Sixth Annual International Conference on Alaska's Resources

## **CRISIS** in

**Resource Production** 

## **Can America Compete?**

and

Alaska's Competitive Position:

## **Public Policy Issues**

#### Sheraton Anchorage Hotel

February 12-13, 1986



# ROCEEDINGS

For Alaska, Inc.

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1986

SIXTH ANNUAL INTERNATIONAL CONFERENCE ON ALASKA'S RESOURCES CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES

> Anchorage, Alaska February 12-13, 1986

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### **Resource Development Counc** or Alaska, Inc.

807 "G" Street, Suite 200, Anchorage, Alaska 99501-3440 Box 100516, Anchorage, Alaska 99510-0516 - 907/276-0700

EXECUTIVE SUMMARY

Sixth Annual International Conference on Alaska's Resources CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES by Carl Portman

Alaskans must clearly understand the implications of certain worldwide events if the state is to proceed in expanding its economy. The Sixth Annual International Conference on Alaska's Resources brought Alaska's competitive position in global resource production to the forefront as experts addressed such subjects as worldwide politics and minerals production, fisheries and the 200-mile limit, the latest coal supply and demand patterns, the profitability of agriculture and the changing view of petroleum.

The program opened with assessments of U.S. market potential in global trade for the basic industries supporting Alaska's economy. Speakers also considered constraints to Alaska's development and approaches to improving the state's competitive position. Presentations focused directly on the costs and benefits of industry incentives, building resource transportation systems, the effects of government decisions and regulations on industry competitiveness and economic development strategies that Alaska might consider.

Entitled, "Crisis In Resource Production: Can America Compete? and Alaska's Competitive Position: Public Policy Issues," the conference served as a mechanism for working with resource sectors, communities, labor and financial groups to find the best approaches to expanding Alaska's

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economy. By providing a forum for the public and private sector to address crucial decisions facing Alaska, the Resource Development Council expects to facilitate long-term relationships between government, industry, labor and other components of Alaska's economy to reach consensus on economic strategies.

\* \* \*

Highlighting the building of resource transportation systems, British Columbia Assistant Deputy Minister of Mineral Resources Lorne Sivertson recommended the use of government funding to develop cost-competitive transportation systems in Alaska. He said there are compelling reasons for a government role in planning, coordinating and participating in transportation systems. Without government funding to build roads, power lines, rail branchlines and a coal port, the massive Northeast British Columbia coal project would have been impossible to develop.

The Assistant Deputy Minister explained that energy, forest products and mining are major industries in British Columbia, with mineral output reaching \$3.5 billion in 1985. At 23 million tons of coal exports and 300,000 tons of copper concentrate exports, B.C. is the third largest coal exporter in the non-communist world and the largest exporter of copper concentrates. It is also a major producer and exporter of pulp, paper, lumber and sulphur.

Due to the vast size, difficult physical geography and widely dispersed mining and forest industries, an extensive and efficient transportation system is a fundamental requirement of the B.C. economy. The province is served by two national railways as well as the British Columbia Railway. The province has two major ocean shipping ports, one at Vancouver and the other at Prince Rupert. These ports load over 60 million tons per year of bulk cargo.

The coal loading facilities at these ports are the newest and among the most efficient in the world and can accommodate ships up to 250,000 dwt.

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While the government of British Columbia has helped build an extensive transportation system to move resource products to market, provincial policy has required that there must be a clear economic justification before transportation infrastructure investments will be made. Sivertson said that when new roads, rails, townsites and power supplies are required to facilitate natural resource development projects, the province looks carefully at the bottom line before becoming involved financially.

Important considerations are:

- net public benefits as measured by incremental income and tax revenues from the project relative to the cost of infrastructure;
- multiple use opportunities;
- ability to pay and re-pay costs;
- project feasibility;
- environmental impacts and costs;
- regional development implications

In the same way that the province promotes efficient and productive investments in infrastructure, it generally promotes cost-based user charges when possible for infrastructure services.

After a several years of analysis and planning, the Province of B.C. agreed with the owners of the Northeast B.C. coal project in 1981 to provide coordination and financial assistance to build necessary roads and other infrastructure. This was done on the basis of a comprehensive agreement between the province, the mines, the federal government, two railroads, the port developer and a power utility.

The project cost, including infrastructure, which was about one third of the amount, was \$2.9 billion. Over 6,000 people were employed at peak construction.

The project was completed and the mines commenced production and shipments of coal to Japan two years ago. Included in the provisions of the agreement were two levels of surcharges imposed by the province designed to help amortize its infrastructure investment as well as cost-based user charges for facilities provided by the railroads, ports and utility.

The province was also heavily involved in the development of a remote gold mine by Serem Inc. Serem asked for help in building 80 miles of road to their discovery.

After several months of study, B.C. officials offered to provide up to 50 percent of the capital costs for the road, secured by a legally binding contract which included a provision for repayment of the loan. If the price of gold fails to rise to a specified level after the mines go into production in 1988, the province will not be repaid. However, if the price of gold exceeds a specified trigger price, payments will be due with interest.

In recognition of multiple use benefits, if major new mines are developed in the area which make use of the road, the outstanding balance of the loan will be forgiven.

Sivertson stressed that while governments may need to be involved in developing transportation infrastructure, this need not preclude the recovery of investment through user charges or repayments in installments. In this way government helps overcome capital cost barriers, shares risk and reward.

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In a presentation on environmental legislation and regulation, and the resulting impacts on the competitiveness of American industry, Daniel Maxim, President of Everest Consulting Services of Cranbury, New Jersey, pointed out that although the United States is among the most productive of the major world economies, America's competitive edge is indeed being narrowed.

In particular, certain resource-based industries face significant challenges of survival. Unless these challenges can be met, the U.S. faces a continual erosion of the international competitiveness of its minerals industries. This would be

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particularly unfortunate for Alaska, a state with substantial yet undeveloped natural resources.

Maxim examined government policies that can help or hinder the struggle for increased competitiveness. He identified five specific areas for improvement:

- the need to consider the effects of international competitiveness in making environmental decisions
- the need for regulatory stability
- the need to reduce uncertainty over environmental decisionmaking
- the need to increase the consistency of environmental decisionmaking
- the need to revise effective alternatives to the adversary process for resolving environmental disputes

Maxim pointed out that depressed commodity prices and other factors, such as aggressive and partially-subsidized foreign competition, and U.S. government mandated expenditures for environmental controls have forced plant closings, layoffs and mounting losses in place of accustomed profits.

While the U.S. may not yet be facing a crisis, a continuation of current trends would lead to a world economic order quite different from that which we know today. No longer can America take it for granted that its children will enjoy the highest standard of living among the major industrialized countries.

Maxim stressed that the development of Alaska's rich unexploited mineral deposits could be an important factor in maintaining the competitiveness of the mineral sector. For example, U.S. zinc ore grades have steadily declined in past years to levels of under 4 percent, compared to 6 percent to 9 percent in some of the major mine producing countries. The Red Dog zinc-lead-silverbarite deposit in Northwest Alaska contains more than 17 percent zinc, and could ultimately account for as much as one-third of U.S mine production. Development of just this one deposit could reverse the downward trend in U.S. zinc grades. Few would dispute the assertion that Alaska's mineral resources could be pivotal to the future competitiveness of America's mineral industry.

In addition to location, transportation costs to markets, extraction technology and labor and capital productivity, competitiveness in the mineral sector also depends upon factors controlled or influenced by government policy both in America and abroad. Access to government lands, environmental requirements, health and safety regulations, tariffs and trade actions and the structure and technical provisions of tax laws are increasingly important when it comes to competitiveness.

In the United States copper industry, it has been estimated that environmental compliance costs are about 15 cents per pound for a material that currently sells for 70 cents per pound. Such regulatory costs make it more difficult to compete, particularly against foreign sources that are not similarly burdened.

Maxim stressed that environmental regulations in the U.S. are not always consistent and in some cases inconsistency follows directly from the law itself. Under the terms of the Clean Air Act, EPA is not permitted to weigh costs against benefits in setting primary health standards. But under other laws, and by Presidential Executive Order, costs are to be considered. These differences can produce absurd results.

Maxim said the time has come for America to actively seek measures that foster cooperation between industry, government and environmentalists. Obviously everyone has something to gain if the process can be streamlined.

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In a presentation on industry incentives, Walter F. O'Connor, Vice Chairman of Peat Marwick, Mitchell & Company, told conference delegates that Alaska could create a situation, through import substitution in the service industries, where it would turn into an international banking center and become pre-eminent in the financial services area, particularly as it relates to the Pacific Rim.

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For Alaska to secure a position in the international and Pacific Rim markets, O'Connor said the state would have to make itself visible and use that visibility to attract customers. He offered a number of suggestions for Alaska to consider in encouraging a diversified economy. Among them were:

- . Be basic in industry incentive programs. Only after they are analyzed and sorted out, use minor incentives to differentiate Alaska from other states.
- Alaska needs to structure an incentive program aimed at enhancing its position regarding international air travel. Anchorage should be a place where travelers from Asia to Europe not only stop for refueling, but also to invest.
- Alaska can't succeed only by developing its material resources such as oil, fish and timber because these resources may not be the most important things in the decades ahead in the new society that faces Americans. Alaska must be willing to take risks.

In distinguishing between major and minor incentives, O'Connor pointed out that major incentives are the quality of labor, markets, suppliers and transportation. These incentives are fundamental to an economic unit as opposed to tax exemptions, low-cost loans and personnel training. It's essential to keep this in mind, O'Connor said, because too many people go right to minor incentives, which are more "gimmicks" to offset major disadvantages.

These minor incentives can't offset major disincentives. For example, if Alaska can't compete with California with regard to some of the problems it has with cost of its labor, geographic location and climate, then there probably are no amount of incentives that will attract investment from California to Alaska.

(Attached to Mr. O'Connor's presentation within the 1986 conference Proceedings is an exhibit listing criteria that companies have developed for judging investment in certain parts of the world. They are listed in order of priority so that the reader can see what some companies consider more important than others.)

For those interested in expanding Alaska exports, one of the main incentives is to be visible at a global level. It is important that Alaska be visible in those countries to which its exports are going such as Japan, Korea and China.

O'Connor revealed a theory that the combination of (1) knowledge of a product and (2) accessibility to people who sell that product make for (3) additional sales. Visibility is an incentive that is not labeled as such, but is most effective in expanding economic penetration of foreign markets.

With regard to high tech, there are a number of factors to consider in attracting high-tech companies. There is a need to have a base for research and development. Japan has used this very effectively. And it is important that there be a group of established companies in a state to give high-tech expansion a head start.

What other states have been using incentives? Alabama and Mississippi have been well noted for the sophisticated way in which they have attracted foreign investment. Delaware, Pennsylvania, Illinois, Indiana, Nebraska, Wisconsin and Washington have all pushed hard with incentive programs in order to attract foreign investment. The state governments, realizing the federal government is stepping out of certain economic activities, have to do something at the state level to attract investment. These states have specific programs geared to attract investment. Many of them are structured around the high-tech industry.

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Some states are creating a pro-business atmosphere and others like Wisconsin are trying to turn around an anti-business image. Alaska would have to evaluate the status of its image in the private sector to see to what extent it would need state government assistance to overcome anti-business images. Many states are also "incubating" small businesses so that they can reach a state of economic viability and then go fully into the private sector. The intent is not to have the public sector stay in the private sector indefinitely, but rather to get these companies over the difficult hurdle of infancy so that they do not get swallowed by larger private-sector entities.

With regard to incentive programs going into certain states, why do some succeed and some fail? According to O"Connor, the answer fundamentally seems to be in the "marketing" of the incentive program. Those states which can cut through a lot of bureaucratic red tape and provide a one-stop shop for private industry to get itself started in the easiest possible way are the ones that are the most successful.

Given the proximity of Alaska to the Pacific Rim, it is important for the state to consider using incentive programs to attract countries like Japan, Korea and Taiwan to bring new technology to the U.S. The smarter states in America have taken note of the reverse flow of technology and are now positioning themselves to capitalize on this.

O'Connor suggested that Alaska needs to work harder with regard to investigating the needs of investors and target incentive programs on them. Such incentives might not be things like interest-free loans or tax incentives; rather they might be a question of offsetting negatives in the areas of infrastructure, access to academic institutions for research and development and quality of people.

Do incentives really work? According to O'Connor, NO -unless a company has decided to go ahead with an investment in the first place. Once a company has reviewed all the criteria it takes into account with regard to making an investment, the "gimmick type" incentives really aren't going to make or break the decision, O'Connor said.

However, once a company has decided to make an investment, then things like low-cost funds, training programs and tax incentives are important because they're required to put a state on the same footing as their competitors. As a result, O'Connor

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stressed that Alaska needs to look to fundamentals and not to "short-term gimmicks."

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In one segment of the conference, delegates heard presentations regarding economic development strategies from different areas of the United States. John Anderson, Director of the Washington State Department of Trade and Economic Development, detailed "The Washington Plan," an economic development program launched over seven months ago.

Under the program, the state's unemployment rate has dropped to 8.4 percent, while it stood at 10.9 percent in January 1985. The plan was also instrumental in recruiting more than \$550 million in planned business and industrial investment with 3,000 new jobs to result from the first phases of expansion.

The Washington Plan involves cooperation and coordination among many public and private agencies and organizations interested in the state's economic health. In order to attack specific economic problems, an "economic development cabinet" of all state agency heads was formed. The cabinet is designed to expedite resolution of issues and action on development projects. It has been successful in solving problems resulting from fragmented, uncoordinated responses among state agencies on various issues.

Team Washington, the plan's action arm, provides organization and cooperative statewide programs in retention of existing manufacturing, processing and assembly facilities, recruiting of new manufacturing, development of export and tourism, assistance to existing business and film and video recruiting.

The Washington Plan provides funding to Team Washington economic development programs on the local and regional levels. Associate developent organizations, representing all 39 of the state's counties, receive up to \$25,000 in state matching funds annually to provide full-time economic development staff, office and local programs.

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Scott Fosler, Vice President and Director of Government Studies for the Washington, D.C.-based Committee for Economic Development, reported on recent developments in the various states in economic strategy.

Since the mid-1970s, the fifty states have undertaken economic development projects in such areas as venture capital, financial and technical assistance, small business incubation, education and infrastructure improvement, regulatory reform, job training and placement and technological research and development.

For example, Fosler referred to the Minnesota Seed Capital Fund which specializes in providing early-stage financing, typically on the order of \$50,000 to \$250,000 to firms offering significant job creation potential in the state. In 1982, a \$1 million investment in new companies attracted additional debt and equity financing of \$14.5 million.

The Hawaii High Technology Development Corporation was formed in 1983 for the purpose of issuing bonds for infrastructure development to support innovative technology-based firms.

This action across the U.S. was motivated principally by the economic turmoil of the 1970s. The recession in the early 1980s reinforced states' concerns. Cutbacks in federal spending made it clear that they could not look to Washington for program initiatives to alleviate economic hardship.

Addressing competitiveness, Fosler said markets for many traditional industries no longer provide substantial growth, meaning that firms in those industries are now subject to tighter price, quality, marketing and service competition. New industries are highly competitive as they seek to capture new markets, Fosler said. And state and local government have become more actively involved in attracting business. Fosler also pointed to global competition as challenging the American economy and its regional components on all fronts.

In today's business world, nearly any place can compete with another. The physical constraints or advantages associated with

geographical location, soil, access to raw materials and even climate, while certainly not insignificant, have declined in relative importance. Comparative advantage among places now has more to do with human will, energy, values and organization.

Fosler said in the past it was not so important that state governments recognize their pervasive economic impact. The national economy was growing and largely unaffected by international competition.

In an historical review of the U.S. economy, Fosler said that following World War II, the U.S. was without economic peers. And with only five percent of its GNP in foreign trade, the American economy was still largely insulated from foreign competition.

By 1985, however, foreign trade had soared to 15 percent of GNP. Foreign manufacturing has seriously challenged American products both abroad and at home. And the growing trade and balance-of-payments deficits has served to show just how vulnerable the U.S. has become to a competitive world economy.

States which rely on durable goods manufacturing have been especially hard hit by foreign competition. In markets such as steel and other traditional durable goods where there is substantial capacity, even small marginal advantages in price, quality or service can result in changes in market share.

States such as Washington, Oregon and Alaska which have depended on extractive industries have found their economic mainstays severely diminished or lost. Farm states have also been severely hit by lagging exports.

Fosler said that the foreign challenge now has extended to emerging technologies. In 1985, the Japanese captured more than 60 percent of the market for 64k RAM memory chips. The loss of microelectronics sales abroad has contributed to California's decline in exports from \$4 billion in 1981 to under \$3 billion in 1984.

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States need an economic strategy to preserve and strengthen their foundations and to chart a course through turbulent times. Fosler recommended that strategies sensibly assess resources and take a flexible approach to how they might be developed. He urged

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that states look toward the long term, instead of banking on quick fixes.

The substance of an economic strategy cannot be divorced from the process by which it is fashioned and pursued. Fosler pointed out several deficiencies in the structural framework for economic policy found in most states.

First, because economic concerns are narrowly defined, they tend to be equated with the state agency which bears the "economic development" label, Fosler said. Second, efforts at broader definition, even when they are attempted, usually fail to be translated into a cohesive policy or implemented in a coordinated fashion. Fosler said few governors appear to have developed organizational mechanisms that effectively link key elements of economic policy so that their implementation in practice matches their connection in concept.

In his third point, Fosler, said economic concerns are defined with an insufficient view of the long run. He said it is rare when policy genuinely looks beyond the time horizon of the next gubernatorial or legislative election.

Fourth, in the absence of a broader and longer term perspective, economic policy at the state level is determined by numerous decisions made in isolation of each other and driven by individual administrative and political agendas.

Fosler stressed that greater attention must be given to process. The key to process is more effective economic intelligence, which can come from several sources, Fosler said. In addition, a cooperative approach to state economic strategy is crucial. Indiana's development of a strategic plan, Fosler pointed out, enjoyed bi-partisan support, in large measure because of the leadership and cooperation of the state's top Republican and Democratic politicians.

Indiana produced not so much a written, definitive plan, as it did a structure and process for state economic policy. The written document was sufficient to establish the basic condition facing the state, and develop consensus as to general goals and directions. But for the long haul, it was clear that a process

was needed that could be adapted to changing circumstances, and broad enough to encompass the numerous functions and actors that affected economic development in the state.

By contrast, Rhode Island developed a detailed economic plan that was put to public referendum. Eighty percent of the state's voters rejected the 1,000-page plan for stimulating state economic growth largely because they did not believe the estimated cost of \$750 million would yield benefits to the average citizen, and because they lacked confidence in the way the plan was developed and would be implemented.

Fosler concluded with a warning that state economic policy today must be seen as the sum total of actions taken in every aspect of state government that affect economic performance. States that fail to confront this reality will be at a competitive disadvantage to those states that do.

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In a presentation on an Alaska strategy for economic development, Paula Easley, Executive Director of the Resource Development Council, said the Rhode Island plan pointed to the inability of existing American political institutions to forge a national industrial policy despite widespread concern with the economy.

Easley said the Greenhouse Compact Commission took great care to eliminate political representation in its membership. An assumption was made that if Rhode Island's economy were to develop, all groups in society must sacrifice, abandon old prejudices and work together.

After such an overwhelming loss at the polls, a survey conducted two days later revealed:

-- It was too specific in that it proposed specific goals for designated industries, inviting opposition by industries which wouldn't benefit.

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- -- Instead of designing an easily understood program, the report was exceedingly complex and few voters could understand it.
- -- It ignored a long-held hostility of residents to high taxes and proposed \$40 million in new taxes.
- -- Leaders of the Compact were not drawn from the citizenry, but instead represented the elite of commercial, financial, labor and government sectors.
- -- The new agency created to implement the program was not perceived by the voters to represent the average citizen's interests.

Easley suggested Alaska remember these points when it develops an Alaska strategy for economic development. She said that in Alaska economic development plans devised by state agencies have not been accepted by the populace and in many cases were not even accepted by other state agencies. She said the biggest failure of economic development strategies over the years has been that they're hard to sell. Easley asked, "What good does it do for a state or local government to formulate a development strategy if the public won't buy it? What good does it do if the private sector develops a plan and government and the legislature won't buy it?"

Another major problem has been the tendency to look at economic development issues in isolation, either from other development concerns or isolated from social and environmental issues. In the reverse, environmental and regulatory decisions have frequently been made without analyzing their effects on the overall economy.

Easley pointed out that the year 1986 is the second of a five-year undertaking by the Resource Development Council to bring about positive direction and action that will lead to an expanding, more balanced economy.

As the first stage of developiong a five-year strategy for achieving Alaska's economic priorities, RDC leaders said direction should come from the bottom up, and not from the top down. As a

result, RDC charged Alaska communities last year to begin raising economic development issues on the public policy agenda at the local level, and they have done that. The Council requested that the communities, if not already doing so, form economic development task forces that would identify problems and seek solutions.

Throughout 1985 the Council held economic development workshops throughout the state to help communities set priorities and launch programs to create new jobs. On February 14, 1986, the Council held another workshop with community officials to share efforts in solving the most difficult problem encountered in Alaska--that of identifying the most workable process or structure for reaching consensus on economic priorities, a process that will help Alaska avoid the pitfalls of the Rhode Island experience.

With a workable process or structure for reaching consensus on economic priorities in place, Easley said it will then be possible to elevate economic development to the level of a movement. And a powerful movement in which everyone plays a role is what Alaska needs, Easley said.

"We have a successful environmental movement, why not an economic development movement?"

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In a segment focusing on the outlook for U.S. competitiveness in the global marketplace, speakers highlighted the basic industries supporting Alaska's economy, including petroleum, minerals, fisheries, forestry and agriculture.

The production of oil at Prudhoe Bay pays for over 85 percent of the cost of running Alaska's state government. It also supports a huge portion of the private-sector economy by providing funds for capital improvements, government programs, contracts and municipal assistance/revenue sharing payments to local communities.

The Governor's budget department estimates that the state loses \$150 million in revenue for every \$1 drop in oil prices. As a result, the direction prices take is very important to Alaska.

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OPEC's production restraints have been the main factor holding prices above \$25 per barrel, according to Clair Ghylin, Manager of the Land Department, Western Region, Chevron U.S.A., Inc. When those constraints were not followed, prices fell sharply in January, and it's difficult to forecast where the price of oil will stabilize.

Ghylin said at some point below \$15, basic supply and demand economics begin to check in. Supply would be affected because producers would start to shut down higher-cost producing wells to avoid operational losses. Although industry analysts recognize that prices could reach such an extreme low level, they don't expect them to stabilize there for an extended period.

If they did, oil demand would gradually start to respond, too. But at \$20, demand probably won't be affected very much in the short term.

The Chevron executive said short-term demand will not be encouraged by increased economic activity associated with the oil price cuts. The Gross National Product will be affected by cheaper energy, but not immediately. About the only thing that could help oil demand now is the amount of fuel oil consumed by utilities and major industrial plants. But Ghylin said if the industrial users buy more fuel oil, they'll only be backing out of some other fuel source.

Presumably this would be coal, because natural gas producers would trim their prices to stay competitive with fuel oil. Coal is somewhat vulnerable because its price is already fairly costoriented. There is, however, some flexibility in coal prices because of the strong interest railroads have in hauling the commodity.

