estimated 1.5 billion miles on Yellowstone county roads and highways.

The wholesale trade in petroleum products represents approximately 60 Yellowstone county jobs. In retail, Yellowstone County fuel dealers employ 15 workers (liquid propane gas and heating oil) while over 700 people are employed in local retail convenience stores and gasoline stations. (Nationally, 80% of gasoline sales occur at convenience stores.^{vi}) An estimated 75 million gallons of gasoline was sold in the county in 2011, generating approximately \$28 million dollars in federal fuel taxes^{vii}. By themselves, nonresident visitors to Yellowstone County spent an estimate \$117 million on vehicle fuel in this year^{viii}.

But crude oil is also refined into aviation fuels. Nearly 408,000 passengers boarded airplanes at Billing Logan Airport in 2011 (up from 290,000 in 1990), representing one-quarter of all Montana passenger traffic^x. In this year this airport sold \$3 million dollars in aviation fuels to commercial, corporate, and private aviation customers^x.

A Significant Part of Yellowstone County's Overall Economy

Overall, Yellowstone County's businesses produced a total of \$18 billion dollars in goods and services in 2011 and in the process paid 102,000 workers nearly \$4 billion dollars in wages and benefits, \$3 billion dollars in compensation to business owners, and over \$500 million in state and local taxes^{xi}.

Yellowstone County's oil and gas industry directly employs over 3,500 workers, paying \$248 million dollars in employee compensation. These businesses range from sole proprietorships to some of the largest employers in the county, and in 2011 these jobs represented 3.4% of Yellowstone County's total employment and 6% of all wages paid by the county's private businesses. An additional 8,600 Yellowstone County jobs are likely supported by the local spending of these local oil and gas firms (and their direct employees), *making the oil and gas industry the direct or indirect source of over 10% of all county wages, salaries, and benefits.*

The Yellowstone County firms in these industries, their owners, and employees, also paid an estimated \$60 million dollars in state and local taxes, representing 11% of the county total revenues. And as the local oil and gas industry grows, local and state governments share in the benefits. For example, each \$1 million dollar expansion in Yellowstone County's pipeline transportation business could generate \$68,000 in additional state and local government revenues each year, while \$1 million growth in the crude petroleum and natural gas extraction industry would produce over \$110,000 annually in new tax revenues. And growth this size is quite feasible given the continued regional growth in oil exploration, drilling, and production and Yellowstone's existing infrastructure and experienced workforce.

Table 1 Employment and Compensation in Yellowstone County's Oil and Gas Industry (\$ 2011)^{xii}

Industry Description	Direct Jobs / Total Supported Jobs	Total Employee Compensation (\$)
Crude petroleum and natural gas extraction	1,333 / 2,686	\$6.6 million
Drilling oil and gas wells	28/55	\$2.3 million
Support activities for oil and gas operations	203/614	\$34 million
Natural gas distribution	80/207	\$7.2 million
Petroleum refineries	961/7,033	\$165 million
Petroleum bulk stations and terminals and wholesale merchants	111/181	\$4.8 million
Gasoline stations(with and w/o convenience stores)	706/1,023	\$17.4 million
Fuel dealers (Heating oil and LPG)	15/25	\$0.5 million
Pipeline transportation of crude oil or refined products	110/402	\$10.2 million

ⁱ Natural Gas in Montana

John G. Bartram , Charles E. Erdmann
AAPG Special Volumes

Volume SP 7: Geology of Natural Gas, Pages 245 - 254 (1935)

ⁱⁱ www.bls.gov.

ⁱⁱⁱ Yellowstone county Comprehensive Annual Financial Report,
<http://www.co.yellowstone.mt.gov/Finance/compreport12/index.asp>.

^{iv} City of Billings Comprehensive Annual Financial Report,
<http://ci.billings.mt.us/DocumentCenter/Home/View/7937>.

^v <http://www.fhwa.dot.gov/policyinformation/statistics/2010/mv1.cfm>. Estimate based upon 0.35 vehicles per-capita and 15% of state total number of registered motorcycles.

^{vi} MDT estimates 11.3 billion Vehicle Miles Traveled in MT in 2011. Travel within Yellowstone county is estimated to be proportional to its share of state population (15%).

^{vii} <http://www.fhwa.dot.gov/policyinformation/statistics/2010/33ga.cfm> estimated at 15% of the 501 million gallons reported sold statewide.

^{viii} University of Montana's Institute of Tourism-Related Research report.

^{ix} <http://www.co.yellowstone.mt.gov/Des/CWPP/final/Ch3.pdf>

^x MDT Montana Aeronautical Division website.

^{xi} Minnesota IMPLAN Group data.

^{xii} These employment and payroll estimates come from a number of sources, including the US Bureau of Labor Statistics and US Census Bureau's County Business Patterns. Sometimes, to protect the confidentiality of individual businesses, specific county-level employment and payroll figures were not reported by the US Census Bureau. In these cases I combined what data was reported at the county level (such as the total number of establishments in an industry) and state-wide estimates of paid employment and payroll to estimate these values (as proportions) for Yellowstone County.