Gas pipeline project would boost Alaska economy, but less than 1970s oil line

By: Bill White, *Researcher/Writer, Office of the Federal Coordinator*

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Building a major pipeline to carry stranded North Slope natural gas to market would boost the number of jobs and wealth in Alaska. But the impact would be muted compared to the economic upheaval from building the trans-Alaska oil pipeline 35 years ago.

That's a key conclusion of a **draft economic analysis**, prepared by the gas line project developer and released Jan. 13, that forecasts how life in Alaska would change if the proposed $32 billion to $41 billion pipeline from the North Slope to Alberta gets built.

The project would jolt Alaska, injecting into the economy jobs and money that otherwise wouldn't be there.

Roughly 10,000 workers would be employed during peak construction, and spending could reach $6 billion on wages, goods and services in Alaska.

Mobilizing for gas pipeline project

Partial estimate of workers, equipment, materials needed for project*	**Amount**
Work force	8,100 to 10,600
Pipe	1.02 million tons
Granular material, gravel	25.5 million cubic yards
Pipeline, facility construction equipment	142,000 tons
Material for camps	27,600 tons
Fuel	89.7 million gallons
Gas treatment plant modules	317,000 tons

* Estimates are preliminary

Source: Alaska Pipeline Project Draft Resource Report 1

Still, the lasting impact would come after construction ends and gas is flowing. The stimulus of spending new state revenue from gas production, as well as increased oil and gas development, would help Alaska employers add thousands of jobs long-term, the analysis said.

Besides jobs, the report estimated how pipeline construction and operation separately would affect population, housing, schools, public services and the incomes of Alaskans.

In most cases, the analysis said, the pipeline would spark measurable but minor changes: More students but not more schools, more demand for medical services but not more hospitals, and more personal income for Alaskans but not a lot more.

Downsides include increased but manageable wear and tear on Alaska's highways as workers and materials are hauled to and along the 803-mile pipeline corridor, annoyance to tourists and locals sharing highways with pipeline traffic during construction, and a financial squeeze for residents on fixed incomes if construction heats up inflation in Alaska, the report said.

The forecasted impacts of a gas pipeline contrast sharply with what happened in Alaska during and after the oil pipeline construction of the 1970s. This reflects both how the Alaska economy has matured in the past 40 years and how much more valuable oil is than natural gas, the report suggested.

The oil pipeline was an overwhelming event imprinted on Alaska history, much as statehood in 1959. It changed Alaska permanently. The aura of Alaska as a poor outpost faded as a vastly more wealthy and mainstream state emerged with oil money coursing through the economy.

While a gas pipeline project would make its own impression on the state during construction, the bump of roughly 10,000 full and part-time workers at the project's peak would be faint compared with the boom from the 28,000 peak oil-pipeline workforce in a 1970s Alaska economy less than half the size of today's.

Further, because oil packs more energy than other fossil fuels for a given volume, it's valued more than natural gas in the marketplace and thus produces much more revenue for the state than natural gas would. Revenue from significant North Slope gas production, while projected to be substantial, would lack the wallop of the oil revenue gusher that started pouring into Alaska three decades ago.

The economic forecast for the gas pipeline comes in a document called **Draft Resource Report 5** just filed with the **Federal Energy Regulatory Commission** by a partnership of TransCanada and ExxonMobil called the **Alaska Pipeline Project**. TransCanada and ExxonMobil plan to apply

to FERC in October for permission to build and operate a gas pipeline that would carry up to 4.5 billion cubic feet of gas per day toward the Lower 48 states. FERC will prepare an environmental impact statement before deciding whether to grant a construction and operating certificate for the project. Actual construction depends on TransCanada/ExxonMobil signing shippers to use the line. Resource Report 5, which will be finalized in October, is required by FERC to help it prepare the impact statement. (FERC requires **other reports** documenting and discussing wildlife, soils, vegetation and other resources as well.)

Below we look at the Draft Resource Report 5 forecast of how the pipeline project – both during and after construction – would affect Alaska's population, work force, income, housing, roads and public services.

STATE REVENUE

First a caveat:

TransCanada and ExxonMobil contracted with Northern Economics Inc. in Anchorage to prepare much of the Draft Resource Report 5 analysis. The report assumes current Alaska tax law would apply to North Slope natural gas production. That would result in tens of billions of dollars in state revenue from the gas resource – which would energize the entire Alaska economy as the state spends the money.

However, there's some sentiment among state leaders and the business community that current tax law would be too severe on North Slope gas production, especially in a low-price North America gas market, and that to push the pipeline project forward the gas-tax burden should be changed. This reflects recognition that producing natural gas is far less profitable than producing oil. In addition, the market price for gas is a big unknown in estimating future state revenue. For example, the Northern Economics' analysis of state revenue assumes gas will sell for $8 per million Btu in 2025, five years after pipeline start-up, about three times the U.S. price of January 2012. State revenue under that price assumption would total an estimated $2.7 billion (property tax, corporate income tax, royalty and production tax). More conservative price forecasts, coupled with changes in the state tax structure, would reduce that revenue total.