If there's no "hook" to stop oil prices from drifting lower, what can America expect? According to Ghylin, before too long foreign oil producers may join Saudi Arabia in an effort to curtail production. Until now, Saudi Arabia has borne a disproportonate share of production restraints. There is no specific price level that is likely to force other producers to limit output, but self interest is a strong factor.

An agreement makes a lot of economic sense, Ghylin pointed out, not because oil prices should be higher or lower, but because they should be stable.

Lower prices may actually benefit U.S. refineries by lowering the cost of raw materials. The same lower prices would hurt exploration and production, but so does the mere possibility of lower prices. In the upstream end of the business, Ghylin said perceptions of what may happen are just as important as what does happen. He explained that if there's too much instability and uncertainty, "you're likely to see more decisions not to drill, not to bid on leases, or not to make other investments. And that could have an adverse impact on the whole industry and the overall economy."

Ghylin explained that today's oil surplus occurred partly from the rapid increase in oil prices arising from the 1973 Arab oil embargo and the 1979 Iranian Revolution. Eventually the drastic price increase of the 1970s created strong energy conservation. Consumers reduced their use of oil and switched to alternative fuels.

After 1978, oil consumption in the U.S. declined 20 percent in five years. At the same time, higher prices spurred new production outside OPEC from countries such as Mexico and Great Britain. That combination of reduced consumption and increased production resulted in today's oil surplus.

Industry analysts are predicting a gradual tightening of the oil market in the 1990s. According to the "OPEC Comfort Zone" theory, oil prices remain stable as long as demand for OPEC oil stays in the 20 to 25 million b/d range. By 1995, production should increase beyond 25 million b/d. From that point, oil prices could be expected to start increasing faster than inflation. Until 1990, however, with OPEC production below 20 million b/d and continued surplus producing capacity, prices can be expected to remain weak.

Regarding U.S. energy consumption, in the long term petroleum is expected to retain its role as the majority energy source in the U.S. But coal is the big gainer in the years ahead, presumably through price-competitiveness. Nuclear energy will

make a modest contribution, thanks to plants which are already largely complete and coming onstream in the next few years. Synthetics and other alternate sources are expected to provide less energy than foreseen a few years ago.

Turning to the supply side of the forecast, oil production from Alaska is currently stable and gains are occurring offshore. But after 1990, the U.S. will fail to make up for the decline in onshore production. This decline is occurring primarily in the mature producing regions of America, where production peaked in 1970 and has been falling ever since.

Most new offshore production will come from the Pacific Coast, underscoring the need for new leases for exploration. Delays and disappointments could easily result in lower production.

In the long term, existing oil production is expected to decline rapidly, making it imperative that industry continue exploration activities since it takes eight to eleven years to bring new discoveries into production. Overall, domestic supply is expected to fall while consumption should rise. Right now America imports about one-third of the oil it consumes. By the year 2000, the U.S will likely be importing about half of the oil it uses.

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In 1985 Alaska made its debut in the modern seaborne steam coal trade beginning with shipments to Korea from the Usibelli mine at Healy. These exports could be the beginning of a very bright future for Alaska, as the state has extensive reserves of steam coal that could compete in the growing seaborne trade.

Addressing evolving supply and demand patterns for coal, Dr. Joseph Yancik, Director of the U.S. Office of Energy, International Trade Administration, pointed out that worldwide seaborne steam coal trade is linked very closely to the generation of electricity and industrial use of process heat in cement and other manufacturing plants. The main factors that influence this trade are economic growth, electricity demand, indigenous coal production and the delivered costs of coal relative to other substitutable fuels. These factors have changed seaborne steam coal trade in the past 12 years. In 1970, the total world use of steam coal was almost two billion short tons. International trade in steam coal was only 80 million tons or about four percent of the total. Seaborne trade accounted for about 30 percent of international trade, or about 25 million tons. In 1982, the total world use of steam coal was about 3.6 billion tons. Seaborne steam coal trade was 110 million tons which is about three percent of the total and 37 percent of the international trade.

Major changes have occurred in the international steam coal market since 1975. The basic considerations behind energy fuel choice decisions have not changed; coal still competes against all energy fuels. What has changed are the importer/exporter trade patterns and they have been altered significantly.

From 1975 to 1985, seaborne trade grew from 37 to 136 million tons. In 1985 the major suppliers of seaborne steam coal were Australia, South Africa, United States, Poland and Canada. By 1995 the market is expected to total about 233 million tons, a 5.5 percent growth rate over 1985--considerably less than the annual growth of 14 percent from 1975 to 1985.

In 1975, the U.S. was the number two supplier, close behind Poland, but by 1985 it was a swing supplier because it became a high-cost source of import coal. In the next five years, Columbia will be one of the top five exporters, challenging the U.S. for third place, and displacing Canada from the top five. China could enter the market in a big way in the next five to ten years, although that is not certain.

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The major markets for seaborne coal will not change much in the next five years. Western Europe in 1985 accounted for 56 percent of the total market for imported steam coal while the Pacific Rim was 38 percent.

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Rear Admiral William C. Mott, Vice President and General Counsel of the National Strategy Information Center, addressed global politics and minerals production.

Actions in Saudi Arabia will have direct impacts on the Alaska economy, he reported, as well as state-owned minerals development in places like Zaire, Zambia and Chile. Imported minerals have an unfair advantage over those produced in America since foreign operations do not face similar environmental restraints or high labor costs.

Proposals in Congress to levy an import tax on minerals importations to make American industry more competitive have moved little according to Admiral Mott since most of the Third World countries owe American banks so much that they couldn't service their debts without export of cheap mining products. Furthermore, their production is often financed by "soft" loans from the multinational development banks like the World Bank and the International Monetary Fund.

The National Strategic Materials and Minerals Program Advisory Committee advised President Reagan to instruct his representatives to any multinational lending agency to vote against any loan that would create or contribute to supply-demand imbalance for any internationally-traded strategic commodity.

How might such loans impact minerals production in Alaska? Foreign state-run mines operated at a loss with "soft" loans could make Alaska mining non-competitive, Admiral Mott warned. He urged Alaskans to fight against any measures in the upcoming tax bill to take away mining tax incentives.

The Admiral stressed the U.S. should foster a domestic mining industry capable of fulfilling national requirements and minimizing the risks associated with foreign sources of supply. A focus of federal activities on the problems of the minerals industry and responsible coordination of the vast federal resources is in critical need.

In concluding his presentation, Admiral Mott pointed out that the Soviet Union is pressuring Japan, one of the world's most vulnerable industrial nations, to abandon western sources of minerals and oil supplies and turn to reliance on Russia. He urged Alaska to expand its efforts to be a reliable supplier of resources to the Pacific Basin. It's in the interest of America to have Alaska rather than the Soviet Union be Japan's supplier, he said.

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The U.S. fishery zone should be entirely Americanized, but the phase out of foreign involvement should be gradual, according to Richard J. Baker, President of Mrs. Paul's Kitchens, Inc.

At issue is the speed at which the nation's fisheries within the 200-mile limit of the Fisheries Conservation & Management Act of 1976 are being "Americanized" as envisioned by the act.

Nationally, the act has helped to encourage more fishing by Americans and to displace foreign boats in American waters. The act protects American fishermen and fishery resources within 200 miles of shore from uncontrolled fishing by foreign fleets.

The allocation of foreign catch has dropped from 2.1 million metric tons in 1977 to 0.7 metric tons in 1986.

Mrs. Paul's Kitchens started using pollock in about 1970. The company pioneered the introduction of the new specie in its products, put a costly marketing campaign behind it and created a demand for this specie on the part of the American consumer.

The pollock fish blocks purchased were initially packed in Japan, but due to increasing wage rates, most of the blocks are now made in Korea.

Baker said an effort underway to increase the price of pollock block by 56 percent would price pollock in the same range of cod which is considered a higher quality specie.

Such an effort ignores the fact that the Soviet Union controls a pollock resource larger than Alaska's. As a result, Baker believes joint ventures--where Alaska fishermen catch the

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fish and then turn the net over to a Japanese factory ship--is probably the best.

Where Alaska stands to benefit most is secondary manufacturing such as surimi where the use of hi-tech, advanced equipment produces a very high quality product at a competitive price, Baker said.

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Wood has been an important commodity in world trade for centuries. The continued significance of world wood flows is evident by a total value of global forest products trade in 1980 of \$34 billion.

Wood products trade flows from wood surplus to wood deficit regions. Relatively few nations export forest products, as their domestic wood supply is used for meeting domestic requirements. Even though extensive forest resources exist in many nations, forest products exports are possible only if economic demand justifies the extraction and shipment of that wood.

According to Dr. Thomas Waggener, Director, Center for International Trade in Forest Products at the University of Washington in Seattle, Canada and the United States are the two most heavily involved countries in forest products export trade. Total U.S. forest products exports were valued at \$5.6 billion in 1983 and constituted about 12 percent of all forest products exports. In that year, Canadian wood exports were valued at \$10.2 billion or 22 percent of total exports, Waggener said.

On the import side, the U.S. is the largest importer of forest products. In 1983 its share was \$9 billion or 16.9 percent of all world forest products imports, according to the Waggener report. Japan was second at \$6.1 billion or 11.4 percent.

The major commodity groups considered in forest products production and trade are broadly defined as fuelwood, industrial roundwood, sawnwood lumber, wood-based panel products, wood pulp, printing and writing paper, newsprint and other papers and paperboard.

Softwood logs are the major solid wood product exported by the United States, accounting for 40.1 percent of the total value of wood products exported in 1984. Combined U.S. exports of softwood and hardwood lumber were 30.2 percent of the total value of solid wood products exports, while veneer, plywood and other panel products together accounted for ten percent of the total.

Alaska has approximately 16 percent of all forest land in the United States. Most of the standing timber in Alaska is old growth, meaning the timber has never been commercially cut.

Total Alaska exports of forest products between 1979 to 1984 were valued at \$1.55 billion. The trend is one of decline, shown by export values of \$339 million in 1980, \$272 million in 1983 and \$217 million in 1984.

Native corporations, which received prime timber land through the Alaska Native Claims Settlement Act, currently play a major role in the contribution to Alaska's economy through the export of roundwood. These log exports increased from 25 million board feet to a peak of 160 million board feet in 1980. This has offset the general decline in the export market for sawn cants since 1980.

However, the current economic situation in the forest products industry in Alaska is unstable at best. Global markets have been weak, causing a 50 percent drop in the annual Alaska harvest.

Alaska's vast physical forest resources hold great potential in the economic development of both the forest products industry and the state economy. The current constraints to development as well as areas of opportunity must be rationally analyzed. Realistic strategies that can work within the foreseeable state economic framework must be developed and put into action.

#### \* \* \*

In a presentation regarding the profitability of agriculture, economist William Motes said the question is not whether Alaska farmers can compete with distressed commodities in today's market, but whether over the long run, Alaskan farmers can cut costs enough to compete, first in Alaska markets and then perhaps in the Pacific markets.

With the help of their location advantage, efficient Alaskan farmers can expect to do so, Dr. Motes said.

More than half of all American farmers lost money in 1984, and it is likely a higher proportion will fail to break even in 1985. Alaska farmers have no reason to expect a more favorable outlook than others.

The Alaska meat, milk and egg markets are protected to some degree, but Alaskan profits depend on how efficient farmers are, as well as on economic conditions and policies in the U.S. and elsewhere. When the average U.S. farmer is losing money, Alaska farmers can expect to be under economic pressure too.

Barley that sold for about \$104 per ton in 1984 will get only about \$88 per ton for the 1985 crop, and could be as low as \$65 per ton this year. But on a more positive note, grain prices are expected to bottom out this year or next and grow stronger through the rest of the decade.

Costs of barley production in Alaska are similar to those in the northern plains, but development costs here are much higher. Total cost is about \$142 per ton for Alaska compared to \$98 per ton for the northern plains. But when transportation costs are factored in, Alaskan barley can be very competitive with barley imported from the Lower 48, Dr. Motes pointed out.

Noting positive influences on agricultural viability, Dr. Motes said that world population, and therefore demand for food products, will continue to rise. The declining value of the U.S. dollar is helping to boost American competitiveness in the export market, and the government is replacing "terrible" policies with ones more favorable to farmers.

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. الارتيان In the case of natural gas markets, Alaska needs to concern itself with not only project economics, but market economics. The costs of the proposed Trans-Alaska Gas Pipeline System are not definitive at this point, but the more difficult questions are what price will prevail for the gas, and what is the availability

of customers? In determining this, many factors are involved, including the demand for gas in Japan, Korea and Taiwan, the regulatory environment in those countries, the competitive positions of other suppliers, the willingness of both producers and consumers to take risks and change the current system of supply and the future prices for competing fuels, especially oil.

According to Michael C. Lynch, Research Associate with the Energy Laboratory at MIT, supply far exceeds the amount of demand in Asian natural gas markets. Further, supply continues to grow while demand is almost stagnant. This strongly suggests that the price is too high, and the failure of the price to fall indicates that non-market factors are at work.

The proposed Trans-Alaska Gas System has a lot of factors working against it, but some in its favor as well. Most importantly, the effort involved in moving it to a liquefaction plant will mean that costs will be higher than most projects now under consideration. However, recent pipeline cost estimates are a lot lower than they were just a few years ago due to increasing experience with Arctic construction work, expectations of better cost control, a more competitive construction market and a better regulatory environment.

One of the drawbacks, however, is that in order to achieve the necessary economies of scale, the project needs contracts for substantial amounts of natural gas. If only the first phase is undertaken, nearly 250 Bcf/yr needs to be sold. This would require more than some seasonal fuel-switching in Japan. On the other hand, American companies are currently price-takers and perhaps willing to accept a price less than crude oil equivalent if it would ensure the sale, and Japanese companies might be willing to accept some risk in order to start a new pattern of dependable supply contracts.

# # #

#### ACKNOWLEDGMENTS

The Resource Development Council for Alaska, Inc., thanks the following organizations and individuals for their assistance and special services in helping make the 1986 International Conference on Alaska's Resources a big success.

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#### Fisheries and the 200-Mile Limit

Robert Morgan, Pacific Seafood Processors Association Greg Baker, Alaska Office of Commercial Fisheries Sara Hemphill, Alaska Contact Cheryl Sutton, Kenai Peninsula Fishermen's Cooperative

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#### The Profitability of Agriculture

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#### Asian Gas Markets In Coming Years

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#### Coal: Evolving Supply and Demand Patterns

Cole McFarland, Placer U.S.A. Connie Holmes, Coal Exporters Association Steve Denton, Pool Engineering Kent Grinage, Arctic Slope Consulting Engineers

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#### Effects of Government Decisions on Industry Competitiveness

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#### From Rags To Riches: A Strategy That Works

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#### Organizing For State Economic Progress

Dorothy Jones, Matanuska-Susitna Borough Robert Atwood, The Anchorage Times Dr. Glenn Olds, Alaska Pacific University Peter McDowell, Coopers & Lybrand Irene Ryan, Retired Geologist

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#### OPENING REMARKS

#### CHARLES R. WEBBER PRESIDENT RESOURCE DEVELOPMENT COUNCIL, INC.

GOOD MORNING. I'M CHUCK WEBBER, PRESIDENT OF THE RESOURCE DEVELOPMENT COUNCIL. WELCOME TO THE SIXTH ANNUAL INTERNATIONAL CONFERENCE ON ALASKA'S RESOURCES. IT'S BEEN A PLEASURE TO TALK TO PEOPLE THIS MORNING WHO HAVEN'T MISSED A SINGLE ONE OF THESE CONFERENCES. IT'S GOOD TO SEE ALL OF YOU HERE TODAY AND WE PROMISE YOU AN EXCITING PROGRAM.

WHETHER YOU'RE A GOVERNMENT EMPLOYEE, A RETAILER, A DOCTOR, CONSTRUCTION WORKER OR TEACHER, YOUR ECONOMIC FUTURE IN ALASKA DEPENDS LARGELY UPON THE SUCCESS OF OUR STATE'S BASIC INDUSTRIES.

BECAUSE ALASKA IS A "RESOURCE STATE" YOU ARE PERSONALLY AFFECTED BY HOW WELL OUR INDUSTRIES COMPETE IN THE GLOBAL MARKETPLACE. THE GLOBAL MARKETPLACE INCLUDES THE ALASKA MARKET AS WELL. INCOME FROM RESOURCE DEVELOPMENT FUELS EVERY SECTOR OF ALASKA'S YOUNG ECONOMY AND IT'S UP TO EACH OF US TO KEEP THE FIRE BURNING.

THE RESOURCE DEVELOPMENT COUNCIL IS CONCERNED ABOUT THE ECONOMY AND KNOW IT MUST BE A THRIVING ONE IF OUR FINANCIAL SECURITY IS TO BE ASSURED.

AS STATE PETROLEUM REVENUES FALL, WHAT CAN ALASKA DO TO PROVIDE MEANINGFUL EMPLOYMENT FOR ITS CITIZENS AND BUILD ON THE PROSPERITY IT HAS EXPERIENCED OVER THE PAST DECADE? THE RESOURCE DEVELOPMENT COUNCIL BELIEVES THE STATE MUST PROVIDE AN INVESTMENT CLIMATE THAT ENCOURAGES EXISTING INDUSTRIES TO EXPAND AND OTHER BUSINESSES TO DEVELOP NEW VENTURES IN ALASKA. THESE NEW INVESTMENTS WILL CREATE ADDITIONAL SOURCES OF STATE WEALTH AND NEW JOBS FOR ALASKANS.

OUR FUTURE LIES IN DEVELOPING COAL, MINERALS, FISH, AGRICULTURE, TOURISM AND RESOURCES FROM OUR FORESTS AS WELL AS FINDING MORE OIL AND GAS. IT IS OUR CONVICTION THAT ALL ALASKANS SHARE THE BENEFITS OF RESOURCE DEVELOPMENT AND THE PROGRAM ACTIVITIES AT THE RESOURCE DEVELOPMENT COUNCIL TO BRING ABOUT THIS DEVELOPMENT.

FOR THE LAST TWO YEARS, THE COUNCIL HAS INFORMED THOUSANDS OF ALASKANS ABOUT THE PROSPECT OF DECLINING OIL REVENUES AND WHAT THE CITIZENS AND GOVERNMENT OUGHT TO BE DOING ABOUT IT. THE MESSAGE WAS SIMPLE: GOVERNMENT NEEDED TO SPEND LESS, BUT SPEND MORE WISELY, WE NEEDED TO GENERATE NEW INCOME FOR THE STATE AND WE NEEDED TO FIND MORE OIL.

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THESE SPEECHES WERE PART OF AN EFFORT WE AT RDC CALLED "PROJECT 1995." AND THE IDEA WAS TO USE THE NEXT FIVE YEARS TO DEVELOP A SENSIBILE STRATEGY FOR DIVERSIFYING ALASKA'S ECONOMY AND THEN GIVE IT TIME TO WORK BEFORE WE SAW PETROLEUM REVENUES CUT VIRTUALLY IN HALF BY 1995. LITTLE DID WE KNOW THAT 1995 WOULD OCCUR SO SOON. PERHAPS NOW WE SHOULD CHANGE THE NAME OF PROJECT 1995 TO "PROJECT TOMORROW."

THE MESSAGE OF PROJECT 1995 IS MORE IMPORTANT NOW THEN EVER BEFORE. WE MUST CUT STATE SPENDING, AND WHAT WE DO SPEND, WE MUST SPEND WISELY TO GENERATE NEW WEALTH.

A RECENT POLL OF ALASKANS REVEALED THAT THREE OUT OF FOUR SURVEYED POINTED TO NATURAL RESOURCE DEVELOPMENT AS THE KEY TO ECONOMIC GROWTH, WITH ABOUT HALF OF THE RESPONDENTS SAYING THAT ALASKA'S ECONOMY IN THE LONG RUN DEPENDS ON THE SUCCESS OF THE OIL AND GAS INDUSTRY.

IT ALSO DEPENDS ON ALASKA RETAINING THE ABSOLUTE MAXIMUM AMOUNT OF LOCAL, STATE AND FEDERAL LAND IN TRUE MULTIPLE-USE CLASSIFICATIONS. WITH THAT IN MIND, MANY OF RDC'S ACTIVITIES IN 1985 WERE DIRECTED AT LAND MANAGEMENT PLANS PROPOSED BY STATE AND FEDERAL AGENCIES. OVER THE LAST TWELVE MONTHS, THE COUNCIL'S LANDS AND RENEWABLE RESOURCES DIVISION MONITORED, STUDIED AND PROVIDED COMMENTS AND DIRECTION ON MORE THAN 50 LAND USE PLANS. THROUGH ITS INPUT, RDC SEEKS TO ASSURE THAT LANDS ARE NOT LOCKED UP BY STIPULATIONS AND REGULATIONS THAT COULD SEVERELY HINDER DEVELOPMENT AND FRUSTRATE EFFORTS TO DIVERSIFY THE ECONOMY.

OTHER RECENT AND ON-GOING RDC PROJECTS INCLUDE SEVERAL MAJOR LAWSUITS THROUGH ITS AFFILIATE ORGANIZATION THE PACIFIC LEGAL FOUNDATION, WILDERNESS SUITABILITY REVIEWS, FORMATION OF A PLATFORM TO ADVANCE ALASKA'S AGRICULTURE INDUSTRY, RS2477 RIGHTS-OF-WAY PROTECTION, LEGISLATION TO USE FOREST MANAGEMENT AGREEMENTS TO REVITALIZE ALASKA'S TIMBER INDUSTRY AND EDUCATING THE PUBLIC ON THE PROBLEMS INHOLDERS FACE WITH MANAGEMENT OF ALASKA'S NATIONAL PARKS. WE'VE BEEN BUSY WITH REGULATORY AND TAX ISSUES, OCS LEASE POLICIES, AND REPRESENTING YOUR INTERESTS BEFORE CONGRESSIONAL AND LEGISLATIVE COMMITTEES AND STATE AND FEDERAL AGENCIES.

AT THE REQUEST OF ALASKA COMMUNITY LEADERS, WE ALSO SPONSORED THREE ECONOMIC DEVELOPMENT WORKSHOPS DURING 1985 TO HELP COMMUNITIES AND BOROUGHS SET PRIORITIES AND LAUNCH PROGRAMS TO CREATE NEW JOBS. WORKSHOPS WERE HELD IN WASILLA, SOLDOTNA AND FAIRBANKS, AND A FOURTH MEETING WILL TAKE PLACE FRIDAY AT THE ANCHORAGE ASSEMBLY BUILDING ON TUDOR ROAD.

I KNOW YOU'RE ANXIOUS TO GET INTO THE PROGRAM. AND WE WILL IN JUST A COUPLE OF MINUTES.

I EXTEND AN INVITATION TO YOU AND YOUR FRIENDS TO VISIT THE ALL-ALASKA EXPOSITION TO SEE WHAT ALASKA'S COMMUNITIES HAVE TO OFFER. I HOPE YOU'LL TALK TO EACH EXHIBITOR AND LEARN ABOUT THE PRODUCTS AND SERVICES THEY WOULD LIKE TO SHARE WITH YOU. ALL OF THE EXHIBITS ARE HELD IN THE YUKON-KUSKOKWIM ROOM AND ON THE MEZZANINE.

AT THIS TIME I WOULD LIKE TO YOU MEET THE PEOPLE WHO ARE COSPONSORING THIS CONFERENCE AND WHO HAVE A MAJOR STAKE IN ITS OUTCOME. LET'S WITHHOLD APPLAUSE UNTIL THEY HAVE ALL BEEN INTRODUCED.

