DOWN THE PIPE

THE NEWSLETTER OF THE WYOMING PIPELINE AUTHORITY

PIPELINE AUTHORITY

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WHY DOES THE WYOMING PIPELINE AUTHORITY EXIST?

The Wyoming Pipeline Authority (WPA) was created to mitigate circumstances and events that harm (lower) the value of natural gas, oil and related products produced in Wyoming. The WPA does this because lower prices immediately result in lower tax and royalty revenues to the State and lower prices result in lower future production, adding to the prospect of lower future tax and royalty revenues to the State. According to the Wyoming Division of Economic Analysis, a $1.00 change in the annual price of natural gas produced in Wyoming results in a corresponding $160 Million annual change in State revenues and a $5.00 change in the annual price of crude oil corresponds to a nearly $30 Million annual change in State revenues.

How does the WPA accomplish its mission?

(1) Support new pipeline construction that eliminates bottlenecks and minimizes price penalties created by those bottlenecks.

(2) Support new markets for natural gas provided by Liquefied Natural Gas (LNG) export projects.

(3) Support or Object, as the circumstances require, in proceedings of the Federal Energy Regulatory Commission (FERC) that affect the operations, rates and terms of service of the interstate natural gas pipeline companies and crude oil pipeline companies that move Wyoming products to market.

(4) Establish and preserve access across federal lands in Wyoming for pipeline necessary to move natural gas, crude oil and related products through long range projects such as the Wyoming Pipeline Corridor Initiative (WPCI).

(5) Keep an inventory of the pipeline grid in Wyoming.

(6) Directly support the industries that want to build facilities in Wyoming that will consume Wyoming natural gas and in the process create jobs, property tax base and add to natural gas demand.

Specific examples in each of these six areas of effort follow in this issue of *Down the Pipe*.

~ Brian Jeffries

THE HISTORY OF WPA SUPPORT FOR NEW PIPELINE CAPACITY

The WPA's enthusiasm for new pipeline construction to improve the price and increase the volume of natural gas produced in Wyoming stretches back thirty years. The WPA was formed by the State of Wyoming in 1987 to help foster the construction of the Kern River Pipeline (Kern River) that would carry Wyoming gas to California. Kern River went into service in 1992 as a single 36" diameter pipeline capable of moving three quarters of a billion cubic feet per day of natural gas from Wyoming to California.

Twenty-five years later, Kern River has become a pair of side-by-side pipelines capable of moving over two billion cubic feet per day of natural gas out of Wyoming to California and Nevada. On a typical day, Kern River runs at 90% of capacity out of Wyoming. More gas moves out of Wyoming on Kern River than through any other pipeline and it is the least expensive path from the Rocky Mountains to California.

The foresight to create the WPA and push for Kern River thirty years ago has given Wyoming a piece of critical infrastructure that will continue to serve the state for decades to come. In addition to Kern River, other pipeline expansions supported by the WPA in the years since include Williston Basin Interstate Pipeline, Ruby Pipeline, Rockies Express Pipeline, Cheyenne Plains Gas Pipeline, Colorado Interstate Gas Pipeline, Wyoming Interstate Company, Overthrust Pipeline, Questar Pipeline and Trailblazer Pipeline. These projects have dramatically improved access of Wyoming gas to markets in the East, Midwest, Northwest and California. Collectively, Kern River and these other pipelines have increased capacity out of Wyoming from less than one billion cubic feet per day in 1987 to over ten billion cubic feet today.

The impact of these pipeline additions is evident in Chart 1, below. The discount suffered in the price of Wyoming natural gas is displayed for the period of 1993 to the present. As Wyoming production grew and created choke points on the pipelines, the price of natural gas in Wyoming suffered greatly. Each time a new piece of pipeline capacity was added, the discount would diminish until growing production once again began to overwhelm pipeline capacity.

