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The best way to use Alaskan gas--
quicker and under U.S. control

THE TRANS-ALASKA GAS PIPELINE PROJECT

What would you do if

- you were running out of energy
- you had a deficit in your balance of payments
- you were experiencing boycotts from foreign energy sources
- you had supplies of natural gas within your own country
- you were presented a plan to bring those supplies to market without foreign control
- and this plan could be implemented far sooner

And the price would be equal to or less than that promised by those who want to bring you the U.S. supplies through a foreign country?

The answer is obvious: You would want an
**ALL-AMERICAN PROJECT FOR
ALL AMERICA**

and that is the

**TRANS-ALASKA GAS
PIPELINE PROJECT**

THE TRANS-ALASKA GAS PIPELINE PROJECT FILLS A VITAL NEED

What is the quickest way to bring the bountiful supplies of natural gas from Alaska's North Slope area to markets in Alaska and the lower 48 states?

And do it so that all in the U.S. can benefit from these large and, until now, untapped supplies of nature's most environmentally pure energy source?

The answer is the Trans-Alaska Gas Pipeline Project.

This booklet details the reasons why the Trans-Alaska Gas Pipeline Project of El Paso Natural Gas Company is the best and quickest way to bring the North Slope gas to market.

"... This pipeline would help reduce our nation's energy crisis... The gas... would be a legacy to our children and to their children."

*Statement by U.S. Senator Mike Gravel in response to announcement of plans for a trans-Alaskan natural gas pipeline project.
December, 1972.*

"... I thought one of the main objectives in trying to develop our own resources was to avoid what is now projected for 1978 to be \$20 billion in unfavorable balance of payments annually..."

U.S. Senator Henry Jackson's comments in the Congressional Record in July, 1973 commenting on Canadian development, construction and operation of a pipeline to tap Alaska's North Slope oil.

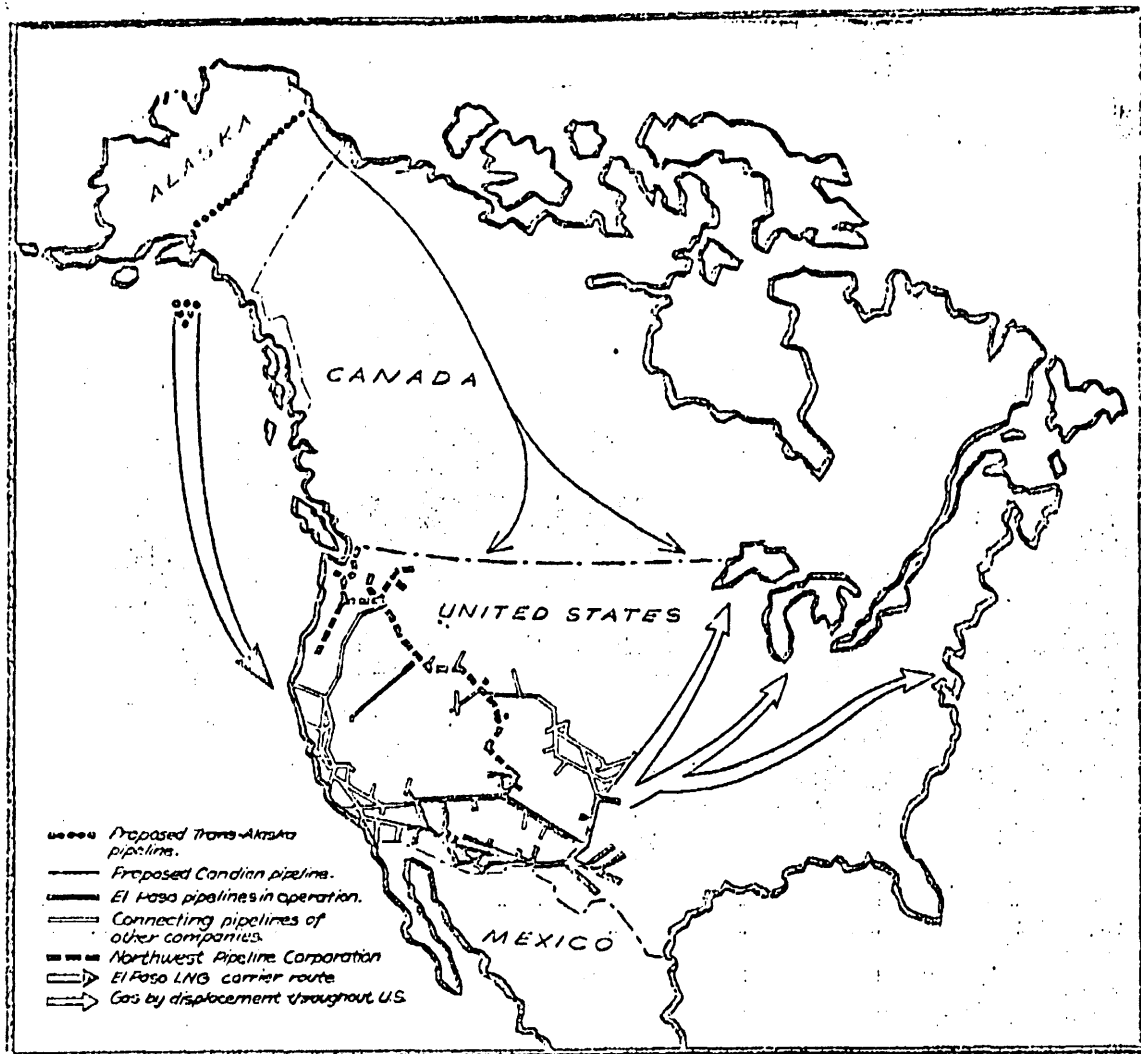
"... Let us set as our national goal, in the spirit of Apollo and with the determination of the Manhattan Project, that by the end of this decade, we will have developed the potential to meet our own energy needs without depending on any foreign energy sources."