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FROM THE ALASKA DEPARTMENT OF COMMERCE AND ECONOMIC DEVELOPMENT ARE COMMISSIONER LOREN LOUNSBURY AND PAUL FLETCHER FROM THE OFFICE OF ENTERPRISE. JOINING US FROM THE ALASKA AFL-CIO UNIONS ARE RICH PELUSO AND MANO FREY. FROM THE NORTH SLOPE BOROUGH IS JAMES SCEELES. STEVE CONSTANTINO, PRESIDENT OF THE BETHEL CHAMBER IS HERE FROM THE CITY OF BETHEL AS WELL AS MAYOR DOROTHY JONES FROM THE MATANUSKA-SUSITNA BOROUGH. DICK LENAHAN FROM THE EXPORT COUNCIL OF ALASKA IS HERE ALONG WITH MAYOR JOHN DEVENS OF THE CITY OF VALDEZ. REPRESENTING THE MUNICIPALITY OF ANCHORAGE IS GORDON ZERBERTS, MANAGER OF PUBLIC UTILITIES. I WOULD ALSO LIKE TO RECOGNIZE BARBARA BARRY FROM THE UNIVERSITY OF ALASKA ANCHORAGE OFFICE OF CONTINUING EDUCATION.

PLEASE NOTE THAT THE CONFERENCE PROGRAM BEFORE YOU TODAY WAS MADE POSSIBLE THROUGH OUR PROGRAM SPONSOR, ALASCOM. HERE TODAY FROM ALASCOM'S PUBLIC AFFAIRS OFFICE IS JUNIOR RAMOS.

AT 3:30 P.M., KTUU CHANNEL TWO WILL HOST A SPECIAL ENERGY BREAK FOR YOUR PLEASURE. WITH US TODAY FROM CHANNEL TWO IS KTUU GENERAL MANAGER AL BRAMSTEAD JUNIOR AND ASSOCIATE NANCY JOHNSON.

THE ALASKA RAILROAD CORPORATION WILL HOST THE ENERGY BREAK TOMORROW AFTERNOON. BILL COGHILL, DIRECTOR OF PLANNING, IS HERE ALONG WITH JOHN GRAY, DIRECTOR OF MARKETING, FOR THE ALASKA RAILROAD.

I'D ALSO LIKE TO RECOGNIZE OUR GENERAL SPONSORS. FROM ALASKA AIRLINES WE HAVE CHERYL WILLIS. JOINING US FROM ARCO ALASKA IS DAVID HEATWOLE, VICE PRESIDENT OF EXTERNAL AFFAIRS. BOB MCGRANE, CANDIDATE FOR GOVERNOR IS ALSO A GENERAL SPONSOR. WITH US TODAY FROM MARKAIR IS LESLIE LANGLA. FROM SOHIO ALASKA PETROLEUM COMPANY WE HAVE HUGH DEPLAND. AND FROM STONE AND WEBSTER ENGINEERING CORPORATION IS WALTER BAGLEY.

TO ALL OF THESE ORGANIZATIONS, THANK YOU FOR YOUR STRONG EXPRESSION OF SUPPORT FOR THE COUNCIL'S IMPORTANT WORK ON BEHALF OF ALASKA'S ECONOMY. WE COULDN'T DO IT WITHOUT YOU.

I NOW CALL ON OUR MASTER OF CEREMONIES FOR THIS MORNING'S PROGRAM, COMMISSIONER ESTHER WUNNICKE OF THE ALASKA DEPARTMENT OF NATURAL RESOURCES, TO INTRODUCE OUR FIRST SPEAKER.

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Global Politics and Minerals Production

by

Rear Admiral William C. Mott, USN (ret.) Chairman National Strategic Materials and Minerals Program Advisory Committee

#### and

Vice President and General Counsel of the National Strategy Information Center New York, N.Y.

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presented to the

Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

> "Crisis in Resource Production: Can America Compete and Alaska's Competitive Position: Public Policy Issues"

> > February 12-13, 1986 Anchorage, Alaska

A headline on the front page of the <u>Washington Post</u> last week read "As Petroleum Prices Fall, So Does Alaskan's Life Style." The story paints a grim picture of the economic future-too grim I think--of Alaska. Your State is blessedly rich in resources, oil, minerals, timber, scenery and, most important of all, your people. The purpose of this conference, as I understand it, is to examine how to manage and develop your unusual--I might even say unmatched--resources.

I can remember a time just 30 years ago when the <u>Washington</u> <u>Post</u> would have "bleaked" (that's a coined word meaning without hope or encouragement) you completely off the front page. That was a time when the question of statehood for Alaska was before the Congress of the United States.

The Acting Chairman of the Joint Chiefs of Staff, General Nathan Twining, USAF, sent for me in my capacity as Special Assistant to the Chairman for Congressional and legal matters. Those of you who are old enough to remember "Nate" when he served here at Elmendorf know that a more blunt, honest, likeable military officer never lived and that's a tribute from the Navy.

"Bill," he said, "President Eisenhower wants me to testify in favor of statehood for Alaska. See what you can do about preparing a statement for me to give before the House Interior Committee."

"Yes, sir," I replied. What else to the Chief of Staff of the United States Air Force? As I turned to go he warned: "You'd better look up what I've said before. At Elmendorf I think I testifed locally in favor of statehood but when Ike was first elected I think he asked me to testify against it for political reasons at the time."

Research confirmed that that the General's recollection was correct and those opposed to statehood in Congress would be sure to remember his inconsistency. So I went to your then delegate in Congress, Bob Bartlett, a wonderfully warm and helpful man. "Please give me all the arguments in favor of statehood" I asked. And he did--they appear in General Twining's statement. I already knew the opponent's arguments: that Alaska was a Federal dependency; not economically viable as a State: and unsaid, but in the minds of the Democrats in Congress, apt to become Republican. I suspect that was what was in Ike's mind all along!

When I reported back to the General with a proposed draft favoring statehood the first question he asked was: "Bill, how do I explain my past contradictory questions." "Why, General,"

I replied, "you turn it to advantage by starting with a quote from Ralph Waldo Emerson's essay on Self-Reliance:

"A foolish consistency is the hobgoblin of little minds, adored by little statesmen and philosophers and divines. With consistency a great soul has simply nothing to do ---- Speak what you think today in words as hard as cannon balls, and tomorrow thinks in hard words again, though it contradict every thing you said today."

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General Twining did, and helped carry the day for statehood. None of the naysayers were correct about your lack of viability as you have proved since. You are viable as a State and with proper leadership will <u>remain</u> viable. In fact, there are many States in the Lower 48, including my State of Virginia, that would like to have a 6 billion dollar reserve. All they can look to is increased State taxes and you don't have any to increase! So count your blessings as you consider your economic future.

If the drop in oil prices does one thing for Alaskans, it should make them keenly aware that they do not live in a cocoon, divorced from the rest of the world. What Sheik Yamani does in Saudi Arabia has a direct effect on the economy of your State. The same goes for State-owned minerals development in places like Zaire, Zambia and Chile which do not have the environmental restraints that you do and can even operate at a loss as a kind of public works program for its otherwise unemployed citizens. Proposals have been made in Congress to levy an import tax on such minerals importations to make our own industry more competitive. They haven't gone anywhere because most of the Third World oil and minerals producing countries owe us so much money they couldn't service their debts without exports of cheap mining products. Furthermore, their production is often financed by "soft" loans from the multinational development banks like the World Bank and the International Monetary Fund.

Our 25-man advisory committee, which includes Alaska's own Dave Heatwole of ARCO, took a look at the problem of such soft loans and by unanimous vote advised President Reagan, through Secretary of the Interior Clark:

"That the President instruct his representatives to any multinational lending agency to vote against any loan that would create or contribute to supply-demand imbalance for any internationally traded strategic commodity."

We felt that "our guys" on these lending institutions should consult with the leaders of the domestic minerals industry to find out how such "soft" loans would impact on their economic viability. How <u>might</u> such loans impact on minerals production in Alaska? You are about to develop a big lead-zinc mine at Red Dog and a molybdenum mine near Ketchikan. Don't let foreign state-run mines operated at a loss with "soft" loans make your mining non-competitive. And, fight, through your members in Congress to prevent the upcoming tax bill from taking away mining tax incentives. Our Committee sent a strong letter on that subject to the Secretary of the Treasury and Senator Packwood who'll be working on the tax bill when it comes from the House.

Urge your representatives in Congress and your mining community to keep in close touch with the new National Critical Materials Council at the White House. Al Overton, the President of the American Mining Congress, and I went before that Council at its first public meeting and urged its members to closely examine the state of mining in this country. The words of President Overton are especially noteworthy:

"We should foster a domestic mining industry capable of fulfilling national requirements and minimizing the risks of undue dependence of the United States on foreign sources of supply. What we need is a focus of Federal activities on the problems of the mining and minerals industry and responsible leadership and coordination of the vast resources of the Federal Government."

Alaska should make its voice heard in the councils of the Federal Government to carry out Mr. Overton's plea.

I might say you have a strong ally in the Secretary of the Interior. Don Hodel, who comes from nearby Washington, is a former Secretary of Energy, and understands Alaska's problems as perhaps no other Cabinet officer does. Moreover, the Assistant Secretary of Interior for Water and Science, Bob Broadbent, is a <u>member</u> of the White House Council on Materials and will be a key player in the development of minerals policy. And don't forget the Mott Committee with its able voice from Alaska, Dave Heatwole.

There's another Bill Mott in Washington--the head of the National Park Service. Your parks should be a big attraction for tourists but they need more facilities, especially for overnight campers if they are to be a major draw. Get after Bill Mott; not this one--the other one.

For many years in the course of my naval duties I lived in Hawaii and worked with the Hawaiian Visitors Bureau. Hawaii used to be a sugar and pineapple State with a few papayas and macadamia nuts thrown in. When the Federal Government took

actions which hurt the economy of the State, they were in the same kind of economic trouble you think you are now. It's no secret that tourism saved the economy of Hawaii. Private investment from America and Japan built vacation resorts on all the islands and a concerted effort was made to attract tourists.

I know you have made efforts in recent years to advertise the charms of Alaska in the Lower 48. Follow Hawaii's example and double and expand your efforts world-wide. After all, you are the Switzerland of America! Make it fashionable to come here. By all means fight for the Winter Olympics. They helped Yugoslavia, and they should help you.

"It's an ill wind that bloweth no man good" said the poet. Once again, ill winds that blow thousands of miles from Alaska may do good here. You may not think that the <u>Achille Lauro</u> terrorism incident in the Mediterranean could have an effect on Alaska and its tourist business. But it might because it has driven all cruise ships out of the Mediterranean area. They have to have some place to go and they could be attracted to Alaska. Someone should go after them. The airlines could help you, too, by offering more package fares in cooperation with your fine hotels.

Let me speak to you for a moment as a retired association executive and active life member of the American Society of Association Executives as well as a member of the Committee of 100 of the U.S. Chamber of Commerce. You need to attract conventions to Alaska--big ones. To do that you work through your State associations like the Alaska Telephone Association with which I'm familiar. Its members pay dues to USTA, the national association. It might be persuaded to at least hold seminars or showcases here in Alaska. So it goes with other Alaska State associations. A canvass should be made of national association meetings in Seattle, Portland, Vancouver and California cities plus Hawaii. Attractive tail-end visits to Alaska could be sold. In fact, when the Committee of 100 met recently in Vancouver, some of the members split off and came to Alaska. The possibilities are unlimited.

Sometimes, I think you don't realize the attractions of your State. When I used to issue orders sending officers to duty here, they would frequently come to me and beg not to be sent to Alaska. Orders were orders, I said. Be off. Now listen carefully to what I'm about to say. I never ordered an officer up here who didn't request an extension at the end of his tour! Alaska gets in your blood!

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As you develop Alaska's resource riches you will, no doubt, have confrontations with environmentalists. You had that in spades with the Alaska pipeline built, as I understand it, by the Fluor Corporation. There are times when our national government does stupid things in the name of the environment. I was reminded when our Nation's seventh Trident missile-firing submarine, the USS Alaska, was commissioned recently by Senator Ted Stevens, of a particularly bad environmental confrontation in Bangor, Washington. Submarines have to have some place to go for R&R for the crew after they return from their missions. The Navy selected Bangor but the environmentalists said no and lay down in front of the bulldozers. The case went to court and the Pacific Legal Foundation (I understand it has an office with Paula Easley) defended the Navy's case and won. Don't let environmentalists, whether of the public or private variety, dictate to you. Sue them!

As president of the Capital Legal Foundation, I once sued the Congress of the United States for violation of the Clean Air Act in its operation of the Capital Heating Plant--and won. Don't let them hamstring your minerals development. And, by the way, you should get Ted Stevens to bring the USS <u>Alaska</u> to an Alaskan port, perhaps even home port her here!

Let me conclude by saying that our 25-man advisory committee is solidly behind the development and sale of hard rock minerals in Alaska. Five years ago the National Strategy Information Center published this little booklet on the Resource War in minerals. Last week a 4-man television crew from Japan arrived at my home in Charlottesville to do a public television show on the need for a minerals stockpile in their country. To my astonishment they pulled out this little book translated into Japanese, which they said was behind the program. Japan is, of course, the most vulnerable industrial nation in the world to any kind of cut off of her minerals and oil. That is why she (and South Korea) should be Alaska's best customers.

Another NSIC book which has recently grabbed Japan's attention is this one, "Natural Resources in Soviet Foreign Policy" by John Thomas, a Soviet scholar now in our State Department. He makes the case that the Soviet Union is pressuring Japan to abandon western sources of minerals and oil supplies and turn to reliance on the Soviet Union. I will leave these books and our Committee's 15 recommendations with Paula. If you read them you will understand why Alaska must expand its efforts to be a reliable supplier of its resources to the Pacific Basin. I made that point on Japanese television. It's in the interest of our country to have Alaska rather than the Soviet Union be Japan's supplier.

Good luck in your efforts.

# The 200 Mile Limit and Its Effect on the Alaskan Fishery

#### By

Mr. Richard J. Baker President Mrs. Paul's Kitchens, Inc. Philadelphia, Pennsylvania

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Presented to the Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

### "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? and ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

February 12-13, 1986 Anchorage, Alaska I appreciate the opportunity to talk to a broadly based group of executives from Alaska's business, government and educational communities. My previous talks and discussions in Alaska have more or less been limited to those people with interests involving seafood exclusively. Alaska is very important to Mrs. Paul's Kitchens. More than 50% of the fish we use comes from Alaskan waters and we are the largest purchasers of fish block in the United States and very probably in the world. I have visited Alaska, I am sure, more than a dozen times in the past 10 years and I say this to emphasize again how important Alaska is to the fortunes of our company.

Since this is a group that includes other than people from the seafood industry, I believe it is proper to give a little background on the fishing industry in Alaska and the U.S. laws which govern it to set the stage for the message I hope to convey. This information may be redundant for some of the audience but may be important to others in order to follow the comments that I make later on.

The U.S. Congress in 1976 passed the Fishery Conservation and Management Act, usually referred to as the Magnuson Act. It took effect in 1977 and created an exclusive fishery conservation and management zone extending 200 miles off the U.S. coast. This, obviously is not limited just to Alaska but extends along the entire coastline of the U.S. The reason behind the act was the recognition that the uncontrolled fishing which existed was permitting foreign fleets to come into U.S. waters and almost totally destroy the resource by indiscriminantly over-fishing. Since it was recognized that this was a valuable national resource, it was necessary to protect it. Similar action was taken by many other nations around the world at about the same time and the net result was to substantially change the patterns of fishing which had existed for many years.

Recognizing the changes that had to occur but attempting to lessen the initial impact and trauma, the Act permits continued foreign fishing but on an allocation basis and takes into consideration specific criteria. These include market access, purchases of U.S. harvested and/or processed product, enforcement cooperation, need for domestic consumption, other contributions to the growth of the U.S. fishing industry, traditional or past fishing activities in the zone, research contributions and a few others. The total amount of fish which is available to be allocated is determined on a fishery by fishery basis. It starts by determining scientifically the optimum yield, which means the amount of fish which can be caught without adversely affecting the resource. The amount of fish which is required by U.S. fishermen and processors is subtracted from the optimum yield and the remainder may then be allocated to individual foreign nations based on the criteria that I mentioned just before. It is anticipated in the act that the catch in these fisheries by U.S. fishermen will increase year by year to the point that the fishery will be entirely "Americanized" and there will be no fish left over to allocate to foreign nations. This has already occurred in some fisheries especially as it relates to certain species. As it affects Alaska, we see a dramatic change occurring here.

After the Magnuson Act was passed, I visited Alaska in 1976 with the then President of Mrs. Paul's, whom I subsequently succeeded. We made the trip through the auspices of Senator Steven's office and in fact had one of his top aides with us. We talked with fishermens' groups in Juneau, Valdez, Anchorage and Kodiak. Our purpose was to see how quickly the fishermen in Alaska were going to be able to change over from their traditional fishing for crab and salmon into Alaskan Pollock, which is the specie we are primarily interested in.

We had started using pollock in about 1970. Prior to that time, pollock was not generally known in the consumer markets of the U.S. and even up in this area it was considered somewhat of a trash fish. This was largely because it had a tendency to deteriorate rapidly after being caught and also did not command a price which in any way approached the traditional crab and salmon species. Mrs. Paul's, however, back in the late 60's had recognized that to continue to grow, we had to explore other species which could be suitable for the American consumer market. Working with a Japanese company, we were able to develop a technique which required the rapid freezing of the fish immediately after it was caught. It was then taken to Japan where it was slacked out, hand filleted and refrozen into fish block. This resulted in a fish which was boneless, white, flaky and delicately flavored--All characteristics which the American consumer demands. We pioneered the introduction of this new specie in our products in the United States, put a substantial and costly marketing program behind it, and created a demand for this specie on the part of the U.S. consumer. Those of you in business can recognize that we took a major risk in this marketing effort since consumer eating habits are not easily changed. This is also the reason that Mrs. Paul's feels that we have a major stake in the development of the pollock resource in Alaska and why we so closely follow developments that occur in this area.

The fish blocks that we purchased were initially packed in Japan, as I mentioned, but as the economy in that country developed and wage rates increased, the industry moved to Korea, since the production of pollock blocks is very labor intensive. Most of the blocks are now made in Korea and a substantial volume is also produced by the Poles. We are now seeing the slow birth of an industry in fish block packing in the People's Republic of China (Mainland China) as well.

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Referring back to my 1976 trip to Alaska, the discussions with the fishermen's groups quickly developed the information that they would not soon be switching over to the catching of pollock because of the economics. They were used to catching King Crab and salmon which commanded high prices and did not see how they could harvest pollock at 5 - 6 cents per pound in a way that would be economical for them. We realized it would take a good number of years for U.S. fishermen to get involved with pollock, so we stayed with our regular suppliers in Korea.

The industry has gone a long way since then and Alaskan fishermen are now deeply involved in the Alaskan Pollock fishery. What probably was responsible for sparking the change was the unexpected decline in the King Crab Fishery. The fishermen who had usually fished for crab found themselves with idle boats and as a result, started looking much more seriously at pollock. They experimented with what has come to be known as joint ventures and found that they worked. Even though the pollock was low in price per pound, the volume was so great that it paid off economically.

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These so called joint ventures have revolutionized the Alaskan Pollock fishery. Basically, the way they work is a U.S. fishing boat works as a catcher boat for a foreign factory vessel. It catches the pollock in its trawl net and tows it to the foreign vessel where the end of the net called the cod end is detached and hauled aboard the foreign vessel for freezing or other processing. The foreign vessel may freeze the fish in the round for later sale as is or for additional processing back in its home country. This is the usual case with the Korean vessels. The fish may also be semi-filleted or even completely filleted and frozen into boneless fish blocks as is done by the Polish vessels.

To give you some idea as to how effective the Magnuson Act has been in Americanizing the U.S. fisheries, let me give you some numbers. Starting in 1977, the total amount of fish allocated by the U.S. to foreign nations was 2.1 million metric tons. That amount dropped to 1.3 million tons in 1985, and it is expected that in 1986 the amount allocated to foreign nations will be no more than approximately .7 million. I personally think this is substantial progress. From 2.1 million metric tons caught by foreigners in 1977 to .7 -- (1/3 as much) in 1986 -- 9 years later. The figures I have for Alaska are not entirely comparable, but will show you a similar decline in foreign involvement. In 1978 foreign vessels caught 1.8 million metric tons in the Gulf of Alaska and Bering Sea. In 1985, it dropped to 1.2 million. While the allocations have not been made for the entire year of 1986, the total allowable foreign catch called the TALFF is 412,000 metric tons and the reserve is 293 metric tons. So even if the entire reserve of 293 metric tons is allocated to foreign nations, the total (412 plus 293) will not exceed 705,000 metric tons. From 1.8 million in 1978 to 705,000 in 1986, a substantial decline. Some people in the industry in Alaska do not agree with me and feel that it should be faster. They are urging the passage of legislation in Washington that would mandate the end of all foreign fishing in Alaskan waters by a specific date. I feel this is ill-advised. If no progress were being made towards the goal of total Americanization of the resource, there would be cause for concern, but what we are seeing here is natural market forces accomplishing in an ordinary way the objectives we want to achieve. My experience has always been that changes forced by mandate do not succeed and often create chaos, where changes brought about by natural forces are lasting and workable. I hope that sound reason will prevail in this regard.

In many respects, this is quite a complex issue. The U.S. has a tremendous pollock resource in the Alaskan waters. This resource belongs to the entire country and should benefit all of our people or as many of our people as possible. The American consumer has come to accept pollock as a quality seafood product which possesses all the attributes they look for in fin fish and at a moderate price. (I stress the word moderate because that is extremely important). They do not consider it as fine a fish as cod or flounder and as a result, for certainly the foreseeable future, its price will reflect this. In other words, it will always be priced below those other two species. If artificially induced market conditions force the price too high, the consumer will slow down or stop her purchases of Pollock, switch to other species or other sources of protein such as chicken. This is a very important factor which should not be lost sight of despite the argument of some who may be in this room. They feel that if the foreigners are totally forced out of U.S. waters and Alaskans have control of this resource, they can get a much higher price for the fish. They say they need 35 cents more per pound for pollock block  $_{\it AA}$  to break even. I don't doubt the number, but with pollock block selling in the U.S. at 63 cents a lb., 35 cents more would be a 56% increase -totally unrealistic and unacceptable. This also would price pollock block in the same range as the usual price of cod, which as I mentioned is considered a higher quality specie.

There is another fact which should be brought into the equation. That concerns the Soviet Union. They share the waters of the Bering Sea and their pollock resource is even larger than that of the United States. In the past, the pollock which they caught in their zone has been used in their domestic market. Of late, however, as demand for pollock has grown without a corresponding increase in the resource, we have seen more pollock caught by the Soviets appearing on the world market. The Soviet Union, being a controlled economy, can decide how much pollock they will keep for their own and how much they will sell on the international market -- if the price is right -- to produce hard currency, which they badly need. This is a substantial factor in determining the price at which pollock will sell for and would have an important bearing on any attempts to increase the price of pollock by an American policy which would eliminate the involvement of foreign fishing in U.S. waters.