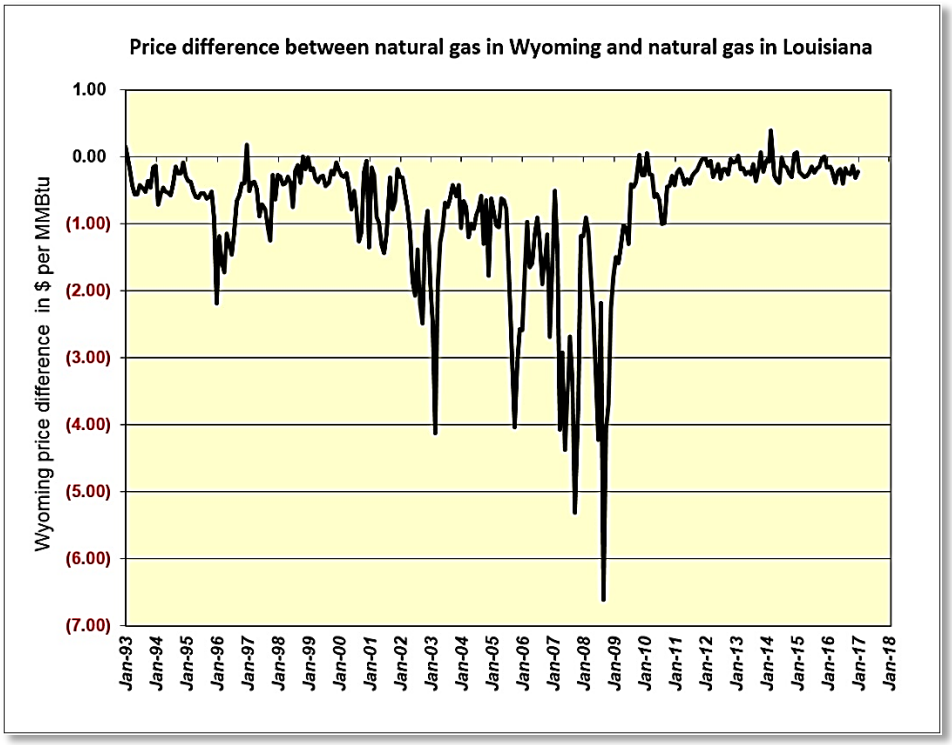


Chart 1

The current threat to natural gas pipeline capacity out of Wyoming comes in the form of lost market share in the Midwest caused by increasing eastern US production, particularly from Pennsylvania and Ohio. As production in those states captures more of the Chicago and upper Midwest market, pipeline capacity from Wyoming to the Midwest and beyond may be far less useful to Wyoming.

THE WPA SUPPORTS NEW EXPORT MARKETS FOR NATURAL GAS

Approximately half of the natural gas pipeline capacity out of Wyoming heads to points west serving Washington, Oregon, Idaho, California and Nevada. As discussed in the preceding article regarding the impact of growing Ohio and Pennsylvania production of Wyoming's share of Midwest markets, pipeline capacity to the Midwest and beyond may not be as useful to Wyoming as in the past.

Turning our attention westward, Wyoming natural gas production competes to supply Western US markets with Canadian gas coming from Alberta, British Columbia and with US production from other Rocky Mountain States and the Permian Basin of Texas and New Mexico. The total demand for natural gas in those western-consuming states is approximately 8.5 billion cubic feet on an average day with significant daily, seasonal and annual swings embedded in that average. Differences in yearly hydroelectric availability, the mix of electric generation between coal, natural gas, solar and wind and demand changes associated with weather all affect the size of the market into which Wyoming natural gas competes.

A significant way to improve the competitive opportunity for Wyoming natural gas is to increase the size of the western US market through exports of Liquefied Natural Gas (LNG). When cooled to minus 260 degrees Fahrenheit, methane, the principal component of natural gas becomes a liquid. As a liquid, the higher density of the methane makes transportation by ship feasible. At the far end of the voyage, LNG is warmed and the natural gas can then enter the pipeline grid of the receiving destination.