Excerpt from President Nixon's statement of November 7, 1973 on the U.S. Energy Crisis.

"... What I have called Project Independence 1980 is a series of plans and goals set to insure that by the end of this decade Americans will not have to rely on any source of energy beyond our own.

As far as energy is concerned, this means we will hold our fate and our future in our hands alone."

Excerpt from President Nixon's statement of November 26, 1973 on the U.S. Energy Crisis.



WHAT IS THE TRANS-ALASKA GAS PIPELINE PROJECT

El Paso Natural Gas Company, one of the world's largest natural gas transmission firms, is sponsoring a project to bring natural gas from Alaska's North Slope, across Alaska to that state's south-central coast where it would be liquefied and transported by LNG carriers for use throughout the Continental United States.

Studies completed in 1972 established that the North Slope's natural gas could be delivered to U.S. markets through facilities located entirely within the United States at about the same cost as a pipeline system bringing this gas through Canada.

The project envisions the movement of

1.6 billion cubic feet per day of natural gas. The gas would be carried in an 800-mile, 42-inch pipeline built in the same corridor set aside for the oil pipeline. At the terminus of the natural gas pipeline in south-central Alaska, the gas would be liquefied and placed aboard six, 125,000 cubic meter LNG carriers for shipment to receiving and regasification facilities on the U.S. West Coast. This gas would be made available throughout the United States by displacement through existing pipeline systems.

Cost of the project is estimated in the range of \$3 billion.

NEED FOR A TRANS-ALASKA GAS PIPELINE PROJECT

The lower 48 states suffer from an unprecedented energy shortage. Alaska has a surplus of energy. The latest authoritative estimates of the Potential Gas Supply Committee show that of the 1,146 trillion cubic feet of potential additional gas reserves yet to be discovered in the U.S., about one-third, or 366 trillion cubic feet, will be found in Alaska. There is little question that Alaska has an abundance of natural gas for its own use and will play a major role in supplying surplus gas to the rest of the continental United States.

The starting point, however, for the Trans-Alaska Gas Pipeline is the 26 trillion cubic feet of proved reserves in Prudhoe Bay. These gas reserves form the basis for El Paso's project: The Trans-Alaska Gas Pipeline Project.

According to geologists, there are yet to be discovered in northern Canada some 280 trillion cubic feet of gas reserves. These potential reserves could support several all-Canadian gas pipelines to Canadian and U.S. markets.

SPECIFIC BENEFITS FOR ALASKA FROM THE TRANS-ALASKA GAS PIPELINE

The Trans-Alaska Gas Pipeline Project has specific benefits to the State of Alaska, benefits which ultimately accrue to the advantage of the entire United States.

- o Most importantly, it will provide considerable employment opportunities for Alaskans whose average annual unemployment rate in 1972, according to the Manpower Administration of the U.S. Department of Labor, was 10.4 percent, far above the national average. The construction of the natural gas pipeline will begin as work on the oil line nears completion, making it possible for these pipeline workers to obtain an additional two to four years of employment. This should minimize the socio-economic impact on the state.