There has been a great deal of publicity in recent years on the health benefits of eating seafood, especially the most current information on the discovery of the Omega-3 factor which puts seafood out in front of other low cholesterol food sources. Those of us in the industry certainly welcome these developments since we agree that fish is beneficial and it helps our businesses to grow. The increased demand for seafood products, however, must be carefully managed since the resource is finite and cannot be quickly expanded. It is going to take the efforts of all elements in the seafood industry working together in an intelligent fashion to nurture this growth and prevent its being mismanaged.

The whole issue of the management of our seafood resources is a complex and convoluted issue. There is no easy solution. There also are many forces at play as well. Several foreign nations -- especially the Japanese -- have a large stake in the outcome -- and they are very active in protecting their interests. Fishery matters become entwined with trade and political considerations between the U.S. and other nations. We wish this weren't the case, but that's the reality of life. There are major economic issues throughout. These impact a number of areas here in Alaska, but they also affect us at Mrs. Paul's and others in the same type of business. We comprise an area of the industry referred to as secondary processors. We must have pollock block at a reasonable price to properly serve the consumers we represent. If we don't deliver what the consumer wants, she'll buy chicken or some other protein. She has plenty of choices today. That is why I'm very pleased to have been invited here to present a point of view from our sector of the industry that you may not have heard before.

The message I'm trying to get across today is this, and we'll limit it to the Alaska area only:

The U.S. Fishery zone should be entirely Americanized for the benefit of all of our citizens. We firmly support that goal. Where we may disagree with some is the way we reach that goal.

We believe legislation in economic areas should guide -- not mandate. I say that again. Legislation should guide -- not mandate. We feel that legislation -- in the form of the Magnuson Act -- is in place and it is working.

Nationally, we have seen the foreign allocation of fish drop from 2.1 million metric tons in 1977 to the expected .7 million metric tons in 1986 -- one-third as much. The decline in the catch in Alaskan waters has not been as great, but still is substantial and impressive. The smaller foreign catch means that that fish is now caught by American fishermen, providing jobs, earning power, capital investment, tax revenues and so on. If that doesn't prove the present system is working, I don't know what will.

We say, don't be impatient. It's working. Let it continue to work. There's no need to fix it -- "It ain't broke."

# "PETROLEUM -- THE NEW WORLD VIEW"

# REMARKS BY

# CLAIR GHYLIN

# MANAGER, LAND DEPARTMENT, WESTERN REGION

CHEVRON U.S.A. INC.

### TO THE

1986 CONFERENCE ON ALASKA'S RESOURCES

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RESOURCE DEVELOPMENT COUNCIL FOR ALASKA, INC.

Anchorage, Alaska

FEBRUARY 12, 1986

It is an honor for me to provide the petroleum overview for this conference. I should point out right away that I am not an economic analyst. Maybe that is a good thing and maybe not ... but in any case I was hoping to share the responsibility for this topic with Dr. Henry Schuler of the Georgetown Center for Strategic and International Studies. Since he couldn't be here, the whole opportunity is mine.

Fortunately, I was able to get some colleagues in Chevron's Economics Department interested in this occasion. My presentation includes some of their thinking.

[Slide 1 -- Newspaper Headlines]

It's hard to imagine a more perilous time for forecasting. These are recent headlines in San Francisco.

When oil prices fell in January, they entered a slippery area. Where they'll go from here is not clear. Of course, the direction prices take is very important to Alaska, as well as to our industry. The governor's budget department estimates that the state loses \$150 million in revenue for every \$1 drop in oil prices.

OPEC's production restraints have been the main factor holding prices above \$25 per barrel. Take those constraints away, and it's difficult to forecast where the price of oil will stabilize.

We do know that at some point below \$15, basic supply and demand economics begin to check in. Supply would be affected because producers would start to shut in higher cost producing wells to avoid operational losses. Although our analysts recognize that prices could reach such an extremely low level, they don't expect them to stabilize there for an extended period.

If they did, oil demand would gradually start to respond, too. But at \$20, demand probably won't be affected very much in the short term. The fact is, people already seem to be doing all the driving, flying and heating they want. For example, driving in the United States is now at a normal level of 10,000 miles per car per year.

We've watched that statistic for years, and we've noticed that even in a "boom," people never drive more than 10,500 miles, on average. Probably, that's because there are only so many hours in a day or a year. There's a limit to the amount of time people are willing to spend in their cars.

Your winter has been unusually warm, and elsewhere the winter is already over...from the viewpoint of heating-oil that might have been used, but wasn't. So, demand (and the price of oil) are not going to be strengthened from <u>that</u> quarter. Nor will short-term demand be encouraged by increased economic activity associated with the oil price cuts we've seen. The Gross National Product <u>will</u> be affected by cheaper energy, but not immediately. In a year we might see it.

About the only thing that could help oil demand <u>now</u> is the amount of fuel oil consumed by utilities and major industrial plants. But if the industrial users buy more fuel oil, they'll only be backing out some other fuel source.

Presumably this would be coal, because natural gas producers would trim their prices to stay competitive with fuel oil (and nuclear plants can't switch to other fuels). Coal is somewhat vulnerable because its price is already fairly cost-oriented. Even so, there's probably some flexibility in coal prices because of the strong interest railroads have in hauling the commodity.

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If there's no "hook" to stop oil prices from drifting lower, what can we expect?

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Our guess is that before long the foreign oil producers may start listening to the Saudi oil minister, Sheik Yamani, who is trying to get other oil producing nations to join the effort to limit production. Until now, Saudi Arabia and a few other states have borne a disproportionate share of production restraints.

There is no specific price level that is likely to <u>force</u> other producers to limit output. But self interest is a strong motivator.

Frankly, an agreement makes a lot of economic sense ... not because oil prices should be higher or lower ... but because they should be more stable.

Lower prices tend to help oil importing countries (like the U.S.) and hurt oil exporters. Within the U.S., the benefits are distributed widely across the economy to all oil consumers, while the negatives tend to be concentrated in the oil producing regions -- like Texas, Louisiana and Alaska -- and in the oil and related oil service industries. Banks with energy loans also tend to suffer.

Lower prices may actually benefit U. S. Refineries by lowering the cost of raw materials. The same lower prices would hurt exploration and production, of course ... but so does the mere <u>possibility</u> of lower prices. In the upstream end of the business, perceptions of what may happen are just as important as what <u>does</u> happen.

If there's too much instability and uncertainty, you're likely to see more decisions <u>not</u> to drill, <u>not</u> to bid on leases, or not to make other investments. And that could have an adverse impact on the whole industry and the overall economy.

Turning now to the longer term outlook:

I'm going to provide a selective, updated version of Chevron's last world energy forecast. (Later, if you wish, you can pick up copies of the report in the back of the room.)

As I go, I'll be showing a few slides, because I think they help to cut through the numbers and show the trends more clearly.

[Slide 2 -- Oil Consumption Forecasts]

I'd like to take some time with the first one, which is concerned with oil demand and demand forecasts.

The slide goes to the heart of what's been depressing oil prices -- unexpectedly low demand.

The yellow line shows actual world oil consumption. The green lines are consumption forecasts ... most of them wrong ... labeled by the year in which they were made. (Among our economists, this slide is called "Baring the Soul" because it clearly shows past forecasting mistakes, as well as the problem of forecasting in times of discontinuous change.)

As shown by the yellow line, actual oil consumption was robust as the 1960s ended, trending upward at 7-to-8 percent a year -- and almost twice as fast as overall economic growth. During the '60s, oil forecasts were consistently lower -- it was hard to believe that such rapid growth could be sustained. In 1973, the trend was abruptly changed.

By then, non-OPEC countries were consuming all the oil they could produce. Demand for OPEC oil went up to almost 30 million B/D, which was close to the organization's maximum producing capacity. With supplies that tight, it didn't take much of a supply upset to frighten markets.

During the 1970s -- first in connection with the 1973 Arab Oil Embargo and then as a result of the 1979 Iranian Revolution -- the world price of oil rose more than tenfold, at one point reaching \$41 on the "spot" market. Eventually, these price increases created strong energy conservation. Consumers reduced their use of oil and switched to alternative fuels -- especially in power generation.

Conservation was especially strong after 1978. In our country, oil consumption declined 20 percent in five years. At the same time, higher prices spurred new production outside OPEC ... from countries such as Mexico and Great Britain, for example.

That combination of reduced consumption and increased production resulted in today's "oil surplus." Currently, that surplus is about 10 million B/D in the non-Communist world -- mainly in OPEC -- not counting capacity temporarily lost because of the Iran-Iraq war. That's roughly equal to maximum Saudi output in the '70s ... so you can see the world now has a huge cushion against potential supply disruptions.

One last point before moving on: for the future, the slide projects about one percent average annual growth in Free World oil consumption. At that rate, a <u>significant</u> oil surplus could continue for quite some time.

[Slide 3 -- Time Profile of Demand Response to Price Change]

This is an engineer's way of explaining what we've learned since 1973 about conservation effects. This slide says that it takes three or four years to achieve about half the conservation effect of an oil price increase. And as much as 10 or 12 years for most of the rest to be achieved. Conservation works slowly because it takes time for consumers to adjust their habits, purchase more efficient cars and insulate their homes.

In other words, in 1986 we're just now seeing the tail end of the conservation caused by the 1973 embargo. We've seen only a little more than half the effects of the second price shock associated with the Iranian revolution.

It's this delayed aspect of conservation which teaches us not to expect any immediate increase in demand as oil prices move lower.

Incidentally, I wish I knew whether this slide works in reverse -that is, whether half the effect of an oil price <u>decrease</u> is felt over four years, and so forth. Frankly we don't know. We've never had a chance to study a price decline like today's. What we do know is that a big share of the conservation is irreversible -people are unlikely to rip out their new insulation just because the price of oil drops.

[Slide 4 -- OPEC Crude Oil Production]

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This slide shows several things. First, it includes the current forecast for OPEC oil production through the year 2000. As you can see, OPEC's comeback is very gradual, reflecting the 1 percent growth forecast for world oil demand and the very slowly declining non-OPEC production.

The slide assumes that OPEC will continue to bear most of the burden of unused productive capacity. Of course, that remains to be seen. If the Saudis succeed in recapturing some market share from non-OPEC producers, that could affect the slide. Otherwise, the slide says that in the year 2000, OPEC <u>still</u> won't be producing what it did in the peak year of 1978.

Also, the slide illustrates a point about energy conservation. The light green area can be thought of as representing the difference between the 1978 forecast for oil consumption and the current forecast. That difference is staggering -- 150 <u>billion</u> barrels of oil being saved, or the equivalent of 15 Prudhoe Bays that won't be consumed in this century. This oil will still be available to extend the oil era into the 21st Century.

Finally, some analysts look at this slide and predict a gradually tightening oil market starting in the 1990s.

What they're thinking of is the so-called "OPEC comfort zone" theory, which says that oil prices remain stable as long as demand for OPEC oil stays in the 20 to 25 million B/D range. If you look along the line of the current forecast, you see production increasing past 25 million B/D at about 1995. From that point on, oil prices could be expected to start increasing faster than inflation. Until 1990, however, with OPEC production below 20 million B/D and continued surplus producing capacity, prices can be expected to remain weak.

[Slide 5 -- U. S. Energy Consumption]

This slide and the next three are related, dealing with energy demand, and sources of energy in the U.S. The dotted line is the old forecast for total energy consumption. The straight line trending right is the current forecast, signifying about 1.5 percent annual energy growth, on average.

[Slide 6 -- U. S. Energy Consumption: Oil Layer]

Here we see oil's contribution to future growth. It's modest ... in fact, virtually flat (0.8 percent per year).

[Slide 7 -- U. S. Energy Consumption: All Layers]

With natural gas added, petroleum retains its role as the majority energy source in this country. But coal is the big gainer, presumably through price-competitiveness. Nuclear energy still makes a modest contribution, thanks to plants which are already largely complete and are coming onstream in the next few years. Synthetics and other alternate sources provide less energy than foreseen a few years ago.

[Slide 8 -- U. S. Crude Production]

Now let's turn to the supply side of the forecast, focusing on U.S. production.

Here we see that oil production from Alaska is currently stable and that we're making gains offshore. But after 1990 we fail to make up for the decline in onshore. This decline is occuring primarily in the mature producing regions of the Lower-48 states, where production peaked in 1970 and has been falling ever since.

#### [Slide 9 -- U. S. Offshore Crude Production]

Most new offshore production will come from the Pacific coast -offshore California and Alaska. (PAD 5" is the west coast petroleum administration district; "1 through 4" is everything else.) This is the reason why it's essential that leases be made available for exploration. Delays and disappointments could easily result in <u>lower</u> production -- it's very difficult to envision circumstances where production could be <u>higher</u> than the level shown.

[Slide 10 -- U. S. Oil Supply and Imports]

The slide sums up the long-term U. S. situation.

Bottom right, existing oil production is shown declining rapidly. That's a theoretical decline of 10 percent a year, representing the falloff that would occur if industry exploration and production investments stopped.

The next two layers show the new oil we hope to find, onshore and offshore, through <u>aggressive</u> exploration and <u>heavy</u> investments in "steamflooding" and other forms of enhanced oil recovery. In order to have the oil from these expected new sources available in the 1990s, we have to start now. It takes from 8 to 11 years to bring new discoveries into production under current conditions.

Overall, domestic supply is down while consumption is up, leaving but one remaining source of oil to balance the picture: foreign crude. Right now our country imports about one-third of the oil we consume. The slide estimates that by the year 2000 we'll be importing about <u>half</u>.

[Slide 11 -- World Proved Crude Oil Reserves]

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As this slide reminds us, OPEC countries control more than twothirds of the world's proved crude oil reserves. Thus, OPEC stands to benefit when supply and demand once again tighten. Above all, it would be a mistake to underestimate Saudi Arabia's continuing impact on world energy markets and prices.

I have <u>not</u> included a projection for the future price of crude. The slide would have to show so great a range as to be almost useless -- say, a spread of \$20 to \$50 a barrel for Saudi Light in the year 2000.

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In closing, I'll mention some of the real and potential problems facing the oil and gas industry today -- problems which could adversely affect the industry's performance and leave the consumer in worse shape than depicted in my slides. As you know, energy conservation has left the U.S. industry with unneeded refining and marketing facilities. A shakeout began several years ago and continues, as companies try to grow or survive in a suddenly mature, fiercely competitive business.

As one aspect of industry restructuring, we've seen a lot of mergers -- Chevron's with Gulf being the largest example. It's been said that because of these mergers, cash has been diverted from exploration. We disagree. In our opinion, lower drilling levels have been caused by what I mentioned earlier -- uncertainty over future price levels.

It's not just a question of what the price of oil will be next year.

Long lead times are involved in finding, developing and bringing oil to market. As I said, it typically takes 8 to 11 years after the original lease sale, or up to 15 years if we're talking about deep water or hostile environments. For the exploration manager trying to decide whether to commit cash flow to a "wildcat," the current situation ... with its wide range of possibilities for future oil prices ... is a nightmare.

After that, I'd mention tax reform as contributing to a poor investment climate.

In Washington, no final reform bill is in sight. But we are concerned, because the legislation shifts tax burdens to business, which hurts all business. Also, the House version eliminataes the intangible drilling cost deduction, which would hurt our industry.

Finally, there's the ongoing problem of land access for energy development.

I'll only mention this in passing because you'll be considering it later this morning ... but some of the coastal states and some environmental groups continue to try to block or delay virtually every new federal offshore lease sale, including last month's Bristol Bay sale in Alaska.

It's true that for the first time in four years, there is currently no Congressional "moratorium" in force blocking offshore lease sales. But no one is greatly encouraged for that reason. At any time, the moratorium people could be back.

Ladies and gentlemen, I hope this conference generates support for public policies which encourage petroleum production, in Alaska and elsewhere.

Thank you for your concern and attention.



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SLIDE 10



## Incentives - Costs and Benefits

by

Walter F. O'Connor Vice Chairman-International

Peat Marwick

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Presented to the Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska

It is my pleasure today to address you as part of the Alaska Conference on Resource Utilization. In particular, I'd like to share with you today some thoughts with regard to incentives. However, I'm going to approach this subject matter from a different perspective than perhaps most of you would anticipate.

The word incentive comes from the Latin word Incinere which interesting enough means "to sing." Now I'll save you the torture of listening to me sing, but I will try to put forth some ideas -- some of which that will challenge you -- as to how I think incentives fit into the Alaska economy. I will also tell you how I think they <u>do not</u> fit into your economy.

As a start, the theme for my speech is going to be to "look to fundamentals" as opposed to quick fixes in terms of incentive gimmicks. I think states such as Alaska have to look to their underlying fundamental assets such as: the educational system, infra-structure, the ability to move materials into Alaska to be worked on, and also to move products out of Alaska once they are produced. As you'll notice in no case have I mentioned things like interest free loans, subsidize training of people, nor tax holidays.

In my talk, I'm also going to emphasize the long range and not the short range. If you're looking for a quick answer to a fundamental problem, then don't look to my speech, I don't have that answer. I will give you some thoughts with regard to actions that Alaska might take to position itself for the economic future utilizing its underlying assets and to make up for deficiencies in those assets via the use of incentives of various kinds. As an opening for our discussion, lets look at a few basics I'd like you to keep in mind.

- 1. What really are the goals of Alaska? Do you have any that are clear in your mind, and are they part of your culture?
- 2. Do you really want a change in the life style of Alaska or do you just want the world to "leave you alone?"
- 3. What is your real resource? Is it things (like timber, fish, oil) or is it the Alaska people?
- 4. Are you thinking of incentives to help you export your products outside of Alaska or to encourage companies to come to Alaska to create jobs or is it both?

- 5. Is Alaska really like a less developed country?
- 6. Are Alaskans just pieces of machinery used to cut timber, get fish out of the water, or are your people more than that?
- 7. Is Alaska a close knit group of people from business, government, and educational institutions or are the groups fighting one another?

These questions are controversial. I propose to deal with them during the course of my presentation and at the end give you some challenges to think about. Now let's get started. My presentation will be divided into the following sub-headings.

- I. Why do people use incentives?
- II. What types of incentives are used by various countries and states to encourage the economic base?
- III. What are some examples of situations where incentives are used?
  - IV. Do incentives really work?
  - V. What of these incentive discussions are relevant to Alaska?
  - VI. Challenges for Alaska to consider.
  - I. Why do people use incentives?

Basically, governmental institutions use incentives to encourage economic action in order to <u>differenti-</u> <u>ate</u> them from others. Countries like Singapore gives incentives to differentiate it from Japan, Ireland gives incentives to differentiate it from other common market countries, and Puerto Rico gives incentives to differentiate it from other Latin American countries

But why differentiate? The answer is because these countries have deficiencies in their fundamental attributes that have to be made up by incentives. That's just common sense. For example, if a country has all the fundamentals going for it, why offer incentives at all? But what are these basic fundamental factors that business people look to? They are factors like size of the market, the costs of inputs, the economic and political environment toward investment, the availability of high skilled labor.

Where any of these are deficient, they have to be made up for by incentives.

Let's also admit that the reason for making up for these deficiencies essentially is to create jobs in the country or state or city where activities taking place. I will come back in a few minutes to this whole question of the qualitative vs. quantitative aspect of job creation.

So this is basically why people use incentives but what incentives are used?

#### II. What incentives are people using?

Here a distinction has to be made between <u>major</u> and minor incentives. What do I mean by that? Basically, what I'm getting at is major incentives are the quality of labor, markets, suppliers, transportation, etc. which are fundamental to an economic unit as opposed to tax exemptions, low-cost loans, personnel training, etc. It's essential to keep this in mind because too many people go right to what I call minor incentives, which are more "gimmicks" to offset major disadvantages. These minor incentives can't really offset major disincentives and its good to know this For example, if Alaska just can't at the start. compete with California with regard to some of the problems it has with cost of its labor, geographic location, temperature, etc. then there probably are no amount of incentives that will attract investment from California to Alaska. Am I asking hard questions? I certainly hope so. That's my purpose in being here today. If you want soft pablum, then I suggest you not go any further reading this article.

Attached as an exhibit to this article is a listing of criteria that companies have developed for judging investment in certain parts of the world. They are listed in an order of priorities so that you get some idea of what some companies consider most important than others. There's not enough time to cover all the criteria in this speech, but I offer it for study from the standpoint of what advantages your (and disadvantages) does Alaska have with regard to these criteria. You could try to get companies to not think of them as important, but then I think you're swimming upstream. It's more important to be realistic.

For those people who are interested in encouraging people to develop exports specifically -- which is an area for which Alaska is noted -- one of the main "incentives" is to be visible at a global level. For example, it is important that Alaska be visible in those countries to which its exports are (and will be) going, such as: Japan. Korea, and China. While the strength of the dollar is an important factor to exports, there is very little that Alaska can do with regard to the strength of the U.S. Dollar vs. the Japanese Yen or the Korea Won. Therefore, it has to work on the elements over which it does have some control (i.e., visibility).

I have a theory that the combination of (1) knowledge of a product and (2) accessibility to people who sell that product make for (3) additional sales. Consequently, to the extent that a state like Alaska can improve the knowledge of its products in the foreign market and make its exporters more accessible, it can gain a competitive advantage. This is an incentive which is not labeled as such but is most effective in expanding economic penetration of foreign markets.

Let's take a look at some examples of other government entities using incentives. Let's be specific.

> With regard to the high tech area -- maybe this is not of interest to Alaska, I'll leave it to you to decide -- there are a number of factors with regard to attracting high tech companies to a geographic location. There is, for example, a need to have research and development. a base for Japan, for example, has used this very effectively. The exchange of know-how by companies in a country (or state) is important for the development of a high tech industry. Therefore, it is important that there be a group of established companies in a state to give a high tech expansion a head start.

> This has been done in certain countries through the "innovative imitation." form of What this means is to reduce the risk of failure by not trying to start from scratch with regard to R&D but rather to "piggyback" on companies that are already in the geographic area and imitate what they are already doing.

III.
This form of innovative imitation, allows companies to escape from labor intensive industries into capital also intensive industries. Ιt enables the state to identify specific infant industries that it wants to protect and do it on a rifle approach as opposed to a shotgun approach. In countries such as Japan, this was done down to the point of selecting which companies would be able to get know-how from abroad and also whether the products would be licensed or structured through joint ventures. No I'm not suggesting that there is a parallel between Japan and Alaska. But I am saying that, if Alaska wanted to get into the high tech area, it must give consideration to the way things have been done by successful countries.

In the case of Japan specifically, it did a lot of controlling of what goes on in the country -and was successful. Singapore, like Ireland, did less control and, as a result, has not been able to obtain a high degree of R&D activity nor penetrate the high tech market. The idea of "Zaibatsu" creates a network of companies within a state that feed off one another and makes the <u>whole</u> greater than the <u>parts</u>. This has to be considered by Alaska.

other states in the United States have What been using incentives? Alabama and Mississippi have been well noted for the sophisticated way in which they have attracted foreign investment. They have a high budget for things like training of people, provision of land for plants, building of plants, tax incentives, and a myriad of other things. The Southeast in basic terms has been "successful" on the basis of the definithat politicians in those states would tion give I'm not sure this is true but at least that it. is what the politicians say.