But state natural gas revenue would not be the only new economic driver, the analysis noted. After the pipeline is built, an oil and gas exploration renaissance would occur on the North Slope and in Arctic waters. The report estimates an additional 200,000 barrels a day of North Slope oil production during the 2020s and 2030s if there is a gas line to help justify additional investment. Availability of gas within Alaska also would help spur mining by greatly lowering energy costs.

Another caveat: The report said many of the estimates for population, jobs, income and other effects could be revised when the report is finalized this fall.

POPULATION

During construction. Alaska's population would swell by about 19,000 people due to the project during the six-year construction phase. The growth would occur principally because of an influx of people to work on the pipeline, and from Alaskans working on the project rather than leaving the state. Many of the in-migrants would move away after their work is done.

An increase of 19,000 residents represents 2 percent growth in Alaska's population. About 7,000 of the new residents would reside in Anchorage, 4,000 in the Matanuska-Susitna Borough near Anchorage and 2,500 in the Fairbanks North Star Borough, along the pipeline corridor.

More people in Alaska	
Population increase during construction*	
Low year	3,500
High year	18,900
Population increase after construction*	
10 years after	51,800
* Change in number of Alaska residents due to gas pipeline. Many workers during construction would not be Alaska residents.	
Source: Alaska Pipeline Project Draft Resource Report 5	

Some population growth would come from indirect effects of pipeline construction, such as growth of other businesses thanks to the economic activity.

After construction. Ten years after pipeline startup, the state's population would be about 50,000 residents greater than if the pipeline isn't built. That's about 5 percent more residents.

Most would live in Alaska due to other economic opportunities that gas production allows, such as new North Slope oil and gas development, new mines, etc., as well as state spending of gas revenue.

Overall, about 15,000 of the 50,000 new residents would be children.

Again, more than half of the additional residents would live in Anchorage or the Matanuska-Susitna Borough, the center of the state's population today.

JOBS

During construction. Building the pipeline would create an estimated 8,100 to 10,600 jobs in Alaska during the peak year.

Those jobs in Alaska would involve more than labor to physically build the pipeline. The estimate includes managers, environmental monitors, logistics workers and others. The estimated peak *construction-only* work force in Alaska is 6,200 to 8,200 full- and part-time positions.

More jobs in Alaska	
Jobs increase during construction	
Low year	2,900
High year	19,600
Jobs increase after construction*	
10 years after	41,900
* Direct and indirect full- and part-time jobs due to gas pipeline.	
Source: Alaska Pipeline Project Draft Resource Report 5	

"Most of the construction jobs would be in the heavy civil construction trade, including heavy equipment operators, site engineers, construction managers, construction laborers and iron/steel workers," the report said.

The pipeline would be assembled in Alaska, but the pipe itself, compressor stations and other buildings would be manufactured outside the state. The pipeline builder would spend roughly 15 percent of the total construction cost within Alaska – an estimated $5 billion to $6.6 billion for labor, materials and services. Up to $5 billion of that would be payroll over the six-year construction period.

This spending would support new jobs at retailers, construction-support companies, businesses that provide personal services and the like – perhaps as many as 9,000 more full- and part-time jobs at peak construction.

After construction. Running and maintaining the pipeline would involve about 550 people. Most of them would run a massive new gas treatment plant at Prudhoe Bay that would cleanse carbon dioxide and other impurities from the gas. The report estimates the number of people needed to run and maintain the pipeline itself and compressor stations at 35 to 50.

But due to more oil/gas exploration and other economic activity triggered by the gas pipeline, as well as state spending of gas revenue, the number of jobs in Alaska would grow by about 40,000 after 10 years of pipeline operations. That's about 7 percent more jobs than if the pipeline isn't built.

INCOME, GOODS AND SERVICES

During construction. Spending on goods and services within Alaska would total up to $6.6 billion. The report estimates spending in other states at $9 billion to $12 billion, with the same range given for purchases from other countries. The pipe itself, equipment to trench and lay pipe, temporary camp structures and other buildings, fuel and a variety of other materials mostly would be acquired outside Alaska and shipped to the state.

The project also would import labor to Alaska. Although the state Department of Labor and the state-, industry- and union-supported Fairbanks Pipeline Training Center are looking to train workers for pipeline construction, Alaska still would lack enough home-grown workers with the right skills to fill all of the project's jobs, the report said. Much of the estimated $4 billion to $5 billion in Alaska construction payroll would get paid to non-Alaskans. Many workers would come to Alaska for the construction then leave when their jobs are done, the report said. "It is estimated that approximately $1.1 billion to $2.2 billion of the total construction payroll would be received by Alaska residents."