Jordan Cove LNG has proposed a LNG export facility on the coast of Oregon. The daily capacity of the plant would be one billion cubic feet per day. Based on the 8.5 billion cubic feet per day of average demand provided above, Jordan Cove would increase the western market for natural gas by 12 percent.

The WPA will continue to support Jordan Cove LNG throughout the project approval process at the Federal Energy Regulatory Commission. The WPA will also support Jordan Cove LNG's efforts to contract with its foreign LNG consuming customers by providing information and Wyoming contacts that can speak to the robust natural gas supply available from Wyoming.

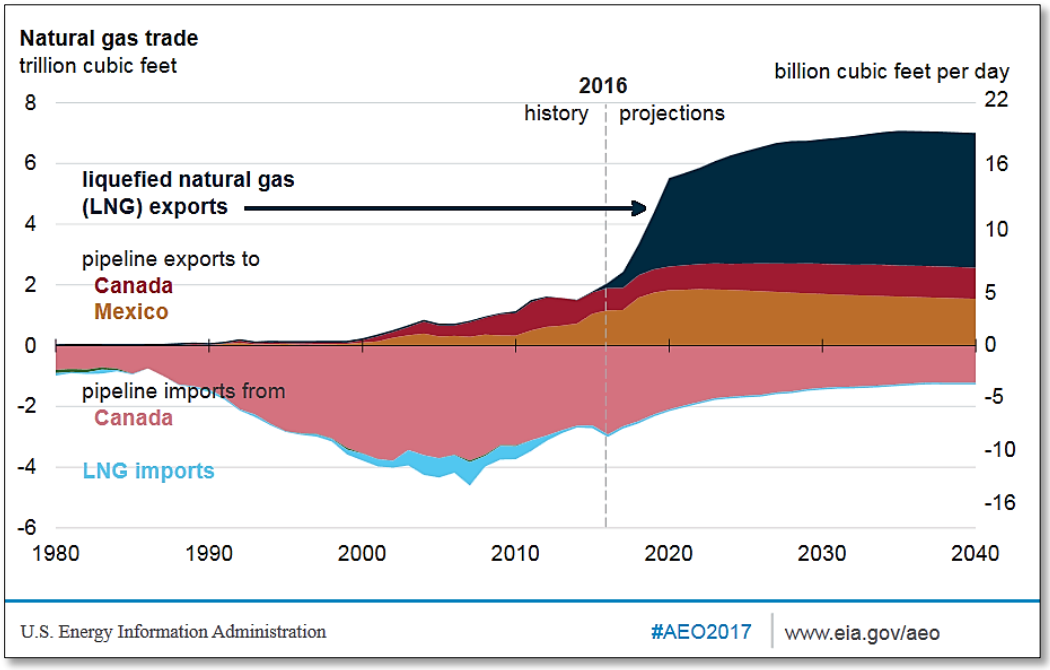


Chart 2

Chart 2 shows the U.S. Energy Information Administration forecast of LNG exports from all locations in the US over time.

Figure 1 is a location map of the proposed Jordan Cove LNG facility and related supply pipeline.