The New York Times in a December 9 article listed a series of states that have gotten heavily involved in foreign investment into those states. Places like Delaware, Pennsylvania, Illinois, Indiana, Nebraska, Wisconsin, and Washington have all pushed hard with incentive programs in order to attract foreign investment into those states. But one of the key factors in this article is the competition that goes on between the public and private sector. It is interesting that the state governments, realizing federal government is stepping out of certain the economic activities, have to do something at the state level to attract investment into them. These

states mentioned have specific programs geared to this type of investment. Many of them are structured around the high tech industry. Some are creating a pro-business atmosphere and others like Wisconsin are trying to turn around an anti-business image. Alaska would have to evaluate the status of its image in the private sector to see to what extent it would need state government assistance to overcome any anti-business images.

What many of the states are also doing is "incubating" small businesses. In essence, what it does is get small companies in the state started so that they can reach a state of economic viability and then go fully into the private sector. The intent of these states is not to have the public sector stay in the private sector indefinitely, but rather to get these companies over the difficult hurdle of infancy so that they do not get swallowed up by larger private sector entities and never get off the ground.

Another factor on how states are getting involved in incentives is to zero in on <u>job creation</u>. Jobs seem to be the major objective particularly in the eyes of the politicians that are behind these programs. They look either at trying to keep local plants which would be shutting down to stay open or to lure plants from other states. Here again, we have to go back to what the major vs. minor incentives would be. In my mind, if a state has significant major deficiencies no amount of incentive is going to get a plant to move to that location, nor indeed would it enable private industries to resist the urge to shut down plants in those locations.

With regard to incentive programs going into certain countries, why do some succeed and some fail? The answer fundamentally seems to be in the "marketing" incentive program. Those countries which of thecan cut through a lot of bureaucratic red tape and provide a "one-stop shop" for private industry to get itself started in a state in the easiest possible way are the ones that are the most successful. Ireland in particular (through the Irish Development Authority) is one organization that has been emulated by many groups on a worldwide basis. The hand holding aspect of walking people through the government bureaucracy is a definite plus factor for people that want to be successful for any incentive program.

With regard to the question of job creation. Robert Reishe from Harvard University is producing a new called "The New Commonwealth." book It basically focuses on a simply idea, but I think it is a powerful That is governments very often are (wrongly) one. focusing on the <u>number</u> of jobs that are created as opposed to the <u>quality</u> of jobs. This is going to become a mistake as changes in industry take place from smoke stack to high tech. Government officials in order to get elected very often have to get quantitative statistics on how the expenditures for incentive This gets us to the core programs are successful. of my presentation on costs vs. benefit. I don't think a certain number of dollars expended equates to a number of jobs. If one looks at Puerto Rico, for example, it really has not created the quantitative types of jobs that was originally envisioned. Ιf anything, in some industries (such as pharmaceuticals), it would have been cheaper for the government to give outright payments to individuals in Puerto Rico rather than incur the heavier expenses of income tax exemptions in order to create jobs. The creation jobs in capital intensive industries just isn't of quantitatively. On the flip side, however, there the question is "what do you want your incentive program to provide? A bunch of people who are just parts of machinery or people whose intellectual capability is stretched because incentive programs create a higher level of person in a state?"

One way countries and states are doing this is by creating joint ventures between foreign investors host country people. By doing so, the human and beings in a state are upgraded in terms of the value added they are providing to the output they are gen-To not do so is to do nothing more than erating. some U.S. companies did when they went to Europe in the 1950s and 1960s. If you remember those situations, the United States companies basically used the overseas locations as production output places, but seldom transferred all of the technology that was needed in order to upgrade the quality of people in the overseas plants. We may complain about this from the standpoint of what foreign companies are doing in the United States today, but are they really doing anything different than what U.S. companies did 20 years ago?

The reason this is important to Alaska is the proximity of Alaska to the Pacific Rim. Countries like Japan,

Taiwan, and The People's Republic of China Korea, are so close to Alaska -- as opposed to other states in the United States -- it is important for Alaska to consider using incentive programs to attract countries like this to bring some of its technology to the United States. We normally think in terms of from the United States to all technology flowing foreign countries. But in the last decade, we are seeing a reverse flow of technology. The smarter states in the United States will be the ones that position themselves in a way to capitalize on this from the standpoint of improving the quality of the jobs created.

This is particularly important to Alaska because of the high cost of labor in this state. If the labor isn't worth what it is being paid, eventually, it has either got to settle for a lower life style or have to create an increase in the value added to output by these high priced individuals. Alaska labor just has to be worth what it's paid in the long run because there's no "free lunch."

Some information I received from Alaska is that it is willing to provide specialized financing to companies coming in as long as they know what their preferences are. However, the question here seems to be that Alaska does not know what the preferences preferences are. are of the possible investors. It seems to me that harder work has to be done with regard to investigating what the investors in the foreign countries are interested in and target incentive programs on them. Such incentives might not be things like interest free loans or tax incentives rather they might be a question of offsetting negatives in the areas of infra-structure, access to academic institutions for R&D, and quality of people.

A11 is not bleak! Alaska has certain advantages now from the standpoint of foreign trade zones such as the one in Valdez. I'm not knowledgeable enough about the situation here to know to what extent this has been done on a rifle basis as opposed to a shotgun However, I do know that in the case of program. Pennsylvania, they created a free trade zone for the Volkswagen plant itself! As a result, they made it easier for Volkswagen to deal with custom duties on supplies brought in to do the work in the Volkswagen plants. Has consideration been given in Alaska to creating free trade zones around specific manufacturing plants in order to ease the production in this state?

### IV. <u>Do Incentives Really Work</u>?

The basic answer is <u>no</u> unless a company has decided to go ahead with an investment in the first place. As I indicated earlier, once a company has reviewed all the criteria it takes into account with regard to making an investment, the "gimmick type" incentives really aren't going to make or brake the decision. All they really do is change the return on investment calculations that are pushed through micro-computers.

However, once a company has decided to make an investment, then things like low cost funds, training programs, tax incentives, etc. are important because they're required to put a state on the same footing as their competitors.

That is why I've created as a theme for this presentation the fact that we're looking to fundamentals and not to short-term gimmicks. There is very little correlation between the new locations of plants and tax rates of individual states. The tax rates are just not that important from an overall standpoint.

Therefore, I think the theme I've picked is a good one because it says work on the big factors and don't work with the small gimmicks as part of an overall economic program. It also highlights the questions that I've raised earlier and will revisit at the end of my speech with regard to what are the real resources of Alaska?

### V. Is Anything I've Said Relevant to Alaska?

I tried to make some of my comments relevant to this particular state although there is material here that is of interest to all states in the United States. Let me just click off, however, somethings that Alaska might give consideration to as a result of the various factors involved in investment that I've alluded to earlier.

1. It is important that Alaska give consideration to developing its indigenous industries and not try to change itself dramatically. Go with your strength and don't try to become another Puerto Rico or Ireland!

- 2. Give consideration to moving into the high tech area. In order to do this, Alaska will need some big firms that are in activities that would enable high tech companies to get a "free ride" off them. If there are no big companies in Alaska that could serve as a base for high tech, then I would say abandon it. If there is, however, Alaska could become a "new pioneer" state just as Singapore became a new pioneer country.
- 3. I would suggest that Alaska give consideration to generating innovative R&D facilities. It should consider upgrading the educational institutions to tie in with the private sector.
- 4. Alaska should give consideration to helping companies at the early stages by providing the incubating feature I mentioned earlier.
- 5. Alaska should also select high tech companies outside of the state and try to entice them to coming into Alaska so Alaska can use them as a base for growth in the high tech area.
- 6. Incentives should be given to private sector companies to perform their activities within Alaska.
- 7. Alaska should also try to give incentives to have as much local sourcing of components within the state as possible so that companies establishing operations here would not have to bring a lot of components from outside the state to be worked on just to be exported.
- familiar enough with the infra-struc-8. I'm not ture of Alaska but the little information I needs have indicates that it upgrading. Infra-structure excellence is exactly what Japanese companies to Tennessee attracted for automobile manufacturing.
- 9. Alaska should provide a one-stop shop so that there is a government expediter for companies trying to come into Alaska. Being smaller than some states gives Alaska a particular advantage in that a company does not have to weave through a lot of the difficulties that might be found in larger states such as: California, New York, and Illinois.

All of the above are <u>action steps</u> that Alaska might think of in connection with any aspiration to enter the high tech market. However, many of the principles are also relevant with regard to many other growth industries.

I mentioned earlier the importance of combination of <u>knowledge</u> of product and <u>accessibility</u> to providing sales in connection with states that want to export their products. This should also be applicable to Alaska, and I offer it for your consideration.

Also with regard to exporting the use of Export Trade Corporations and Foreign Sales Corporations, provide one-stop shops which enable companies to get advantages from the exporting of products from the United States. With the enactment of the Export Trade Corporation Law, the feeling was it would provide a similar facility to the trading companies of Japan. This has not been the case in the short run because the private sector has found out that they do not really know how to operate Export Trade Corporations. This might be an area where the combination of public and private sector activity could make it easier for Alaska companies that have products that can be exported to do it without a lot of bureaucracies standing in the way of economic success.

With regard to "structuring," the idea of creating joint ventures between foreign and Alaskan parties is something that could be expanded on a greater basis. This would offer the combined advantage of getting input of technology and also marrying the advantages of Alaska with the advantages that come from the foreign investor. This would leave -- within Alaska -- a qualitative growth in the jobs that are created from this activity.

Another action that Alaska should consider is the connection with Japan, Korea, and China. My reading of the statistics dealing with imports and exports from these countries indicate that Alaska is very close to these countries already. Expansion of this on a government to private sector combination makes what I said earlier very relevant to Alaska.

One thing that I have noted, however, is that even though there is a high percentage of Alaskan people who have post high school education very few orientals are in Alaska at the present time. This is a

deficiency in the Alaska population to  $wh^{(1)}$  I will refer to in closing.

Another factor for Alaska to consider is that more than 2/3 of the new jobs being created in Alaska are being created by companies with 20 or fewer employees. Consequently, not all Fortune 500 companies need be sought for a successful economy program if job creation is a major factor for Alaska

I also understand that there is (or was) an Alaskan Council of Science and Technology. I don't know the status of the activity at this point in time but offer it as an idea whose time maybe has come. It does suggest to me, however, that there has to be more "give" on the part of Alaska as opposed to having Alaskans hope that foreigners change their way of acting to conform more to what Alaskans are used to. If international trade is to be successful, it means that both sides have to give a bit. You can't recreate Alaska in Japan any more than you could recreate Japan in Alaska.

Finally, some changes required of Alaska would include the use of the Office of International Trude. The use of "multipliers" by Alaska would subject that they tie in more closely with large international service organizations to help them. A tirm like Peat Marwick, for example, has 300 officers around the world. It would seem to me to be quite logical for Alaska to use the resources of firms like Peat Marwick and other accounting firms in Alaska to help expand its economic penetration on a worldwide basis.

# VI. <u>Some challenges for Alaska</u>.

Let me conclude my comments with the statement of some of the challenges I see Alaska having in connection with incentive programs. They probably can be best handled by raising some questions

- 1. Does Alaska really want to change? If you don't want to change the things that are going on in Alaska at the present time, then I suggest you not think in terms of getting involved in the international environment.
- 2. What are your real resources? The Resource Development Council material that I read during my research for this speech talks very heavily

about timber and fish and oil and minerals -things rather than people. I will throw back to you the question, "Aren't your people your most valuable resource and to what extent is your resource development program geared to upgrading the people of Alaska?"

- 3. Is your attitude in Alaska one of "Laissez-Faire" or is there a real climate for entrepreneurship? Some people I've talked to are quite pro-active. Others, on the other hand, think that the recession we just came through was a temporary situation and that we really don't have to do anything in Alaska. Everything will get back to the "good old days" without a lot of effort. I question that.
- 4. There is a challenge for Alaska from the standpoint of taking existing industries in Alaska and wedding them with the high tech industry. Alaska, for example, has one of the most advanced knowledges of energy pipeline technology than anyone in the world -particularly those in the cold weather situations. To what extent is Alaska identifying itself on a worldwide basis with being "The" state with knowledge in this industry.
- 5. To what extent is Alaska capitalizing on its proximity to the Pacific Rim? Yes, I know there are offices in Japan and a newly created one in Korea. Yes, I know there are visits by government officials to the Far East. But is that Is enough being done to really really enough? differentiate Alaska from other states like California, Tennessee, New York, Illinois, etc. who are also making visits and having offices in those countries? Will you be the first in Beijing?
- 6. Alaska's quality of life seems to be very important to it and it should be. But if the mentality is that everyone just wants to leave everything the way it is today and be able to go hunting and fishing on Mondays and Fridays and only working on Tuesdays, Wednesday, and Thursdays, then I think there is not enough to differentiate Alaska from the other states in which investment might come and from which exports might be made.

- 7. Do you want anymore people in Alaska? In some instances, I've heard people say they do not want anymore immigration into the state, but I do think you need some Asians in Alaska if you are really to have a proper blending of Asia and indigenous people in order to make a significant impact in the Pacific Rim from an Alaska standpoint.
- 8. Alaska has not cashed in on the high tech boom to this point in time. Does it really want to?
- 9. Alaska has the following problems:
  - 1. Lack of transportation and other infra-structure
  - 2. High Labor costs, lack of skilled labor
  - 3. High transportation costs
  - 4. Remoteness

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- 5. Limited local markets
- 6. Lack of significant utility development
- 7. Institutional and regulatory problems:

Uncertain land status Environmental constraints Uncertain tax policies Lack of coordinated state development plan Federal government influence

8. Weather

Is Alaska willing to face up to these problems and do some things from an incentive program to offset them in the minds of potential investors?

10. Does foreign investment into Alaska really present political problems which could not be overcome from a private sector economic standpoint? Are Political Action Committees (PACs) creating a sensitivity with regard to foreign investment and make it a good subject to talk about but not one you do much about?

- 11. Does the question of foreign investment in the United States present an anti-union image so that the unions in Alaska would be more concerned with protecting what they have today vs. expanding what could happen in the future.
- 12. Has the amount of foreign investment created a sufficient amount of technology acquisition to make Alaskans feel that there is an upgrading of the quality of jobs and the people?
- 13. The Alaska Policy Statement #5 gives some clear directions into which it might go but do they go far enough? Visits to foreign countries by some states are nothing but junkets. I think a clearer direction is to use companies that have been successful in Alaska to be your good will ambassadors as opposed to only having government officials go abroad.
- 14. There is potential for Alaska to position itself as a world global economic center in the "triad" between North America, Japan, and Europe. Is Alaska thinking far enough down the road in connection with positioning itself to be this type of entity?

#### Some Final Thoughts

From material I've read produced by the Alaska Pacific Bancorporation, I understand that the Alaska government is plateauing from the standpoint of providing economic resources but yet government policies are becoming very important. Therefore, it suggests to me that there are certain cross-currents developing in Alaska and decisions have to be made with regard to the points I have raised. I don't know if incentives alone will enable Alaska to overcome these kinds of deficiencies. I would suggest, however, that minor incentives of the type I've described earlier will not be enough to answer these problems. If the fundamentals are not dealt with, then the gimmicks will not overcome them. You just can't put a band aid on a broken leg.

I do think, on a more positive note, that in the service industries, import substitution by Alaska could create a situation where it would become an international banking center and become pre-eminent in the financial services area particularly as it relates to the Pacific Rim. With these thought provoking ideas, let me close with a few final observations to stimulate your thinking for the future.

- 1. First, go for the basics in incentive programs. Only after they are analyzed and sorted out use minor incentives to differentiate Alaska from other states.
- 2. Answer the question for yourself of what is a foreigner. Who was a foreigner in 1786, who was a foreign in 1886, and who is a foreign in 1986? In the 1986 environment, maybe Asians are considered foreign but, at one point in time, we were all "foreign" to the United States.
- 3. Is Anchorage going to be an overflown place like Shannon, Ireland, was? At one point in time, airplanes couldn't go any further than reaching Ireland so it was the immediate stop off point of everyone going from the United States to Europe. This is no longer the case. It should not be the case for Anchorage and the Pacific Rim if Alaska is properly structured in an incentive program.

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- 4. These programs might create discomfort in many ways some of which I've alluded to. Perhaps even more importantly we'll need a movement of people from rural Alaska to urban Alaska. Are you ready for that kind of challenge? If not, then perhaps you should abandon any program of incentives in the first place.
- 5. From the standpoint of risk taking, if you can't take the risk that some of the programs I've suggested will fail, then you might as well get ready for a decline of Alaska where the modern world is moving into a fuel efficient, information society. Alaska just can't succeed by only figuring out a way of producing a cheaper oil or cheaper timber or cheaper fish because these may not be the most important things in the decades ahead in the new society that faces us.
- 6. Are you positioning yourself for an environment when robots make robots? The United States reached the 5,000 robot level in 1985 and by 1990 the expectation is that robots will more than double that figure. As I've said in other speeches, it is funny when robots sweep up behind humans but not so funny when humans sweep up behind robots.

These are the challenges for the future. These are the things that Alaska is facing. I don't know how you quantify them from the standpoint of determining costs vs. benefits of incentives. However, I do suggest that it is not as simple as a ROI calculation on a calculator. The benefits to the human values in Alaska have to be determined on a qualitative and not quantitative basis. It requires the Alaskans of today to position themselves to the 21st Century. What life are you preparing for 21st Century Alaskans?

Thank you.

# <u>Exhibit A</u>

# FACTORS TAKEN INTO ACCOUNT IN DOING BUSINESS WITH OR IN THE UNITED STATES

In order of most to least important

o Size of market

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- o Disposable income of market
- o Competitors strategies
- o Security of capital, repatriation of funds
- o Freedom from expropriation threat
- Proximity to customers cost, service, familiarity, market protection advantages - lower customs, transportation costs.
- o Existing U.S. market through sales agent exporting to U.S.
- A product with competitive advantage better or cheaper than product now successful in U.S.
- o Protectionism import quotas, customs
- Broaden base of international operations can smooth ups and downs of markets
- o Sourcing factors
- o Cost of labor
- o Investment incentives
- o Technology transfer
- o Distribution systems
- o Communications systems

# <u>Exhibit B</u>

# Case Study on U.S. Corporations Going to Ireland

Reasons for Establishment:

- o Position in own home market
- o Existence of market overseas (Europe and Africa, Middle-East)
  - o size
  - o potential
  - o ease of entry/restrictions etc.
  - o competition
  - o product modifications
  - o profitability
- o Identification with marketplace

o Delivery/transportation costs

<u>Other</u>:

o Foreign government incentives

o Lower labor/production costs

- o Access to technology
- o Personal reasons of owner/president of company

Having determined:

- 1. That an offshore manufacturing operation may be necessary, and
- 2. That the company has the management capability to undertake such an activity

then an in-depth analysis takes place.

In general, companies examine, or perhaps more correctly should examine potential locations on three levels. First, they should look at a number of "macro factors" which could be grouped under the heading of risk (e.g., possibility of wars, internal civil disturbances/revolution, nationalization of industries, political instability; hyperinflation, major currency devalua-

tions, etc.) and relate this to the level of return expected -- there is a cut-off point beyond which the realization of higher profits will not compensate for the risks involved. The second level of investigation occurs when all the macro risks have been considered and a company arrives at a shortlist potentially acceptable locations. These locations will of undergo a series of qualitative and quantitative tests. The quantitative aspect should -- but in many cases does not -include an analysis of the financial viability of the project on a stand-alone basis i.e., without the benefit of special foreign government "incentive packages:" if a project cannot successfully pass this point or is marginal at best than the decision should be "no-go." On the other hand, if the results of the tests are satisfactory then the third level is applied i.e., a detailed consideration of financial aspects inclusive of the "tax and financial incentives" should be compiled for comparison purposes.

Although the most effective locational investigations are carried out in a fairly standardized and logical sequence, there are instances where, through a system of intelligent and creative marketing, undue weighting can be given to particular facets of the investigative process. One example of this might be the inward investment program as it is organized in the republic of Ireland -- a program which because of its success is now the model for many other developing and developed countries of the world.

At an early point in its industrial development planning, Ireland realized that the most effective way of putting Ireland on the world consciousness map of places in which to invest, was to devise a set of incentives which would:

a. be simple in form, and

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b. maximize the return on the equity invested.

So successfully was this done that some 300+ U.S. companies have established manufacturing operations in Ireland. Moreover, the Irish "package" of incentives (both qualitative and quantitative) achieved a juxtaposition to the top of the list and in many cases delayed consideration of other factors until after a positive investment decision had already been taken. This was particularly true of the U.S. investor looking at the European market -- as an example, the usage of profits earned in Ireland and the interdependency of the U.S. and Irish tax systems did not appear to generate a great deal of consideration until the implementation stage of the project. A second factor which achieves a significantly high ranking in U.S. investments is "language" i.e., the comfort factor of being

able to converse in English, and thirdly, in a Europe (the targeted market for an Irish based operation) with an ever increasing tendency to lean to the left -- as exhibited by both governments and labor alike -- the stated commitment of the Irish government to permit the private sector to "manage their own business" without undue interference and enjoy, to the maximum, the results of their investments outside of Ireland if so wished, was refreshing.

The factor of genealogy i.e., the large number of Irish Americans in senior positions in U.S. industry was a non-starter -- indeed, in many cases it turned out to be a negative factor for Ireland since chief executives did not wish to be perceived to be favoring one location over another on the basis of heritage.

Neither does the geographic position of Ireland i.e., off the North Western tip of Europe have any major negative effect.

A comparison of a sequential type of analysis with the rearrangement as effected by the Irish programs might look like this:

#### Sequential:

- 1. Availability of market
- 2. Geographic:
  - o Location
  - o Physical features
  - o Climate
- 3. Demographic:
  - o Density
  - o Age
  - o Growth rate
  - o Living standards
  - o Language
- 4. Political:
  - o Type of government
  - o History of Stability
  - o Attitude to investment and private sector
- 5. Labor:
  - o Availability
  - o Employment/unemployment levels
  - o Education/training

- o Overall costs
- o Productivity
- o History and trend of industrial relations
- 6. Economic:

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- o Status of economy
- o Structure
- o Gross national product
- o Growth rate
- o Inflation
- o Foreign trade
- o Financial system
- 7. Finances of project:
  - o Labor, building, operating etc., costs
  - o Institutional funding
  - o Own investment
  - o Profitability
- 8. Communications
- 9. Utilities
- 10. Transportation
- 11. Sources and supply of raw materials
- 12. Environmental controls/regulations
- 13. Support services -- quality and availability in both private and public sectors.
- 14. Business organization and structure:
  - o Use of funds/profits -- where, for what purpose, what currencies.
- 15. Financial incentives; structure, timing, and size:
  - o Tax incentives; corporate and individual; local and home country, and their interdependence.

#### <u>Ireland:</u>

1. Availability of market

2. Irish government incentives

3. Total financial picture

- 4. Political environment
- 5. Language
- 6. Labor
- 7. Raw materials
- 8. Communications
- 9. Geography
- 10. Economy
- 11. Transportation
- 12. Support services
- 13. Environmental regulations

and later:

- 14. Usage of profits earned
- 15. Corporate structure

# WOOD PRODUCTS AS A WORLDWIDE COMMODITY

by

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"CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE?"

and

"ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

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# WOOD PRODUCTS AS A WORLDWIDE COMMODITY

#### Global Forest Products Trade

Wood has been an important commodity in world trade for centuries. Over 4500 years ago Lebanon exported wood to Egypt. Christopher Columbus carried mahogany from his explorations of the New World back to Europe. The continued significance of world wood flows is evident by a total value of global forest products trade in 1980 of \$34 billion (Radcliffe & Sedjo, 1984).