- o During construction approximately 5,500 U.S. workers will be employed on the pipeline and related facilities, including the LNG liquefaction and loading terminal.

- o After the pipeline facilities are completed, nearly 600 people will be required to operate the Alaskan portion of the facilities in addition to the nearly 300 U.S. crewmen required to man the U.S. flag LNG carriers.

- o The approximate investment of \$2 billion

required for the Alaskan portion of the project represents a significant tax base for the Treasury of the State of Alaska. These taxes can be a source of revenue for Alaska for the 25-plus year life of the facilities.

- o Because the Trans-Alaska Gas Pipeline Project can be completed and in operation much sooner than an all-overland route in Canada, the sizable royalties to be realized by the State of Alaska from the wellhead purchase price of the gas will accrue to the state much sooner. (Alaska receives a 12½ percent royalty on this gas.) It should be noted that the producers — including Alaska — will receive the same purchase price whether the gas is transported through Canada or Alaska.

- o The gas pipeline will provide a reliable and plentiful source of economical, clean energy to the residents of the state. This would not occur if an all-overland route through Canada were to be built. This availability of natural gas will stimulate the development of Alaska's rich mineral deposits along the pipeline route and adjacent areas, which also means increased employment and tax base.

WHAT ARE THE DISADVANTAGES OF AN ALTERNATE ROUTE THROUGH CANADA

An alternate natural gas pipeline route through Canada has many disadvantages, some obvious and some which could develop.

Mr. Donald S. Macdonald, Canada's Minister of Energy, Mines and Resources, in a prepared address given in Scottsdale, Arizona in September, 1973 stated in part:

"... In addition to the lead role which we insist on for Canadians in designing, constructing and operating the pipeline, we also insist that Canadians should be given a prior opportunity to acquire majority of the gas pipeline ... this is a very fundamental requirement from the Canadian viewpoint and that a failure to meet these Canadian participation criteria could defeat any pipeline application ..."

Earlier, Mr. Greene, Mr. Macdonald's predecessor in this cabinet post, stated:

"... Most important of all will be the right of entry to Canadian resources into this pipeline. It is not good enough that this be merely a bridge to transport United States resources to United States markets and that we have the boom that would go with construction, but no downstream benefit ... So the most important guidelines, under the conditions referred to is that Canadian resources must have a right to entry into that method of transportation."

In commenting on these and similar requirements stated by responsible Canadian officials as they related to an oil pipeline (it would appear these same remarks would

be analogous to a gas pipeline), Secretary of the Interior Rogers C. B. Morton, in a letter dated April 4, 1973, sent to principal newspapers throughout the United States, stated:

"... These ... requirements ... are unacceptable from the point of view of our national interests when we have the alternative of a pipeline through Alaska that will be built by American labor and will deliver its full capacity of American-owned oil to our markets ..."

The price of any gas destined for U.S. markets through a Canadian line which carried the Alaskan gas would be subject to Canadian national policy. Illustratively, Mr. Macdonald stated in Scottsdale in September, 1973:

"... [I am] fully familiar with the application of the principle 'Rebus Sic Stantibus' within your law and [feel] that it applies directly in the circumstances of natural gas pricing between our countries."

It was under the same motivation that Cabinet in 1970 promulgated regulation 11A, under the National Energy Board Act requiring that Board to keep under special scrutiny the prices for competitive energy commodities in the export markets into which Canadian gas is being sold ..."

Also, in the same month in Ottawa Mr. Macdonald stated:

"... Natural gas shortages in the United States are very real. Incremental supplies of natural gas are being priced far in excess of Canadian export prices under long-term contract. The government is actively considering methods by which to increase the price of gas moving into export markets."

An alternate route through Canada will involve a much longer period of time for approval and construction. Construction of the Trans-Alaskan Gas Pipeline Project can start as the oil pipeline construction is nearing completion.

Why would there be delays with a Canadian line?