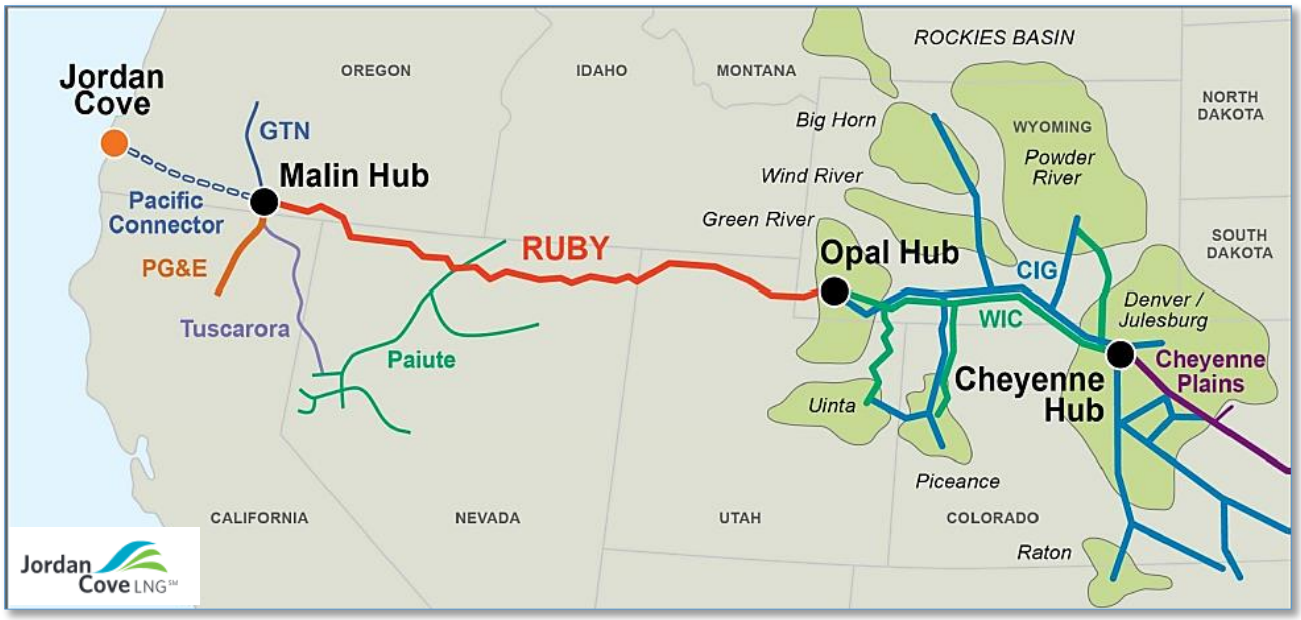