As would be expected, wood products trade flows from wood surplus to wood deficit regions. Relatively few nations export forest products, as their domestic wood supply is used for meeting domestic requirements. This is especially apparent in the case where fuelwood, the end product of most wood harvested world wide, is a negligible component in world trade. Even though extensive forest resources exist in many nations, forest products exports are possible only if economic demand justifies the extraction and shipment of that wood. Wood product imports, likewise, occur when a country is deficient in economically satisfying its demand from domestic wood sources.

Presently, the two countries most heavily involved in forest products export trade are the United States and Canada (Fig. 1). Total U.S. forest products exports were valued at \$5.6 billion in 1983 and, constituted about 12 percent of all forest products exports (FAO, 1985). In that year, Canadian wood exports were valued at \$10.2 billion or 22% of total exports. On a regional basis in 1983, the following major contributions to forest products exports were recorded: Europe - \$19.9 billion (42.0%); Africa, \$1.1 Billion (2.3%); Central/South America, \$1.4 Billion (3%); USSR -\$2.6 billion (5.4%); Asia - \$5.8 billion (12.2%); and Oceania, \$.7 Billion (1.4%) (Figure 2) (FAO, 1985).

On the import side, the U.S. is also the largest importer of forest products. In 1983 its share was \$9.0 billion or 16.9 percent of all world forest products imports. Japan was second at \$6.1 billion or 11.4 percent. On a regional basis, in 1983, the following major import shares were recorded: Europe - \$24.9 billion (46.9%); Asia - \$12.5 billion (23.5%); Africa - \$2.0 billion (3.8%), Central/South America -\$2.1 billion (4.0%); Oceania, \$.74 Billion (1.4%); and the Soviet Union, \$.96 Billion (1.8%) (FAO 1985, Figure 3).

### Major Forest Products Flows By Commodity - Current Picture

The major commodity groups considered in forest products production and trade are broadly defined as fuelwood (including charcoal), industrial roundwood (wood in log form), sawnwood (lumber), wood-based panel products (including plywood, flake and chipboard products), wood pulp, printing and writing paper, newsprint, and other papers and paperboard. Additionally, roundwood, sawnwood and plywood panel products are frequently divided into conifer (softwood) and non-conifer (hardwood) categories.

The 1983 global pattern of export trade in these broad categories is shown in Figure 4 and is briefly summarized below.

# Industrial Roundwood (Conifer)

The United States is the world's largest exporter of softwood logs. Its vast resources located in the Pacific Northwest, the Southeast, the Great Lakes, and Alaska, produced over 256 million cubic meters or 26 percent of the world's softwood log exports in 1983 (FAO, 1985). The primary destination of U.S. softwood logs was Japan, accounting for almost 52 percent of U.S. exports in that year. The second major softwood log producer and exporter is the USSR. In 1983 the USSR accounted for almost 25 percent of the world's conifer log exports (242 Mill M<sup>3</sup>) with most of this material also destined for Japan (FAO, 1985). The species mix of larch/red pine found in the USSR is generally of lower quality than other softwood log producers and commands lower prices on world markets.

Extensive plantations of radiata pine (Pinus radiata) in New Zealand and Chile are rapidly maturing and this will assuredly establish these country's positions as major softwood log producers and potential exporters in the near future.

In addition to Japan, other major importers of softwood logs are the People's Republic of China (PRC), South Korea, Europe, and Taiwan. Figure 5 shows the major global trade flows in softwood logs as of 1981.

#### Roundwood (Non-conifer)

Hardwood log flows for 1981 are shown in Figure 6.

Hardwood species produced and exported in log form in the Pacific Rim come primarily from Southeast Asia. These are the socalled South Sea logs. The role of individual countries in South-Sea log export has shifted dramatically (and often) over the past two decades. In the sixties, the Philippines were the primary exporter of logs, but as resources became depleted through overcutting, mismanagement, and lack of adequate reforestation efforts, the government was forced to curtail exports. Today log exports from the Philippines are negligible.

Indonesia, based on the largest non-conifer forest base in the world, rapidly rose to the number one hardwood export position and supplied nearly 50 percent of all Southeast Asian non-conifer log exports in 1978 (FAO, 1985). Indonesia, not wanting to experience the same log supply problems encountered by the Philippines, and desiring to develop a domestic forest products industry, instituted a total ban on log exports which became effective January 1, 1985. By 1983, Indonesian hardwood log exports had fallen to 3 million cubic meters, or only 9 percent of the world total (FAO, 1985).

As noted, another motivating factor for Indonesian log ban was the country's desire to capture the value added that is generated by domestic processing of logs in country - in this case, primarily hardwood plywood. As will be noted later, Indonesia now ranks as the world's number one hardwood plywood producer.

Malaysia is presently the world's largest exporter of hardwood logs (18.8 million M<sup>3</sup> in 1983 or 58%). But indications point to a future reduction or ban on log exports as timber inventories are reduced. Other exporting regions for non-conifer logs are western and central Africa-producing valuable mahogany and ebony, France, and the United States, producing and exporting primarily oak. The main hardwood log importing countries historically have been Japan, South Korea and Taiwan, which rely on these imports to supply their own plywood and furniture operations.

Hardwood logs also go from both southeast Asia and Africa to the U.S. and Europe. The major flow here is from Africa to Western Europe, accounting for 29 percent of hardwood log trade in 1981.

# Sawnwood (Conifer)

In 1983, world trade in coniferous sawnwood reached \$8.1 billion or 17 percent of all trade in forest products. Over 97 percent of exports (value basis) originated in developed countries in 1983, Western Europe and North America accounted for 72 percent of the world's imports (FAO, 1985). Historically, over 80 percent of all trade is concentrated in only 5 or 6 global flows. Flows between Northern and Eastern Europe to Western Europe and intraregional North American flows compose the major share of this trade.

The United States is also the world's second largest consumer of conifer sawnwood, the second largest producer, and the largest importer. In 1983 the U.S. imported an equivalent of over one third (12.3 billion board feet) of its domestic consumption (Forest Service, U.S.D.A., 1985). The USSR is the second largest consumer of softwood lumber, and is also the second largest exporter. By far, Canada is the world's largest exporter (48% in 1983) and, along with the USSR and the Scandinavian countries, is the major exporter to the United States.

On the import side, the U.S. is the number one importer of softwood lumber and in 1983 accounted for almost 42 percent of the world's exports (FAO, 1985). The United Kingdom is a distant second, (10.6%), followed by Japan (6%), West Germany (6%), and others (FAO, 1985). Figure 7 highlights conifer sawnwood trade flows for 1981.

#### Sawnwood (Non-conifer)

In 1983, world export trade in non-coniferous sawnwood was \$2.6 billion in value terms and accounted for 5.5 percent of world trade in forest products (FAO, 1985). As would be expected, the regions with the greatest non-coniferous resources are also the major producers and exporters. The most important of these regions is the ASEAN countries (Association of Southeast Asian Nations) which includes Indonesia, Malaysia, the Philippines, and Thailand, which accounted for 36 percent of hardwood sawnwood exports in 1981 - a quadrupling of its share over the previous two decades. Other secondary (but important) non-coniferous sawnwood exporting regions in 1983 were North America (13.6%), Africa (4.8%), and Latin America (8.2%) (FAO, 1985).

The major importing regions for hardwood sawnwood are Western Europe and North America whose shares were 56.9 percent and 10 percent in 1983 respectively. Much intraregional trade also takes place, especially within Western Europe. On a country specific basis, the major importing countries are Italy, Singapore (mainly for re-export), West Germany, France and Canada. On the export side, the major flows originate from Malaysia, Indonesia, Singapore, and the United States. Figure 8 shows the major global trade flows for non-coniferous sawnwood.

### Plywood

Worldwide production of plywood (wood based panels) is in a state of stagnation and has remained virtually the same from 1972 to 1983. What is of interest is that while production in developed countries has remained relatively constant, the level of production in the developing countries doubled over this period. There has also been a restructuring of trade flows in plywood, resulting from the ban of log exports by Indonesia which is not evident in Figure 9. Before that ban, Japan, South Korea, and Taiwan imported much Indonesian timber as a supply for their domestic plywood industries which, at that time, were quite extensive. Following the Indonesian log ban, plywood production (and consequently exports) declined in importance in these

countries. Indonesia on the other hand, initiated an immense effort to produce plywood. While it exported almost no plywood in 1975, Indonesia now ranks as the world's number one exporter of hardwood plywood, exporting over 3 million cubic meters in 1984 (Asian Timber Annual Review, March 1985).

Other major exporters (and producers) of hardwood plywood are South Korea, Taiwan, Malaysia, the Philippines, West Germany, and the USSR.

The United States is the single largest importer of hardwood plywood, accounting for 15 percent of the world's imports in 1981 (Radcliffe & Sedjo 1984). In that year 85 percent came from the countries listed above.

Softwood plywood is produced and consumed almost exclusively in North America. At this point, it is a small component of global forest products trade. The intercontinental trade that does occur is mainly the flow from North America to the common market nations of Western Europe, primarily Belgium/Luxemburg and the Netherlands.

As substitute products become available-such as medium density fiberboard - aggregate demand for softwood plywood continues to decline. This trend is highlighted by the fact that the exports of softwood plywood from the U.S. declined 29 percent from the first half of 1984 to the same period in 1985 (FAS, August 1985).

### Pulp

Global trade in pulp and paper products is the largest component of forest products trade with over 54 percent or \$25.7 billion in 1983 (FAO, 1985). Pulp exports were almost \$6.7 billion in 1983. Until 1967, Northern Europe was the largest exporter of pulp, but that region was surpassed by North America after that date. The major importing region is Western Europe, which has remained in this position for over two decades. Presently, eight bilateral trade flows in pulp comprise 80 percent of all global trade. The major flows are intracontinental trade in North America (primarily from Canada to the U.S.), from North America to Western Europe, and from Scandinavia to Western Europe.

On a country basis, the single largest importer of market pulp is the U.S. which in 1983 accounted for over 18 percent of total pulp imports (FAO, 1985). Of importance to West Coast producers is that Japan is the third largest importer of market pulp. Its market share has doubled over the past two decades to about 10.6 percent of the 1983 market. Figure 10 shows the significant global trade flows for market pulp as of 1981.

### Paper

There are over 3000 various grades and types of paper being manufactured in the world today. To best summarize, the three broad categories of paper products most often analyzed are newsprint, other printing and writing papers, and other paper and board products.

#### Newsprint

The world export flow of newsprint represents another important component of forest products trade, accounting for 10.7 percent or 5.1 billion in 1983 (FAO, 1985). It is the fifth largest forest products commodity group traded. Four major newsprint trade flows comprise 80 percent of the world's newsprint trade. These flows are, in order of importance as of 1981: Canada to the United States, which accounted for 49 percent; Northern Europe to Western Europe (21%); North America to Western Europe (6%); and North America to Latin America (5%). Significant global flows for newsprint are shown in Figure 11.

### Other Printing and Writing Papers

This commodity category is fourth in importance in world forest products trade, behind newsprint. In 1983, trade in "other printing and writing paper" accounted for 11 percent of world forest products trade or \$5.2 billion (FAO, 1985). In 1982, 57 percent of trade in this commodity was a bilateral flow between eastern and Western Europe, and the flow from Northern Europe to Western Europe, up from 43% in 1962. North American intraregional flows rank third with around 8 percent of the world's trade in 1982, being largely Canadian exports to the U.S. To a lesser degree, these products also flow from the major exporting regions to Latin America, Africa, and Asia. Figure 12 displays the major trade flows for this category.

### Other Paper and Paperboard

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This general category of products includes construction paper and paperboard, household and sanitary paper, wrapping and packaging paper, and special paper grades.

Because this category encompasses so many paper types and grades, it accounts (as would be expected) for a major share of forest products commodity trade. It has ranked second only to pulp in terms of international trade value, and in 1983 ranked first, with exports of \$7.9 billion worldwide. This was 16.7 percent of all forest products exports.

The major trade flows are essentially identical with printing and writing paper in both direction and magnitude (Figure 13). The two flows from Northern Europe to Western Europe and within Western Europe have accounted consistently for over half the world's trade. Western Europe accounted for 63.1% of exports and 55.3 percent of imports in 1983. Other regions of importance with respect to imports are Asia (18.1%), Latin America (6.5%), and Eastern Europe (including the USSR) with about 8 percent each in 1983 (FAO, 1985). For North America, exports to Western Europe have been decreasing over time but have increased to Asia, particularly Japan. The overall export contribution for North America in this category in 1983 was \$1.7 billion, or 21.4 percent of world trade in other paper and paperboard products. The largest share, \$1.3 billion, was from the U.S.

### THE ROLE OF THE UNITED STATES IN WORLD WOOD MARKETS

Recent overviews of the composition of U.S. trade in wood products have been published in "NFPA Trends in Trade: The United States World Wood Markets" (NFPA, 1985), "U.S. Timber Production, Trade, Consumption, and Price Statistics 1950-1984" (USFS, 1985), and: "Wood Products, International Trade and Foreign Markets" (FAS. Nov. 1985). These analyses are summarized very briefly here. Many of the trends have been noted in the previous sections with respect to the global overview.

#### U.S.Import/Export Overview

A broad mix of forest products is traded by the United States in world markets. The United States exports both softwood and hardwood logs, and such manufactured products as high quality softwood and hardwood lumber, structural panels, including softwood plywood, certain species of hardwood veneer, and a wide variety of pulp and paper products. It imports softwood lumber, hardwood plywood, hardwood lumber, particleboard, newsprint, wood pulp, and a mix of other paper and board products.

### Solid Wood Products Trade

Exports: Softwood logs are the major solid wood product exported by the United States, accounting for 40.1 percent of the total value of wood products exported in 1984 (Fig. 14). Combined U.S. exports of softwood and hardwood lumber were 30.2 percent of the total value of solid wood products exports, while veneer, plywood, and other panel products together accounted for 10 percent of the total. The remainder (19.7%) includes hardwood logs, wood chips, building products, railroad ties and other miscellaneous items.

U.S. exports of solid wood products have grown dramatically in the past two decades, from \$186 million in 1961 to a peak of

\$3.7 billion in 1980. Although solid wood exports declined to the 2.8 -3.0 billion range in 1981-1984, they have stayed consistently strong in spite of the surging dollar and a worldwide recession (Figure 15). Even when adjusted for inflation, U.S. exports have increased by a factor of four since 1961.

Imports: Softwood lumber, virtually all of which comes from Canada, is the major solid wood product imported by the United States. This product accounted for \$2.7 billion, or 67.5% of the total value of U.S. solid wood products imported in 1984 (USFS, 1985). Hardwood plywood, mainly from Pacific Rim developing countries, is the second biggest wood import (\$422 million), accounting for 10.7 percent of the total that year. Hardwood veneer, hardwood lumber, and other products make up the balance. Solid wood imports for 1983 are summarized in Figure 16.

U.S. imports of solid wood products have also grown, although at a less rapid rate than exports, having more than doubled on a constant dollar basis between 1961 and 1984. As previously stated, the most important U.S. wood product import is softwood lumber, which has increased by a factor of three on a volume basis from 1961 to 1984.

In the long term, one of the most rapidly growing imported wood products has been hardwood plywood, which has increased from 1.1 million square feet (MMSF) in 1961 to 2.98 MMSF in 1984, after peaking at 5.1 MMSF in 1978. Hardwood plywood is the most important import category from the Pacific Rim. In 1983, Taiwan was the largest supplier of hardwood plywood to the United States, with 35.4 percent share of the import market. Indonesia was a very close second, with 33.1 percent, and Japan followed with 9.8 percent. South Korea was the fifth leading source, with just over 7 percent. This was a marked change from 1978 when Indonesia held only 1 percent of the market and South Korea held 49 percent.

During this period, Indonesia's production of hardwood plywood almost quadrupled; it is expected to grow further as that country completes construction of over 100 plywood plants planned during the eighties. The major facing species imported is Lauan, which now accounts for 74 percent of hardwood plywood imports, up from 39 percent in 1978.

#### Destination of U.S. Solid Wood Exports

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As it has been the case for several years, Japan was the major export customer of the United States in 1984, accounting for \$1.0 billion, or 38 percent of all U.S. wood products exports. Canada, China, South Korea and West Germany were also included in the top five export markets. Figure 17 shows U.S. exports to its top customers in 1984 (FAS, 1985). The same general pattern is shown for softwood solid wood product exports (Fig. 18). For the

first nine months of 1985, total softwood exports are up slightly (1%) over the same period of 1984. China continues strong growth, with a 40 percent increase during this period.

Softwood Logs: Japan consistently has been the largest market for U.S. softwood logs. It imported 1.75 billion board feet from the United States in 1984, 52% of total U.S. softwood log exports. Western species, particularly Douglas-Fir and western hemlock, dominate trade with Japan.

Japan and South Korea have historically been the major Asian markets for U.S. logs. However, the rapidly expanding Chinese market has made that nation the second largest softwood log market, accounting for 25.7 percent of the U.S. softwood log exports in 1984. Together these three countries, along with Canada, purchase virtually all U.S. softwood logs (97%). See Figure 19. Overall, log exports are up by 15 percent (nine months, 1984-85), with China increasing its log purchases (volume) by one half.

Softwood Lumber: Japan is also the largest overseas market for U.S. softwood lumber, taking 34% of 1984 exports (Fig. 20). As with softwood logs, western species dominate softwood lumber exports, accounting for 73 percent of the total. Of that, Douglas Fir makes up 32 percent, hemlock, 22 percent, and other species, 19 percent. Southern pine accounts for about 12 percent of all softwood lumber exports.

Softwood Plywood: The leading western Pacific Rim softwood plywood importer from the U.S. is again Japan, but which accounted for only 1.8 percent of total U.S. softwood plywood exports in 1984. The leading markets were in Western Europe, led by the United Kingdom which imported 102.9 million square feet (27.8%), Belgium/Luxemburg (13%), and Denmark and the Netherlands (11.2%). Canada was the fifth leading market, accounting for 8.2 million square feet (6.9%). See Figure 21.

Hardwood Products: Hardwood exports have increased rapidly during the past few years. Though hardwood log exports have remained fairly stable, hardwood lumber exports grew from 271 million board feet (MMBF) in 1978 to 466.5 MMBF in 1984 (USFS, 1985). Hardwood exports for 1984 are shown in Figure 22.

Canada and West Germany were the two leading hardwood markets (24.1% and 20% respectively) (Figure 23). Taiwan and Japan are the third and fourth largest importers of U.S. hardwood logs, importing 9.9 percent and 9.4 percent of the total U.S. exports in 1984. Japan, Taiwan, and South Korea account for the only significant Pacific Rim hardwood imports from the U.S.

<u>Pulp and Paper Products Trade</u>: U.S. export trade in pulp and paper products is also significant, accounting for \$175.7 Million in pulpwood exports (included in industrial roundwood), \$1.35 billion in wood pulp, and \$1.72 billion in paper and paperboard products in 1983 (FAO, 1985). The U.S. was also a significant importer, with a total of \$1.49 billion in wood pulp and \$3.7 billion in paper and paperboard imports in 1983 (FAO, 1985).

Total pulp and paper exports, excluding pulpwood, totaled \$4.1 billion in 1984 (Figure 24). Wood pulp was the most important product exported, accounting for 31.8 percent of volume and 33.1 percent of value. Waste paper, while accounting for 28.6 percent of volume, was only 9 percent of export value due to the low unit values. Kraft linerboard exports were \$631 million (13.9%) and converted paper products exports were \$762 million (16.8%).

Market shares for exports are shown in Figure 25 for 1973 and 1983. Western Europe and Latin America remain major markets, although market share has declined. Far East markets have increased significantly, to 25.3 percent, with exports to Canada also up slightly on a percentage volume basis (Meister, 1984). Pulp and paper imports into the U.S. in 1984 were predominantly newsprint (\$3.3 billion) and wood pulp (\$1.8 billion) in 1984. Other paper and board imports were \$1.5 billion (Figure 26).

### ALASKA'S ROLE IN FOREST PRODUCTS INDUSTRY AND TRADE

#### The Forest Resources of Alaska

Alaska is a timber rich state of 375 million acres (571,000 square miles) of which 120 million acres (or nearly 1/3) is forested. This accounts for 16 percent of all forest land in the United States (Brady, 1985).

A disproportionate percentage of the states' commercial forest land is contained in the interior (80%) but this land contains only 29 percent of the total softwood sawntimber volume (Clark, 1982). The remaining 71 percent of the sawntimber volume is found in the coastal forests of Southeast Alaska from Ketchikan to the Kodiak area. Alaska's forests contain 10 percent of the nation's softwood growing stock and 1 percent of the U.S. hardwood growing stock (Brady, 1985).

Most of the standing timber in Alaska is old growth, meaning the timber has never been commercially cut. The highest volume of timber, as stated, is found in the coastal southeast area of the state. These forests are primarily Western hemlock (Tsuga heterophylla) and Sitka spruce (Picea sitchensis). Secondary

species are Western Red Cedar (Thuja plicata) and Alaska yellow cedar (Chamaecyparis nootkatensis). As can be seen in Table 1, which summarizes the U.S. Forest Service 1980 harvest data from the Tongass National Forest, indicates the relative economic importance of these species. The coastal forests average more than 32,000 board feet of standing timber per acre compared with only 1,370 board feet per acre of standing timber found in the interior (Alaska Department of Commerce and Economic Development, 1985). Most of the coastal forests are of trees greater than 30 inches in diameter.

The Interior region of Alaska, on the other hand, with a vastly greater percentage of the commercial forest land, contains only a fraction of the timber volume. Trees average 11 to 20 inches in diameter and are generally lower grade and value species such as white spruce (Picea glauca) and various hardwoods, including paper birch (Betula papyrifera), quaking aspen (Populus tremuloides), and balsam poplar (Populus balsamifera).

#### Ownership Patterns

At the time of Alaska statehood in 1959, a dramatic shift in land ownership began. Table 2 shows land ownership as of 1982 and projected changes for 1990. As land transfers continue, the ownership percentages and availability of timber will continue to change also. Prior to 1959, the federal government owned virtually all undeveloped land in the state. After 1959, the State of Alaska, under the Statehood Act, was authorized to select 104 million acres of land (27% of the total state land area). To date, the State has applied for approximately 110 million acres, of which 23 million acres have been patented and an additional 57 million acres have been tentatively approved for transfer (Alaska Department of Commerce and Economic Development, 1985).

In 1971, a second piece of legislation was passed which also impacted the pattern of land ownership in Alaska. This was the Alaska Native Claims Settlement Act (ANSCA). Under this act, the thirteen Native corporations were granted title to 44 million acres (12% of the state's total area). Approximately 8 million of these acres are timberland.

The third major legislative act affecting patterns of forest ownership is the Alaska National Interest Lands Conservation Act (ANLICA) passed in 1980. The act added 104 million acres to Alaska's national parks, preserves, monuments and other conservation areas.

# Wood Utilization - A Brief Historical Overview

Because of the forest resource structure and accessibility conditions, the development of Alaska's forest industry has occurred primarily in the Southeast coastal region. Development of the timber resources for commercial purposes began in the early 1900's. A lack of adequate infrastructure, including transportation systems, coupled with the overall inaccessibility of the resource, and location relative to markets, has largely precluded viable large scale forest products operations. However, as early as the 1880's, small and medium scale timber operations were in existence. For example in 1889, 11 sawmill operations were reported to be operational in Southeast Alaska. By 1910 the annual cut in this region was 27 million board feet (Alaska Department of Commerce and Economic Development, 1985).