More personal income	
Per capita personal income increase during construction*	
Low year	$377
High year	$1,414
Per capita personal income increase after construction*	
10 years after	$589
* Due exclusively to the gas pipeline	
Source: Alaska Pipeline Project Draft Resource Report 5	

Those with pipeline jobs obviously would see the biggest boost to their incomes. When their wages and other pipeline spending gets averaged across the state, the per capita personal income of all Alaskans statistically would rise roughly $1,000 a year, or about 1.5 percent.

After construction. Existence of the pipeline would raise per capita personal income for all Alaskans about $600 in the 10th year of pipeline operations. That would be a 0.5 percent increase.

HOUSING

During construction. Subdivisions of fresh housing would not be needed. Most workers would be based in temporary construction camps and would commute to their work sites.

The report estimates an extra 6,000 to 7,000 housing units – houses, condos, apartments, hotels, etc. – would be needed due to the direct and indirect economic activity of pipeline construction. About two-thirds of the housing would be located in Anchorage or the Matanuska-Susitna Borough, amounting to about 3 percent more housing units in those communities than they would need without a pipeline project.

More housing	
Additional housing units during construction*	
Low year	1,300
High year	7,300
Additional housing units after construction*	
10 years after	20,100
* Due exclusively to the gas pipeline. Alaska had about 310,000 housing units in 2011.	
Source: Alaska Pipeline Project Draft Resource Report 5	

After construction. "The additional economic activity and jobs the project would generate in the Fairbanks North Star Borough and Municipality of Anchorage are expected to result in a substantial increase in local demand for housing in absolute terms, but the increase in percentage terms would be minor due to the large existing housing supply in the borough and municipality."

The report estimates a statewide need for about 20,000 more housing units 10 years after pipeline start-up. Again, about two-thirds of that would get built in Anchorage and the Mat-Su Borough, boosting their housing stock by about 6 percent.

ROADS

During construction. Construction would involve an epic choreography of people and material moving around Alaska, particularly along the pipeline corridor.

One million tons of pipe, 90 million gallons of fuel, camp housing, compressor stations, heavy equipment and other materials would arrive at a variety of Alaska ports. (**Information from Draft Resource Report 1**.)

The gigantic $12 billion gas treatment plant at Prudhoe Bay would be built in pieces outside the state then shipped for assembly directly to the North Slope during sealifts spanning three summers.

After arriving in Alaska, all this material would move to storage yards and construction sites via trucks and rail cars.

In addition, an estimated 25 million cubic yards of gravel and similar material – 1.1 million truckloads – would be moved to where it is needed.

In all, construction would entail about 2.1 million truckloads on highways over four years, plus 250,000 support-vehicle trips. Alaska's major highways would bear up under all this traffic, but they would wear out faster, meaning state and local governments would need to spend more to maintain and repair them. Traffic could double on the Dalton Highway, which runs along the northern half of the pipeline route.

Some short access roads to the Prudhoe Bay gas treatment plant construction site, compressor station sites and the pipeline corridor would need upgrades before using them.

TransCanada and ExxonMobil said they are still working out which ports and roads to use when moving all the people and materials around Alaska. The analysis said nine ports are under consideration: Anchorage, Seward, Valdez, Whittier, Skagway, Haines, MacKenzie, Dutch Harbor and Prudhoe Bay's West Dock.

After construction. Road wear and tear from operating and maintaining the pipeline would be minimal.

PUBLIC SERVICES

During construction. Because most workers would be staged out of construction camps that feature their own housing, utilities and basic medical services, the effects on local utilities, schools, medical services and law enforcement would be minor.

Schools	
Additional children ages 16 or younger during construction*	
Low year	1,000
High year	5,300
Additional children ages 16 or younger after construction*	
10 years after	15,100
* Due exclusively to the gas pipeline, direct and indirect growth	
Source: Alaska Pipeline Project Draft Resource Report 5	

Schools. The report estimated Alaska would have about 5,300 more school-age children by the end of construction, most living in Anchorage and the Mat-Su Borough. Because these students would be dispersed, "It is not anticipated that the temporary increase in the number of school-age children would result in a demand for new schools," the report said. "However, the additional students would require additional funding by the state and local governments, and could potentially result in increased classroom sizes and higher student-teacher ratios."

Medical services. Each construction crew would have medical staff and ambulances. Injuries or illnesses needing advanced medical care would tap community clinics or hospitals in Barrow, Fairbanks, Palmer or Anchorage. "The increase in the demand for medical services at these facilities as a result of the project is expected to be minor."

Law enforcement. Although most workers would live in construction camps, they would have off-time and big paychecks. This would put stress on local law enforcement, as would an influx of people to Alaska hoping to land construction jobs. Smaller communities along the pipeline route "might have a more difficult time (than police forces in cities) coping with the potential increased crime resulting from short-term residency of construction workers."

After construction. "The new direct employment created during the operations phase would place a negligible additional demand on public facilities and services," the report said.