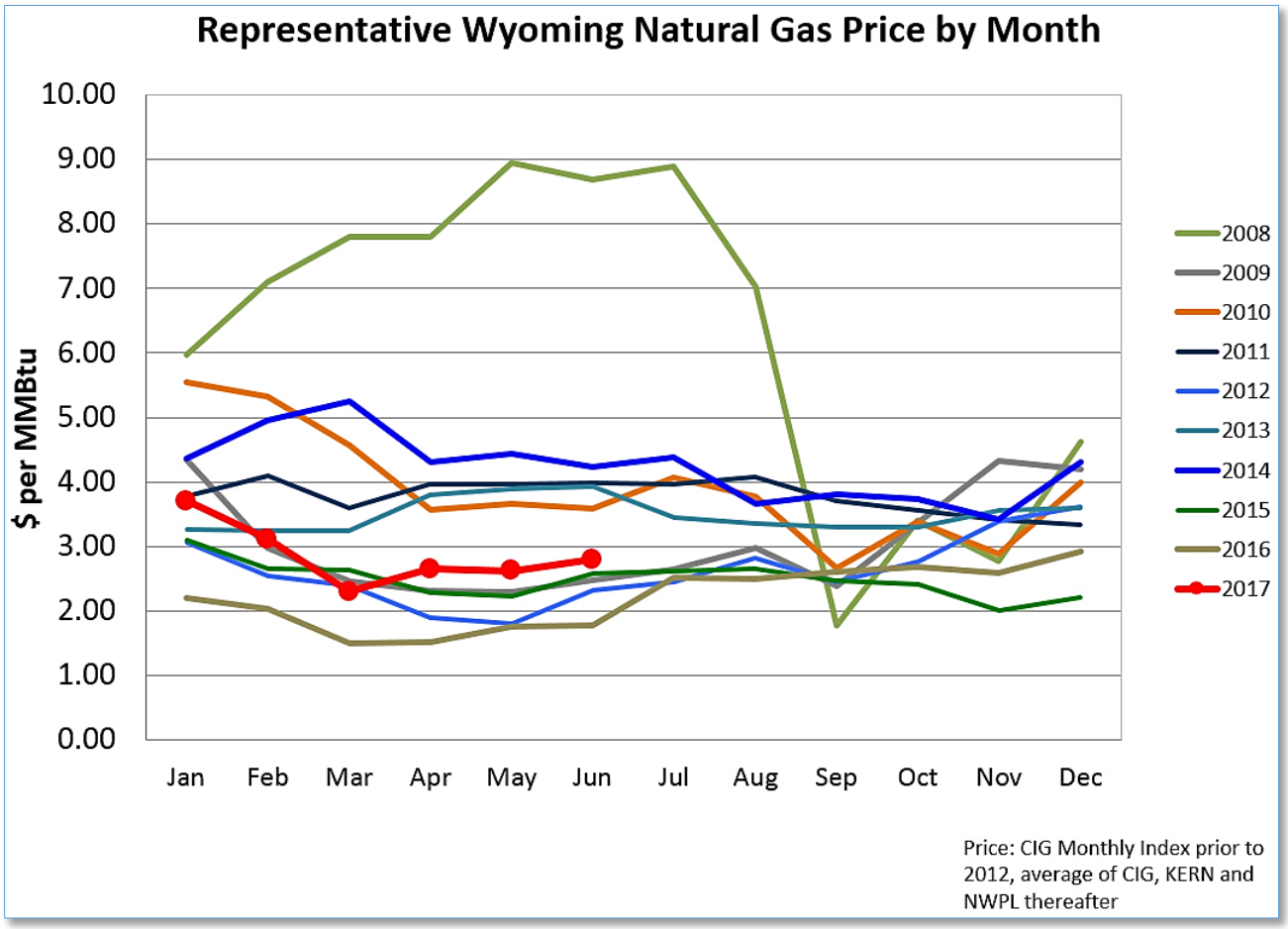