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Historically, the Interior region has not been a major factor in Alaska's forest industry. As previously stated, only 29 percent of the sawntimber volume of Alaska is contained in this region and the remoteness and high costs of extraction have discouraged development. In the early part of this century there existed many small mills producing mostly firewood or rough lumber. This pattern has continued to the present.

During World War II, demand for Alaska's spruce timber increased. Spruce is a very light and structurally strong wood and was used extensively as components in airplanes. In 1943 -1944 Alaska produced 38 MMBF of spruce for such purposes (Alaska Department of Commerce and Economic Development, 1985). After World War II, the U.S. forest Service attempted to encourage development of the timber resource. In the late 1940's, the emphasis was primarily directed toward the pulp industry. The prime incentive was the availability of long term timber contracts (50 years) that were intended to assure a continuous flow of raw material.

In 1954, Alaska's first large pulp mill, located in Ketchikan, became operational. This was followed, in 1959, by a second mill, owned by the Japanese, located in Sitka. Both of these mills continue to produce dissolving sulphite alpha pulp which is used in the manufacture of rayon. A number of problems, such as high labor costs. disputes with environmental agencies, and declining market conditions, have placed the Alaska pulp industry in a precarious economic position. Table 3 shows the trend of Alaska's export of pulp over the past 5 years (Gruenfeld, March 1985). Total exports in 1984 (211 Thousand Tons) was only 67.8 percent of the 1980 level (312 Thousand Tons). Reported value (\$93.6 Million) was 61 percent of the 1980 value (\$153 Million). The drop in unit value per ton contributed significantly to this overall value decline.

Lumber and roundwood production continued to increase after the war. A continuous supply of raw material of lower quality was required to sustain the pulp mills, and higher quality material was cut into sawntimber and cants for export - shipped almost

entirely to Japan. The volume of softwood logs exported grew during the 1960's, reaching a peak of about 262 million board feet in 1973. Shipments to Japan accounted for 211.7 million board feet (80.1%), and 15.6 million board feet went to the People's Republic of China (USFS, 1985). Between 1975 and 1982, the annual timber harvest averaged about 530 million board feet (Alaska Department of Commerce and Economic Development, 1985), indicating that about 45 percent of volume is exported in log form.

As can be seen in Figure 27, softwood log exports from Alaska are continuing to increase and compare favorably with exports from British Columbia, a strong competitor. On the other hand, as evident from Figure 28, Alaska softwood lumber exports are steadily declining, and are not competitive with British Columbia at present. Exports in 1983 were about 136.7 million board feet, down from over 400 million board feet in 1973. As with logs, Japan is the leading lumber market (87.6%) with exports to China quite variable to date.

The export of wood chips has also been quite variable, increasing to over 151 thousand short tons in 1980, then declining to an average of about 75 thousand short tons in 1981-1982. Chip exports in 1983 were only 6.6 thousand short tons, highlighting the severely depressed market (USFS, 1985).

## Economic Contribution of Forest Products Industry

Total Alaska exports of forest products over the years 1979 to 1984 are valued at \$1.55 billion (Brady, 1985). The trend is one of decline, shown by export values of \$339 million in 1980, \$272 million in 1983, and \$217 million in 1984 (Alaska Department of Commerce and Economic Development, 1985).

Native Corporations, which received prime timber land through the Alaska Native Claims Settlement Act, currently play a major role in the contribution to Alaska's economy through the export of roundwood (logs). As noted, these log exports increased from 25 million board feet (about 7 shiploads) to a peak of 160 million board feet (46 shiploads) in 1980. This has greatly helped to offset the general decline in the export market for sawn cants since 1980. In terms of species composition, logs and cant exports consist of 51 percent western hemlock, 42 percent Sitka spruce, and 7 percent other species such as cedar. In terms of value, spruce logs are the highest value product per board foot, with hemlock cants the lowest.

The current economic situation in the forest products industry in Alaska (Southeast) is unstable at best. Global markets have been weak, causing a 50 percent drop in the annual Alaska harvest according to Michael Barton, Regional Forester for the U.S. Forest Service, Region 10, Juneau. Barton, speaking at a Resource Development Council forum in September 1985, stated that the timber industry's net worth, even with strong markets, has declined by \$180 million over the past 50 years (Resource Development Council for Alaska, Oct. 1985). In 1985, the situation has worsened, with employment in the forest products industry dropping 18 percent through the third quarter.

Many reasons are cited for this decline. In the case of pulp production, the two pulp mills are running at less than 60% capacity. World capacity for sulphite pulp production has increased as worldwide demand has declined. A relationship also exists between crude oil and pulp that has a bearing on Alaska's pulp industry. Many petrochemical products compete with synthetic products such as rayon made from wood pulp. If oil prices continue to drop, specialty pulp prices will likely experience downward pressures. This will further exacerbate the current situation.

Table 4 reflects the fact that the Alaska forest products industry is experiencing economic difficulties. Output is substantially below capacity in both the pulp and sawmill sectors. Two sawmills are currently in bankruptcy proceedings. Most of output from Southeast Alaskan sawmills is either in the form of cants for export or is green lumber for use within the State. As noted, the greatest market for round logs and sawntimber is Japan, in particular the housing market in that country. Through June 1985, housing starts in Japan were up 4.5 percent over the previous year, but wood-frame housing gained only 1 percent compared to non wood-frame housing which registered a 10 percent growth rate. The trend to multiple story structures can be expected to continue as population pressures, coupled with increasingly limited and costly land for new construction, will persist in Japan. Wood houses now comprise less than half the total starts. Western-sytle (2x4) construction, while growing, is still only about 4.5 percent of wood units, or 2 percent of total units.

Other factors which also intensify the current forest industry economic difficulties in Alaska are periodic labor problems (including wage disputes), shipping rates, raw material costs, and the strong U.S. dollar vis a vis other international currencies -including the impact of the Canadian dollar on U.S. domestic markets.

### Outlook/Opportunities/Strategies

Alaska's vast physical forest resources hold great potential in the economic development of both the forest products industry and the state economy. The current constraints to development as well as areas of opportunity must be rationally analyzed. Realistic strategies that can work within the foreseeable State economic framework must be developed and put into action.

Paula P. Easley, Executive Director of the Resource Development Council for Alaska, Inc., recently outlined several factors worth noting: "...we should consider some of the constraints (not prioritized) in doing business in Alaska.

- 1. Lack of transportation and other infrastructure
- 2. High labor costs, lack of skilled labor
- 3. High transportation costs
- 4. Remoteness
- 5. Limited local markets
- 6. Lack of significant utility development
- 7. Institutional and regulatory problems
  - uncertain land status
  - environmental constraints
  - uncertain tax policies
  - lack of coordinated state development plan
  - federal government influence
- 8. Weather" (Easley, 1985)

These factors apply to all industrial sectors but are especially pertinent to the forest products industry.

These constraints cannot be easily mitigated. A careful analysis of the underlying causes is needed, as are statewide strategies to reduce their impacts. To a great extent, these contributing problems are beyond the control of individual firms and businesses. State, private, and federal cooperation will be necessary.

For the forest products industry, various specific recommendations and strategies have been proposed. One of these is the attempt to attract new investment in the processing of forest products. There are no restrictions on foreign investment in land, standing timber and/or processing and transportation facilities in the state. The state has been actively seeking to attract new investment, particularly from Asia, a region that has played an important role in Alaska's forest products industry over the past three decades. Opportunities <u>potentially</u> exist for foreign investment in all areas of products processing, including logs, pulp, plywood, sawnwood, and finished products.

One area of particular interest is the potential to develop forest industries in the interior region of the state. Specifically, the greatest resource opportunity for industry expansion lies in the Tanana Valley. The new 2,500 square mile Tanana State Forest (1.6 million acres) alone could provide at least 16 million board feet of spruce and 115,000 cords of fuelwood annually (Gruenfeld, September 1983). Needless to say, the occurrence of the physical resource and its economic utilization are quite different issues.

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One primary limiting factor in the development of the Interior Forest is the lack of an adequate transportation infrastructure. Only 30 percent of the annual allowable cut in the Tanana Valley is presently accessible (Packee, 1984). Consequently, various transportation options (rail, road or sled) would need to be explored before the resource can be economically developed.

With regard to markets, a soon to be published trade research study completed by the U.S. Forest Service indicates that the outlook is favorable for Alaska's lower quality end logs in export markets. Prices for this material, including logs which compete with coast grade No. 3 hemlock from Washington State, the new Canadian grade-4, radiata pine from Chile or New Zealand, and logs from the Soviet Union, are expected to rise by 14 percent by 1990. Volumes of this material utilized by the Pacific Rim countries is expected to rise by 25 percent by 1990 and an additional 10 percent by 1995 (Flora & Vlosky, 1986).
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#### Figure 2 CECCAL EXPORTS EV REDUN - 1983

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Source: FAO, 1983 Forest Products Yearbook

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Coniferous Logs: bilateral trade flows  $\geq 1\%$  of world trade in 1981.  $\binom{1962}{1981}$  shares given ----- flow  $\geq 1\%$  only since the late seventies

Source: Francescon, Kornai, Nagy IIASA





Non-Coniferous Logs: bilateral trade flows  $\geq$  1% of world trade in 1981.

 $\begin{pmatrix} 1962\\ 1982 \end{pmatrix}$  shares given ----- flow  $\geq$  1% only since the late seventies

Source: Francescon, Kornai, Nagy IIASA



Coniferous Sawnwood: bilateral trade flows  $\geq 1\%$  of world trade in 1981.

(1962 1981) shares given ----- flow ≥ 1% only since the late seventies Source: Francescon, Kornai, Nagy

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Figure 7



Non-Coniferous Sawnwood: bilateral trade flows  $\geq$  1% of world trade in 1981.

 $\begin{pmatrix} 1962\\ 1981 \end{pmatrix}$  shares given ----- flow  $\geq$  1% only since the late seventies -•--- flow  $\geq$  5% in 1962, but negligible by 1981

Source: Francescon, Kornai, Nagy IIASA

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Other printing and writing paper: bilateral trade flows  $\geq$  1% of world trade in 1981.

 $\begin{pmatrix} 1962\\ 1982 \end{pmatrix}$ 

shares given

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flow > 1% only since the late seventies

Source: Francescon, Kornai, Nagy IIASA



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Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)



Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)



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Source: USDA Forest Service, 1985, "U.S. Timber Production, Trade, Consumption and Price Statistics, 1950-84"



Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)





Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)

Figure 19 Figure 19 COUNTRY



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Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)





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Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)



Source: Compiled from USDA, FAS Wood Products: International Trade and Foreign Markets 3rd Quarter, 1985 (Nov. 1985)





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Source: USDA Forest Service, 1985, "U.S. Timber Production, Trade, Consumption, and Price Statistics, 1950-84"



\* Includes USSR / Eastern Europe and People's Republic of China

Reproduced from: Meister, Dr. Irene W., Multi-lateral Trade in Pulp and Paper. Conference on Canada/ U.S. Forest Products Trade. Duke University. April, 1984







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Source: USDA Forest Service, 1985, "U.S. Timber Production, Trade, Consumption, and Price Statistics, 1950-84"



Figure 28



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Table

1:	1980 Harvest - Tongass National Forest Species	MBF (Thousand B.F. Scribner Scale)	%
	Sitka Spruce (Picea sitchensis)	106,801	22
	Western Hemlock (Tsuga heterophylla)	298,009	62
	Western Red Cedar (Thuja plicata)	15,332	3
	Alaska Yellow Cedar (Chamaecyparis nootkatensis)	9,174	2
	Other	392	
	Total Sawlog	429,708	89
	Sitka Spruce Utility (Pulp) logs	7,626	2
	Western Hemlock Utility (pulp) logs	44,166	9
	Total Harvest	481,499	100

#### Source: Alaska Forest Market Report March, 1983

Reproduced from: Alaska's Commercial Forest Resource. Dept. of Commerce and Economic Development. State of Alaska

#### Table 2 LAND STATUS IN ALASKA

OWNER	1982	1990
	(Mill	ion acres)
Federal Conservation Units BLM Other Total Federal	151.8 147.6 <u>2.6</u> 302.0	152.4 70.0 <u>2.6</u> 225.0
State (includes local govn.)	52.0	104.0
Native	20.0	44.0
Other Private	1.0	2.0
Total Alaska	375.0	375.0

Source: Alaskan Resources Development, edited by Thomas Morehouse, Westview Press, 1984

#### Table 3

#### EXPORTS OF ALASKAN WOOD PULP TO ALL DESTINATIONS PERIOD: 1980 THROUGH 1985

#### TYPE OF PULP

YEAR	UNIT	BLEACHED SULPHITE	SULPHATE BLEACHED SOFTWOOD	SPECIAL ALPHA AND DISSOLVING	TOTAL PULP
1980	TONS	67,433	249	244,310	312,002
	\$1,000	29,522	126	126,600	153,248
	\$/TON	438	507	506	491
1981	TONS	37,916	1,929	246,381	286,226
	\$1,000	14,637	951	124,905	140,493
	\$/TON	386	493	507	491
1982	TONS	9,690	1,104	199,130	209,924
	\$1,000	3,008	400	95,062	98,470
	\$/TON	310	363	477	469
1983	TONS	3,880	0	238,084	241,963
	\$1,000	1,054	0	116,729	117,783
	\$/TON	272	0	490	487
1984	TONS \$1,000 \$/TON	21,116 8,118 384	12,834 6,031 470	177,490 79,499 448	211,440 93,648 443

Value data is "Free Alongside Ship" Sources: U.S. Dept. of Commerce Annual and Monthly Export Statistics Reproduced from:Alaska Forest Market Report, March, 1985.

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Company	Location	Capacity	1984 Outpi
Pulpmills:		(M	tons)
Alaska Pulp Co. Louisiana Pacific	Sitka Ketchikan	192 200	<b>15</b> 2 85
Sawmills:		<b>(</b> MM	BF)
Alaska Timber Co. Wrangell Forest Prod. Louisiana Pacific Louisiana Pacific Mitkof Lumber Co. Pacific Forest Prod. Yakutat-Kwan/Koncor	Klawock Wrangell Annette Island Ketchikan Petersburg Haines Yakutat	45 68 60 60 15 30 15	6 35 75 0 4 6

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#### THE PROFITABILITY OF ALASKAN AGRICULTURE

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William C. Motes Economic Perspectives, Inc. 6723 Whittier Ave., Suite 101 McLean, VA 22101

Presented

to the Resource Development Council for Alaska, Inc. Sixth International Conference

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 on Alaska's Resources

"CRISIS IN RESOURCE PRODUCTION: CAN AMERICAN COMPETE? and ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> February 12-13, 1986 Anchorage, Alaska
Thank you very much for the invitation to come to Alaska--even in February--and talk about agriculture. The Resource Development Council deserves commendation for its examination of Alaska's economic prospects because the issues are both difficult and important, and because government plays such a large role in resource development.

I want to go on record at the outset with the definitive answer to the question implied in my assigned topic. The question is, given the stake the State of Alaska has in its agriculture, what should be done? The answer I bring with absolute confidence is: it all depends!

Few farmers anywhere made money in 1984--in the United States more than 50 percent had negative cash flows, according to USDA. Data for 1985 aren't in yet, but the situation probably was worse and could deteriorate further in 1986. The sector is under pressure from low prices, high debt costs, and falling asset values.

Do Alaskan farmers have a more favorable outlook than others? Probably not. The Alaskan meat, milk, and egg markets are protected to some degree, but Alaskan profits depend on how efficient they are as well as on economic conditions and policies in the United States and elsewhere. Perhaps I can be of greatest service during my alloted 17 minutes by concentrating on those factors that set the stage for agricultural profitability, and then giving you my view of what these trends may mean.

#### Agriculture in the 1980s

In agriculture, like many other industries, the current situation misleads us. The past is all we know for sure and current trends are what we know best. Our record of predicting change is miserable.

Still, it is likely that the current economic shakeout is running its course. Grain prices probably will bottom in 1986 or 1987 and could then strengthen through the rest of the decade. I don't expect sharp upswings but do look for moderate improvement. Five basic trends are at work:

- World population growth in the coming decade will be the largest in any 10 years in history, 900 million more people by 1995--17 percent more than were added in the 1970s.
- o Almost all of that growth will be in the 37 poorest countries where more than 85 percent of the world's people now live.

They will increase food consumption sharply if they can afford to do so. Economic prospects in developing countries are brightening. In 1986, they could grow perhaps 50 percent faster than in 1985 in spite of large debts.

Income growth in the developed world does little to increase per person food use, because those people--we--are well fed already.

By contrast, income growth in the world's poor countries has dramatic impacts. For example, the 91 kg of meat consumed per person in developed countries is 6.5 times the 14 kg in developing countries. Only lack of income prevents that gap from narrowing.

o The dollar declined about 20 percent in 1985 and is still moving downward.

Much of the slack in world food consumption growth since 1980 has come from the strong dollar and the world economic downturn, especially in the upper income tier of developing countries. As the dollar declines and economic growth resumes, U.S. exports likely will grow once again.

 Agricultural production has outpaced population since World War II, surprising most experts. Almost all the growth has come from technology rather than area in spite of the publicity given the Russian new lands or the Amazon projects. Technology growth--yields--could slow in the future if weak prices cut economic incentives to buy fertilizer, pesticides, and larger machines.

During the 1970s, when a world food crisis was feared, population grew 1.8 percent annually while food production growth averaged 2.1 percent. Technology investments change slowly, but if low prices hold production growth much below 2.0 percent annually, the world supply-use balance could tighten considerably and price pressures ease.

 Much of the world's agricultural growth during the past 10 years reflects new agricultural policies. Many have been terrible from an economic point of view. Some are being changed and others could be, although the shift is slow.

The prime example is the EEC, a previous importer now surplus in meat, milk, wheat, and many other products. Similarly, the United States indexed price and income supports and continued strong incentives to produce surpluses even after they became burdensome.

The farm bill passed two months ago will increase sales by cutting market prices, and will freeze and then reduce production incentives. The United States will spend annually \$20 billion or more on its programs, and so will the EEC, rates that can be sustained for a while, but probably not forever.

Agricultural policies have become prohibitively expensive for many nations. They are being moderated slowly, changes that could diminish investment in technology and ease market pressures.

One major reason for believing that commodity prices will improve is experience with market trends and past responses to change. In the early 1970s, the United States had huge stocks of unwanted grain that could be exported only with large subsidies. Shifts in exchange rates and rapid economic growth in developing nations led to export market increases and expectations of permanent market growth. Investment poured into agriculture; land prices and production costs spiraled.

The pendulum swung back in the early 1980s. Trade declined with world economic growth, and as an overvalued dollar and high U.S. price supports permitted competitors to undercut our prices.

While it is not possible to predict these swings, it is important to recognize that the same factors that increased farm income in the 1970s diminished it in the 1980s, and now, in 1986, are offering the prospect of market growth once again.

The recent surpluses and low prices came just as Alaskan agriculture was being expanded. If competition from imported feed grains, meat, milk, and eggs produced in other parts of the United States declines, does that mean profitable Alaskan production? A great deal depends on how efficient Alaskans can become.

## The Efficiency of Alaskan Agriculture

When the average U.S. farmer is losing money, Alaskan farmers can expect to be under economic pressure too. U.S. barley that was \$104 per ton in 1983/84 will be about \$88 per ton for the 1985 crop, and could be as low as \$65 per ton this year. Alaskan prices would be depressed commensurately. In these circumstances, the profitability of agriculture is only an academic question. Virtually no one can cover costs.

Looking beyond 1986, are there prospects for profit? I think there are.

The question has two parts. The first concerns yields and the second production and marketing costs. The first is easiest.

Well managed, large-scale Alaskan farms have barley or rape yields as high or higher than those in other states or Canada. Dr. James Drew, Dean of the University's School of Agriculture and Land Resources Management, last spring observed growing production efficiency in five areas:

- o Barley, produced on large-scale farms at Delta with average yields of 1.5 tons per acre in 1983, well above the U.S. average.
- o High yields of vegetables, including potatoes and lettuce.
- o Efficient hog production based on locally produced grain in environmentally controlled units.
- Efficient dairy production, also in environmentally controlled units.

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o Growth in efficiency in range management and production of beef, sheep, and reindeer.

Alaskan crop yields are more variable than the U.S. average, in part because the length of growing season and rainfall are more variable. Nevertheless, experience and research have improved, and are continuing to improve both varieties and management.

Costs are more troublesome. In recent years, imports have been cheaper than many Alaskan products, the result of U.S. surpluses. The best way to answer the question of whether that is the long-term norm is to compare production costs rather than market prices.

Cash costs of barley production in Alaska are similar to those in the Northern Plains, but Alaskan development costs are relatively high--\$86 per acre compared to capital costs of \$23.87 per acre in the Northern Plains. Total cost is about \$142 per ton for Alaska compared with \$98 per ton for the Northern Plains.

Over the long run, producers in the Northern Plains likely can put barley into Alaska for \$175 to \$185 per ton. Alaskan farmers with yields of 1.2 tons per acre or better would be expected to compete well. Those with lower yields or higher than average costs would not.

I want to close with two observations. First, Alaskan agriculture is fragile because it is young and small, and because it is so dependent on the state. Alaskan land titles are different from those in other states because Alaskans want them that way. Development is limited not only because the amount of arable land is small, but because governments at one level or another own so much of the land.

My home state of Kansas is very much interested in its farms, but farmers, not the state, decide when and what to buy and sell. The industry was built more than 100 years ago and there is no mechanism to reconsider that decision.

Alaskans decided to expand their farm industry in the late 1970s and early 1980s after years of study. I have read a 5-foot shelf of analyses and plans and projections that went before those decisions. In general, they were on the mark--except for the U.S. trade bust of the early 1980s.

The result is a plan well begun, but at a critical stage. Important investments were made; grain and livestock production has increased. Scale of farm operations is about that anticipated, although total production is lower. In the rough and tumble world of agricultural competition, the Alaskan industry is still an infant, and many of its costs are high as a result.

The potential for cost reductions as the industry grows are still there. In 1984, the harvest of grain, hay, and silage in the Tanana valley totaled 23,300 acres. Thus, nearly the whole agricultural infrastructure for that valley was supported by little more than 36 square miles. A larger industry in the future will almost certainly have lower costs.

The final observation is that the earlier investment plans appear to have served well. They were obscured by changes in world markets that were not expected, although always within the range of reasonable possibilities. What happened was not so much a structural change in the outlook as a series of unfavorable events.

Alaskan farmers' primary markets will be in Alaska, as expected. And, as expected, their primary competitors are other U.S. farmers. Alaskan production and marketing costs can be competitive, especially after the new lands have been in production long enough to improve their yields.

The earlier plans were justified by jobs and community growth, developments that are happening although behind schedule. The question is not whether Alaskan farms can compete with distressed commodities in today's markets, but whether over the long run Alaskan farmers can cut costs enough to compete, first in Alaskan markets and then perhaps in the Pacific markets. With the help of their location advantage, efficient Alaskan farmers can expect to do so.

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Based on this review, the vision in those early plans is still valid. Alaskan farmers have growing markets. They have a good chance to produce at a profit even though current economic pressures are severe. Perhaps these improving odds are all farmers ask for, and all they need.