- During the debate in July, 1973 on the Trans-Alaska oil pipeline, U.S. Senator Henry Jackson indicated a definite need for a treaty if the oil pipeline were to go through Canada. The same principles with respect to a treaty enunciated by Senator Jackson on the oil pipeline would apply with equal validity to a gas pipeline through Canada carrying Alaskan gas. In this connection Senator Jackson stated:

"... I do not suggest that the negotiation of a treaty permitting construction and operation of the suggested trans-Canada pipeline would involve a negotiating period of decades. But it is clear that an extended period of time will be required... Our experience in negotiating other recent treaty agreements with Canada underscores the fact that even relatively routine matters can precipitate lengthy negotiations extending over a number of years. State Department records disclose that it took four years of negotiations to reach an agreement on air traffic control and six years to negotiate a relatively straight forward agreement on air transport."

- The ecological and environmental aspects of the Alaskan oil pipeline have been the subject of what is probably the most thorough environmental study ever made on any project, resulting in approval by Congress and the Administration of the oil pipeline and the route which it will take. Inasmuch as the Trans-Alaska gas pipeline would be within the same corridor and thus be subject to the same ecological and environmental considerations, the benefits of such study are presently available for utilization to the fullest

extent. On the other hand, the alternative route will not only require the completion of ecological and environmental studies, but, what is more important, only then for the first time will it be available for scrutiny and ultimate approval or rejection by governmental authorities of the U.S., Canada, and others concerned with such matters.

- The 5400-mile pipeline route through Canada would require an estimated 5,000,000 tons of steel which is in short supply worldwide. The Trans-Alaska Gas Pipeline Project, including an 800-mile pipeline and six LNG carriers, would require approximately 1,000,000 tons of steel. Moreover the total mill capacity for large diameter pipe (42-inch and above) in the United States is about 1,500,000 tons per year, thus requiring a full dedication of at least three years of that capacity to the Canadian project, whereas only six months of mill capacity will be required for the pipe portion of the Trans-Alaska Gas Pipeline Project.

- The Canadian native claims have not been settled; the Alaskan native claims have been settled. Settling the claims of the Canadian natives may require many years.

Construction of the gas line across Alaska to carry Alaska's North Slope gas would not foreclose the construction of a gas line through Canada to carry Canadian gas from the Canadian Arctic, i.e., gas from the Mackenzie River Delta and Canadian Arctic Islands. Responsible officials of oil and gas firms in Canada have estimated that these two areas not only contain large proven gas reserves but also have great potential.

Without the Alaskan gas, additional Canadian development and exploration should be stimulated to assure the establishment of the "threshold" volumes necessary to construct a gas line across Canada. The availability of U.S. markets for this Canadian gas should assure the economic feasibility of building such a line which would also make available to Canadian markets gas which otherwise would not be transported.

CURRENT LNG TECHNOLOGY

LNG technology is in common use. In the United States alone there are presently 46 full scale LNG peak shaving plants operating and under construction. In Alaska, a base load liquefaction plant located on the Kenai Peninsula has been in successful operation since 1969. At least five base load LNG projects are now in operation, some for as long as 10 years without incident.

The cold characteristics of the LNG will be available for food processing, industrial gas production, various industrial and petrochemical uses and in electrical generation to avoid thermal pollution as already has been done in Tokyo, Japan and Marseilles, France.

El Paso is implementing a sixth base load project at a cost of over \$2 billion which

will bring LNG from Algeria to the East Coast of the United States. El Paso has ordered nine LNG carriers needed for that project and the facilities are being built in Algeria by Sonatrach. Initial LNG deliveries to the East Coast are scheduled by early 1976, with full deliveries of one billion cubic feet per day to be reached by 1977. El Paso has a second project for another billion cubic feet per day from Algeria before the Federal Power Commission for its approval.

In summary, the Trans-Alaska Gas Pipeline Project is technically and economically feasible and is the most desirable method of transporting Alaska's North Slope gas to U.S. markets.

**CAPSULE STATISTICS
AND FACTS on the
TRANS-ALASKA GAS
PIPELINE PROJECT**

PROJECT DESIGN

- o 800-mile, 42-inch pipeline with compressor stations from the North Slope to the south-central coast of Alaska.
- o Liquefaction plant in south central Alaska to liquefy the natural gas (LNG) for shipment to the continental U.S.
- o Project will require six 125,000-cubic meter LNG carriers.
- o Receiving and regasification terminal on the U.S. West Coast where gas will be placed in existing pipelines for delivery throughout the U.S.

ESTIMATED INVESTMENT (1973 Dollars)

Pipeline and Compression, plus
Liquefaction plant and
shipping terminal\$2,000,000,000
LNG fleet, plus
Receiving and
regasification facilities \$1,000,000,000
Project Total \$3,000,000,000

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FOR ALL AMERICA**