Figure 1



THE WPA FIGHTS FOR WYOMING AT THE FERC

There are a dozen major natural gas pipelines and approximately half a dozen crude oil pipelines that directly impact the movement of natural gas and oil out of Wyoming.

The Federal Energy Regulatory Commission (FERC) has substantial jurisdiction over those interstate natural gas pipelines and significant authority over select terms and conditions of service on oil pipelines. The terms and conditions, " the rules of the road" and rates for service affect the value of natural gas and crude oil produced in Wyoming.

In the last twelve months, the dozen major interstate natural gas pipeline companies alone made over 900 filings at the FERC. That is a typical number of filings in any given twelve-month span. The WPA is the sole agency in Wyoming that sifts through that barrage of filings to determine when an opportunity or a hazard exists. In the last ten years, as a consequence of its ability to spot needles in haystacks, the WPA has made 38 filings at the FERC in response. The WPA does not pay any outside attorney or consultant to review and alert the WPA to these opportunities and threats. Instead, the WPA relies upon the staff's commercial and regulatory experience, frequent communication within the industry and uncompensated suggestions from outside counsel. The cost to replicate this review process with outside expertise would likely be unsupportable.

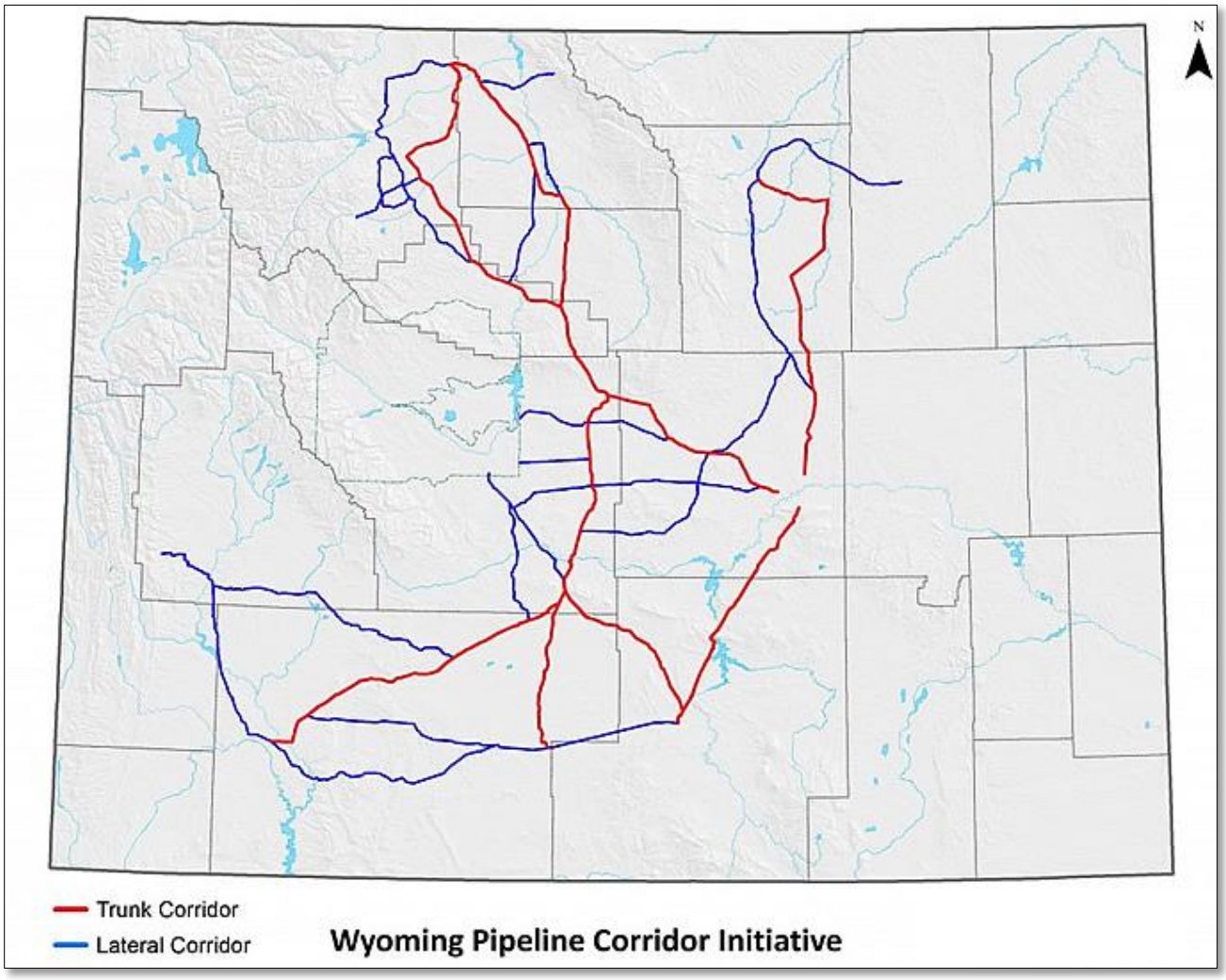
Specific activities have included supporting pipeline expansions such as Ruby Pipeline, Bison Pipeline, Ryckman Creek Storage, Kern River Transmission, Cheyenne Plains Pipeline, Williston Basin Interstate Gas Pipeline, and Rockies Express Pipeline. The WPA has successfully argued against changes to pipeline terms and conditions that would hurt Wyoming. For example Trailblazer Pipeline Company and Northern Natural Gas Pipeline Company which provide natural gas transportation downstream of Wyoming, have attempted to make changes to gas quality requirements that would block Wyoming gas from Midwest markets. The WPA also successfully fought efforts by Salt Lake City refiners to keep a crude oil pipeline in Southwest Wyoming captive to service those refiners instead of allowing that pipeline to reverse the direction of flow in the line to better serve production in Southwest Wyoming.

Currently, the WPA is participating in a FERC process to limit the cost of natural gas transportation out of the Powder River Basin (PRB). An increase in the cost of transportation out of the PRB will directly impact the price of natural gas in the PRB and will therefore reduce royalties and taxes collected by Wyoming on PRB production and will further burden the growth of natural gas production in the PRB.

ESTABLISHING AND PRESERVING ACCESS FOR PIPELINES ACROSS FEDERAL LANDS IS CRUCIAL TO WYOMING ENERGY DEVELOPMENT

Pipelines are essential to the production of natural gas, the delivery of carbon dioxide to enhanced oil recovery projects and to the efficient movement of crude oil and related products. The need to access federal lands for rights-of-way are an element of most pipeline projects in Wyoming. An example of WPA work is the cooperation with the Office of the Governor and with other state agencies to assess and identify opportunities and deficiencies in the various Resource Management Plans (RMP) and revisions thereof of the Bureau of Land Management (BLM). The WPA brings a commercial understanding of the current and future use of particular pipelines and pipeline corridors that is not present in other state agencies.

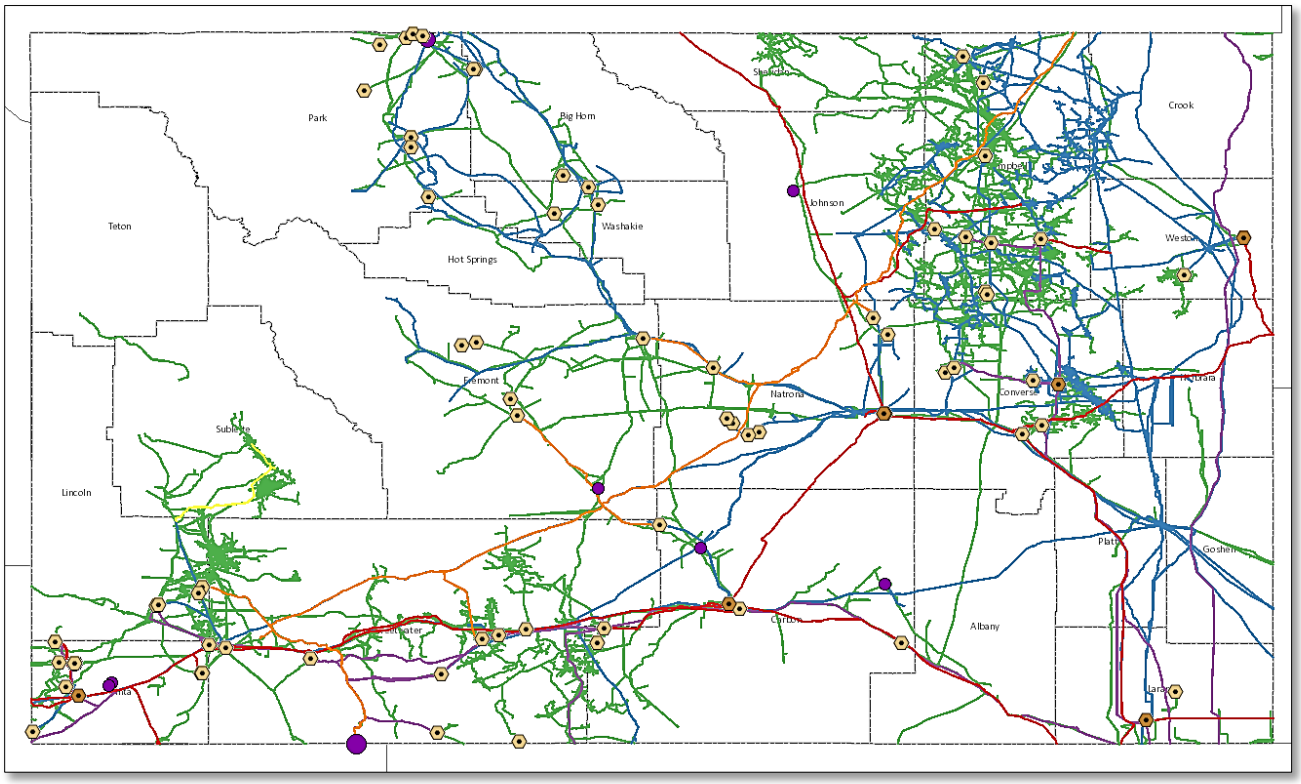
Currently the WPA is working with the Office of the Governor on the Wyoming Pipeline Corridor Initiative, an element of Wyoming's Energy Strategy to assess the adequacy of the combined pipeline corridors embedded in the RMPs of the various Wyoming BLM Field Offices. In the process of reviewing individual RMPs, it was discovered that the corridors in adjoining field office RMPs did not coordinate and that collectively, the RMPs did not fully address future needs for pipeline access. The WPA's inventory of existing pipeline locations and expertise in digital analysis and mapping is critical to completing this piece of Wyoming's Energy Strategy.



WITH PIPELINES, YOU CAN'T KNOW WHAT YOU NEED IF YOU DON'T KNOW WHAT YOU HAVE

The WPA is responsible for maintaining the mapping data for pipelines within the state of Wyoming. Currently the digital pipeline map and database includes oil, natural gas, natural gas liquids, product, and CO2 pipelines. Other useful information in the database includes compressor locations, gas storage, gas processing facilities, railroad loading facilities and refineries. All this information can be accessed either through the WPA's online pipeline mapping application or through Geographical Information Systems (GIS) software. The mapping applications are available on any desktop or mobile device that increases the utility of the data to users in the field.

The WPA provides all of the data free of charge to the public with a current subscriber base of over four hundred users. The WPA also provides the pipeline data and associated infrastructure to other governmental agencies for use in resource and project planning mapping applications such as the Wyoming Natural Resource and Energy Explorer (NREX), Enhanced Oil Recovery Institute's Wyoming Reservoir Information Tool (WyRIT) and Wyoming State Geologic Survey's Interactive Oil and Gas Map of Wyoming.



Visit our website at www.wyopipeline.com to subscribe to our online Wyoming Pipeline Infrastructure map and to view all our other online resources.

THE WPA SUPPORTS IN-STATE CONSUMPTION

Over ninety percent of the natural gas produced in Wyoming is consumed out-of-state. The added value from using that natural gas to make products occurs in other states along with the associated property tax revenue and jobs for those activities. Helping business recognize and invest in Wyoming is part of the WPA mission.

Recently, Standard Alcohol, announced plans for an affiliate to construct a plant to convert natural gas to specialty alcohols for use in refinery applications. The plant will be located in the Swan Ranch business park southwest of Cheyenne.

During the site selection process in which Wyoming was being compared to an alternative location in Colorado, the WPA provided Standard Alcohol with precise location information regarding the five natural gas pipelines that could serve Swan Ranch, an overview of each of the pipelines including sources of gas supply, typical gas composition in each system, operating pressures, transportation rates and prevailing prices. The WPA further assisted Standard Alcohol by making introductions and attending meetings between Standard Alcohol and the pipeline management. When completed, the plant is expected to have 32 full-time employees and consume 7,000 Mcf per day of natural gas. At current prices, that is roughly $18,000 per day of natural gas. Standard Alcohol has informed the WPA the assistance in these areas was unmatched by Colorado and the information was significant in guiding Standard Alcohol's plant in Wyoming.

The information, experience and assistance of the WPA clearly gave Wyoming a competitive advantage over Colorado in this case.

Wyoming ™ ®
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Each month the WPA compiles a monthly update of oil and natural gas prices, price differentials between trading locations, anticipated temperature and precipitation forecasts. If anyone is interested in receiving this monthly update, please contact the WPA office.

The WPA encourages legislators to visit our website at www.wyopipeline.com.

Please contact the WPA office with any questions at 307-237-5009 or e-mail Brian Jeffries at brian@wyopipeline.com