Country Grouping	::	1961-70	: : 1971-80 :	: : :	1981-84
	:		percent -	-	
	:				
World	:	2.8/	2.10		1.93
	:				
Developed	:	2.35	1.48		1.36
Developing	:	2.84	3.02		2.69
Centrally Planned	:	3.04	1.77		3.42
	:				

# APPENDIX TABLES Table 1. Annual Average Growth Rates of Food Production by Country Grouping

Table 2. Global Population (millions) and Regional Share

····					
1	1	960	:	1	970
:		:	:		:
Region	Number	: Percent	:	Number	: Percent
		:	:		:
	·			•	
Developed .	518	17.0		579	15.8
Developing	1 464	48 1		1 832	49 9
Controlle Dional	1 061			1 969	
Centrally Planned	1,001	54.9		1,203	34.3
:					
World Total	3,043	100.0		3,674	100.0
:					
:	1	980	:	2	000
:	}	:	:		:
	Number	: Percent	:	Number	: Percent
	,	•	•		•
		•	<u> </u>		•
Developed	627	14 2	-	691	11.2
Developen		5 7 4		2 617	50 0
Developing	2,510	JZ.4		5,017	50.0
Centrally Planned	1,4/8	33.4		1,839	30.0
	8				
World Total	4,423	100.0		6,147	100.0
	-			-	

Source: The World Bank.

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Country Grouping	1969-71	: : 1980-82	: % Change
			•
Cerears :	506 0	602 2	0 0
	226 5	245 0	0.9
Developing :	220.3	243.0	
Uentally rianned :	333 0	434.4	10.5
world :	555.0	557.5	7.5
Oilseeds :			
Developed :	76.1	113.9	49.7
Developing :	15.2	18.2	19.7
Centrally Planned :	25.8	33.5	29.8
World :	28.4	36.6	28.9
Milk :			
Developed :	319.4	312.2	-2.3
Developing :	47.5	52.7	10.9
Centrally Planned :	97.1	98.3	1.2
World :	107.2	105.3	-1.8
Meat	00.0	01 3	10.0
	02.3	91.5	10.9
Developing :		14.4	20.0
Centrally Flanned :	2/.3	34.2	23.5
WOTIG	28.3	31.0	11./
Total			
Developed :	1,074.7	1,119.6	4.2
Developing :	301.2	330.3	9.7
Centrally Planned :	517.5	600.4	16.2
World :	496.9	530.8	6.8
1980-82 as a % of			
World Average			
Developed		211	
Developing		62	
Centrally Planned		113	
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Table 3. Average Per Capita Consumption (kg) of Selected Food Categories by Country Grouping

Source: FAO.

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# ASIAN GAS MARKETS IN COMING YEARS

# Michael C. Lynch International Energy Studies Program M.I.T. Energy Laboratory

Presented to the Sixth Annual International Conference on Alaska's Resources Anchorage, Alaska February 12-13, 1986

This paper reflects research performed for the International Natural Gas Trade Project under the auspices of the Center for Energy Policy Research, M.I T. Energy Laboratory. The contributions of Morris Adelman, Charles Blitzer, Loren Cox, John Parsons, and Arthur Wright and the assistance of Sethu Palaniappan, Richard Samuels, Paul Smith, Jeffrey Stewart and Hirotsugu Takeshita are gratefully acknowledged. All opinions expressed herein, however, are solely the responsibility of the author.

#### Introduction

Long ago, a great king hired the wisest wizard in the land and gave him the task of developing a process whereby lead could be changed into gold. After many months of work, the wizard came before the king and announced that, while the process was difficult, he had succeeded. Delighted, the king immediately ordered the wizard to make one thousand gold pieces and directed the royal treasurer to provide the wizard with whatever funds he needed. The next day, the treasurer came to the king and told him that the wizard had requested two thousand gold pieces in order to pay for his supplies. Astounded, the king called the wizard before him, and asked what was the purpose of a process whose cost was twice the value of the product. The wizard drew himself up and haughtily replied, "After all, your majesty, my concern was the engineering, not the economics."

Today, the state of Alaska finds itself with an abundance of lead, to wit, 30 Tcf of natural gas on the North Slope. Delivered to Japan, however, this natural gas takes on the characteristics of gold. The engineering is there, but unlike the wizard, we must ask ourselves: "What about the economics?"

In the case of Asian natural gas markets, the economics that we need to concern ourselves with are not just project economics, but market economics. The costs of the proposed Trans-Alaska Gas System are not definitive at this point. but the more difficult questions are what price will prevail for the gas, and what is the availability of customers? In determining this many factors are involved, including the demand for gas in Japan, Korea, and Taiwan, the regulatory environment in those countries, the competitive positions of the other suppliers, the willingness of both producers and consumers to take risks and change the current system of supply, and the future prices for competing fuels, especially oil.

### Background

The Asian natural gas market consists entirely of LNG shipments to Japan and, soon, Korea. (Domestic utilization in countries like Australia, Bangladesh, Pakistan, Thailand, etc., only indirectly affects the market as a whole and will not be considered here.) Unlike Europe and N. America, natural gas imports were begun as a means of providing low sulfur replacements for petroleum consumed in electric power plants, and only secondarily as fuel for local distribution companies. Figure 1 shows natural gas's market penetration in Japan versus the U.S. and W. Europe relative to total primary energy, and Figure 2 shows the market share in electric power generation. As Table 1 and Figure 3 show, three-fourths of this gas was purchased by electric utilities for base or intermediate load power generation. Obviously, the Japanese gas market has evolved in a different manner from the others. As will be discussed below, this has important meanings for the future direction of the market.

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LNG shipments, which began in 1969, have grown rapidly over the last decade and a half, to a level of 1300 Bcf per year in 1984, or 640 thousand barrels per day of oil equivalent. Approximately 50% of this supply now comes from Indonesia, specifically the Arun and Badak fields, with the rest scattered among various other countries as far away as Abu Dhabi and Alaska. (See Figure 4.) The only firm new export project is the North West Shelf in Australia, which intends to send 300 Bcf/yr. ( 6 million tonnes) to Japan starting in 1989. Badak in Indonesia is adding an LNG train to send 100 Bcf/yr. (2 million tonnes) to Korea beginning later this year.

When LNG trade commenced, most Pacific Basin natural gas reserves were located on the periphery or in countries that have consumed them, specifically Australia and Pakistan. In fact, this reflects the nature of reserves definition far more than it does the actual availability of supply. A natural gas discovery located in the Third World would rarely have a market, and would be branded uneconomic. In other words, a dry hole. Thus, there was very little natural gas reserve accumulation. Certainly, no exploration was aimed at areas that were considered prone to natural gas rather than oil.

Once it became possible to develop and market natural gas as LNG, this situation changed, and fields that might otherwise be overlooked were logged as discoveries. The result has been the astonishing rate of growth in natural gas reserves seen in Figure 5. Most notably, the exporting troika of Brunei, Malaysia, and Indonesia have seen their reserves grow from 3 Tcf in 1969 to 100 in 1986. This does not include the 40-150 Tcf estimated to be in the Natuna area of Indonesia, 30 Tcf on the North Slope of Alaska, or 150 Tcf in Qatar, all of which are capable of providing LNG in the next decade.

Estimates of undiscovered natural gas reserves in the Asian region (excluding the Persian Gulf, Alaska, and China) are on the order of 300 to 500 Icf. However, this relies on a conservative definition of reserves, i.e. fields that will be economic given today's prices and technology. Large amounts of gas resources in the region are not considered economic, but probably will be in the next century as local infrastructure is developed and technology advances, lowering the costs of developing and transporting the gas. Since current reserves will support current consumption levels for seventy years, and undiscovered but currently economic reserves two to three times as long, these currently uneconomic resources will have ample time to see a change in their status.

The easiest way to understand the impact of long-term changes is

to look back in time. What was "economically and technically available" thirty-five years ago did not include offshore or Alaskan oil and gas, yet today these resources account for one-third of world oil production and one-fifth of natural gas production. What our parents would have defined as "unconventional" energy is a normal part of our reserve base, and our grandchildren will probably laugh at the thought that so much of their energy supply was considered by us to be unattainable.

# The Current Situation

At present, the natural gas market in Asia can only be described as a market in disequilibria: The amount of supply far exceeds the amount of demand. Further, supply continues to grow while demand is almost stagnant. This strongly suggests that the price is too high, and the failure of the price to fall indicates that non-market factors are at work.

The oversupply is evident from, firstly, the fact that natural gas depletion rates are as low as 1% in the exporting countries of Brunei, Indonesia, and Malaysia. This is one tenth the level of depletion in the United States, which is possibly the closest thing to a free market in natural gas that the world has to offer. Not only that, but reserves have continued to grow in these areas, largely due to drilling for oil.

Beyond this, the supply surplus is shown by the fact that there are many proposed projects consisting largely of producers in search of customers. (The Western Canada LNG Project was recently cancelled by the participants due to uncertainties, especially regarding the price.) Table 2 lists proposed projects that would result in exports of 1600 Bcf/yr. (32 million tonnes) most of which could be brought on-line in roughly five years. (Badak has been said to be seeking contracts for an additional 4-6 mt (200-300 Bcf) of exports, but these reports are unconfirmed.) In addition, Algeria has been said to be offering spot shipments of LNG in the Japanese market, although given the shipping distances involved, the quantities are unlikely to be large.

If these projects were going ahead, and consumption in Japan was rising, then it could be argued that the surplus was a function of the long lead times necessary for an LNG project. However, as Table 3 shows, the expected demand in Japan forecasted by the major Japanese institutions is for relative stagnation. The most optimistic projection made since energy demand flattened, (i.e. MITI's 1983 forecast) would allow room for one more project on the size of Australia's North West Shelf in the 1990s, perhaps an added train (2 mt, or 100 Bcf) somewhere, and nothing else before the end of the century. The most pessimistic would allow no more than an added train or small project by 1995, (although the Petroleum Association of Japan can hardly be described as a disinterested observer).

## The Potential for Change

Development of complete supply and demand curves would enable us to observe what the proper equilibrium price and quantity would be, ignoring all regulatory and institutional factors, but such analysis would be difficult. However, a number of observations can be made to indicate the extent of movement possible, both in terms of increasing quantities traded and decreasing prices.

In the first place, the theoretical potential for substitution of natural gas in Japan is far from satisfied. In 1984, residual fuel oil made up 21% of Japan's total primary energy consumption, versus 4% in the United States. In electricity generation, oil accounted for 37% of Japan's fuel input in 1983, versus 6% in the United States. Figure 1 has already shown the low market penetration of natural gas into Japan. Clearly, although the markets are different, the potential is quite sizeable.

On the supply side, the underutilization of reserves has already been discussed, but the economics of those reserves has not The movement of natural gas over oceans is a very expensive task, and can prevent the use of reserves, no matter how large or cheap to produce. Many market observers have argued that the liquefaction, transportation and regasification of natural gas is so expensive that price cuts are not really feasible. In fact, that has not proved to be the case.

An analysis of published reports of costs for natural gas field development and LNG projects, along with a study of available estimates of costs, indicates that the existing LNG projects in the Pacific Basin are able to deliver LNG to Japan for less than \$3/Mcf. There is substantial variance due to location and the period of construction, but, to date, the deviation from this figure should be small. Given prices on the order of \$5/Mcf since the Iranian Oil Crisis, the profits have obviously been considerable.

The cost estimate breaks down in the following manner:

Field development and operating costs: For the low-cost producers (Indonesia, Malaysia, Brunei, Qatar), roughly \$0.25/Mcf. For the higher cost producers, (China, Thailand, Australia), between \$0.50 and \$1.00/Mcf.

Liquefaction costs: \$1/Mcf, with older plants being cheaper, capacity additions cheaper than new plants, and Third World countries (excluding the Middle East with its high labor costs) being slightly cheaper. The range on existing plants would be about \$0.20, plus or minus. The price charged for fuel is an important factor, with some producers arguing that the liquefaction plant should pay the price that the gas is landed at, or \$5/Mcf, but this allows enormous profits to the producer, given the production costs cited above. Since up to 15% of the input gas is used as fuel, a \$4/Mcf discount on the fuel price reduces the cost of delivered LNG by \$0.60/Mcf.

Shipping costs: Typically, projects pay \$0.20/Mcf/1000 miles, or about \$0.65 from Indonesia, Malaysia, Australia, and \$1.40 from the Persian Gulf (Abu Dhabi and Qatar). These costs do not vary over time, since tanker prices have been relatively stable. They are, however, slightly sensitive to the price charged for the natural gas which evaporates from the LNG tanks ("boiloff), which can be up to 2% of the transported gas for older LNG tankers on a 3,300 mile run (Indonesia to Japan). Newer tankers have approximately half the boiloff rate.

Regasification costs: Most importers pay on the order of \$0.35 to \$0.40/Mcf, including storage. Plant fuel and other losses total about 2%, so the price charged, again, has a minor impact.

The conclusion is that the cost for a new project to produce, liquefy, transport, and regasify natural gas from Indonesia to Japan would be about \$2.25/Mcf, approximately half the recent import price. Projects in Canada and Australia suffer from both higher production costs and higher capital costs, bringing them up to approximately \$3.50 to \$4/Mcf. (Alaska is discussed below.)

Naturally, given the small number of plants that have been built, it is difficult to provide estimates with a particularly high degree of confidence. This problem is exascerbated by the inflation which has occurred in capital costs for large-scale projects, including liquefaction and regasification plants. Since the early 1970s, these costs have risen 5% to 7% per year faster than the rate of inflation in the U.S. Were this trend to continue, currently viable projects would become marginal, even with stable oil prices.

Actually, indications are that the trend will not only fail to continue, but will reverse itself. As mentioned, the small number of LNG projects makes it difficult to perform sophisticated statistical analyses, let alone construct an inflation index. By studying similar types of construction projects, however, it is possible to draw some conclusions. Figure 6 shows inflation indexes for certain types of construction compiled by the U.S. government (non-residential fixed structures) and the Oil and Gas Journal (oil pipelines and refineries). All have risen quite sharply, especially since the Arabian Oil Embargo. But when corrected for inflation, a different pattern becomes evident, as shown in Figure 7. Long periods of real cost growth and decline are seen, usually in oscillation. And it appears that the market has now entered a period of real cost decline, which anyone working for a large construction contractor can attest to. Thus, new liquefaction plants should become cheaper rather than more expensive for some years to come. Naturally, exchange rates will have an (unpredictable) impact on this.

The weakness in the market for construction projects will have a short-term impact on costs, although this is difficult to quantify. Figure 8 shows the boom which occurred in LNG project construction in the late 1970s and early 1980s, and the current bust that the market is in now. New orders for plants will take place in a more competitive environment than five years ago. For comparison, Table 4 lists U.S. construction of large diameter pipelines, and the fall in costs has been dramatic.

## Future Markets

Given an abundance of supply, available at competitive prices and great potential demand for LNG, why are growth rates stagnant? Many factors contribute to this, some short-term, some easily changed, and others somewhat implacable. For one thing, rapid growth in natural gas consumption in Japan would imply a loss of market share for oil, and the government is already concerned about the viability of the domestic oil industry. It seems unlikely to encourage any further, near-term damage. Another reason stems from concern about diversifying away from oil only to become too dependent on one or two natural gas suppliers. Since the major alternatives to Malaysia and Indonesia are high-cost producers, falling oil prices will make large-scale expansion in those areas difficult.

However, the manner in which the market has evolved plays a significant role in the failure of natural gas to be priced competitively. Early projects, as mentioned, were aimed primarily at electric utilities seeking fuel for base-load power generation, and were signed when energy markets were tight. The result was: (1) take-or-pay requirements of 100%, (2) restrictions against trading of surpluses, (3) prices equated to landed crude oil prices and (4) no seasonality of offtake allowed. As a result, rather than a market for LNG, there are a number of dedicated projects, with little trading, inflexible deliveries and prices, and no room for expansion.

Although the lack of price competitiveness has prevented LNG trade from expanding as much as it could, the inflexibility of contract and delivery provisions have created inefficiencies which have increased costs and reduced sales. Much of the oil still consumed by Japan's utility industry is for peaking purposes, especially summer seasonal load. Given storage costs for LNG, taking a year-round contract to cover a few months of demand is not economic, unless prices are discounted or producers seek alternative markets for some of the year.

Considering their profit margins at prices of \$5/Mcf, producers could cut prices to allow more seasonal sales, or add capacity to sell for a few months a year at crude oil equivalent prices, then sell spot cargoes for less, either to current importers who could place cheaper natural gas on a short-term basis, or to new customers who would be interested in a given spot cargo, but not willing to develop facilities to import under long-term The Asian gas market is, unfortunately, not well contracts. enough developed to allow for the kind of spot sales that occur in North America to cover short-term surpluses and shortages. In part, this is a reflection of the expense of requiification facilities, and in part a lack of industrial infrastrucutre in most parts of the region. It is not actually necessary to have a regasification plant to receive LNG, since a ship can regasify its cargo, albeit slowly and more expensively, but a customer is needed. In other words, a port facility with a gas distribution network, one or more large industrial users, and/or a sizeable Outside of current LNG importers, there are some power plant. such potential customers, but not many.

It should also be noted that Japan's industrial sector relies on petroleum for twice as much of its oil as U.S. industry does, while consuming small quantities of natural gas (a 3% market share in 1983, versus 35% in the U.S.). The potential for further market penetration is obviously substantial, but distribution costs for any but the largest companies require a discount on cif LNG prices in order to be competitive with oil products. The recent decline of fuel oil prices relative to crude oil has decreased the competitive position of LNG in the industrial sector. Also, while electric utilities can pass on the cost of fuel without concern, industries in competitive positions must monitor costs much more closely.

## Future Trade: Imagination or Stagnation?

The market is now poised to take one of two roads: acceptance of the status quo, or an attempt to change old patterns and reinvigorate LNG trade. The most important factors in the future direction of LNG trade in Asia are the price of oil and the price of LNG. If oil prices settle at \$15-20/barrel, then there is little room for major expansion of trade. Current projects might expand, but producers' incentives would be seriously reduced. Importers may, however, tax their oil imports high enough to keep LNG growing in order to improve supply diversification. If oil prices rebound to the \$25/barrel range, there will be increases in LNG trade, though still centering more on existing areas and capacity additions rather than those in new areas.

But if producers decide (or are forced to by competition) to reduce prices in order to increase market share, particularly penetrating the industrial sector in Japan, then significant trade growth would resume. Lower prices will, naturally, favor the traditional, low-cost producers over newer market entrants, but high oil prices would allow some discounting from high-cost areas as well.

The other course is for producers to seek something other than single-customer, dedicated projects. If a contract for summer deliveries to, for example a Japanese utility can be combined with a contract for winter deliveries to Korean town gas use, then an added LNG train at an existing site might be feasible. Similarly, Qatar might take advantage of its position between Japan and Europe to sell summer peaking supplies to Japan and winter peaking to Europe. Instead of shutting down for the non-peak seasons, spot cargoes could be sold around the Pacific for as low as \$1/Mcf and still cover variable costs and enough of fixed costs to make them worthwhile. This would encourage the development of a large-scale market for LNG, and would facilitate long-term growth in trade.

The lack of imagination in current LNG markets is best exemplified by the recently proposed Kuwaiti contract with Indonesia, which the Kuwaitis had hoped could utilize (on their return voyages) ships employed on the Abu Dhabi to Japan route. thus saving some shipping costs. Yet, why not sign the contract with Indonesia, and swap the LNG with Japanese utilities, sending Abu Dhabi gas to Kuwait, and the additional Indonesian supply to Japan? This would save about \$0.60/Mcf in both directions. But producers prefer not to allow their customers that much flexibility.

## Alaskan Natural Gas in Asian Markets

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The proposed Trans-Alaska Gas System has a lot of factors working against it, but some in its favor as well. Most importantly, the effort involved in moving it to a liquefaction plant will mean that costs will be higher than most projects now under consideration. Recent pipeline cost estimates are a lot lower than they were just a few years ago, however, due to increasing experience with Arctic construction work, expectations of better cost control than on the Trans-Alaska (Oil) Pipeline, a more competitive construction market, and a better regulatory environment. Thus, it is conceivable that from wellhead to regasification, the cost could run as low as \$2.55/Mcf. Production costs would be added to this, but the total would not exceed \$3/Mcf.

One of the drawbacks, however, is that in order to achieve the necessary economies of scale, the project needs contracts for substantial amounts of natural gas. Even if only the first phase is undertaken, nearly 250 Bcf/yr. needs to be sold. This would require more than some seasonal fuel-switching in Japan. On the other hand, American companies are currently price-takers and perhaps willing to accept a price less than crude oil equivalent if it would ensure the sale, and Japanese companies might be willing to accept some risk in order to start a new pattern of supply contracts.

Then, too, the political aspect should not be overlooked. The United States is, presumably, unlikely to offer Japan some islands in return for an LNG contract, as the Russians are doing but perhaps an accomodation on the restrictions against Alaskan crude exports could be combined with an LNG sale. Certainly, the Japanese would like to reduce trade friction by reducing the deficit, though imports of American LNG into Japan will hardly pacify the U.S. auto industry.

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		Quantity (thousand	Start-up
Exporter	Importer	tonnes)	Date
Alaska	Tokyo Gas Tokyo Electric	240 720	1969
Brunei	Tokyo Gas Tokyo Electric Osaka Gas	1060 3450 630	1972
Abu Dhabi	Tokyo Electric	2060	1977
Indonesia	Kansai Electric Chubu Electric Kyushu Electric Osaka Gas Nippon Steel	2400 1500 1500 1300 600	1977
Malaysia	Tokyo Gas Tokyo Electric	2000 4000	1983
Indonesia	Chubu Electric Kansai Electric Toho Gas Osaka Gas	1500 800 500 400	1983
Indonesia	Tohoku Electric Tokyo Electric Others	2550 400 350	1984
Australia	Tokyo Electric Kansai Electric Chubu Electric Kyushu Electric Tokyo Gas Osaka Gas Toho Gas	900 900 900 900 580 580 150	1989
Total Volume Total Volume Total Volume	for Electric Utilitie for Town Gas Companie for all others	es 25,930 es 7.470 950	

Source: "The Demand for Natural Gas in Japan, 1985-2000," Arthur Wright, MIT Energy Laboratory, 1986.

Exporter	Starting Date*	Quantity (mt)	Status
Indonesia (Arun 3, to Korea)	1986	2	Under construction
Indonesia (to Taiwan)	1988?	1.5	In negotiations
Thailand	1990?	3	Buyers sought
Alaska (TAGS) Phase I Phase II Phase III Phase III	1990 1992 1994	4.8 4.1 5.6	Proposed "
Qatar	1990	6	Proposed
USSR (Sakhalin)	1990+	3	In Negotiations
Australia (Elf to ?)	mid-1990s	2	Proposed

Table 2Planned or Proposed LNG Projects

\*Estimated

Note: Japan is buyer except where otherwise noted.

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Forecaster			
(Date)	1990	1995	2000
Contracted	31.7	26.6	17.0
MITI (4/82)	43.0		51.9
MITI (11/83)	36.5	40.0	43.0
(later revision:	36.5	40.0	41.5
IEE (6/84)	34.0	40.0	
PAJ (6/84)	33.2	37.0	40.9
PAJ (8/85)	32.3	34.6	35.1

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# Table 3 Japanese Forecasts of LNG Imports (million metric tonnes)

MITI = Ministry of International Trade and Industry IEE = Institute of Energy Economics PAJ = Petroleum Association of Japan

SOURCES: Tokyo Gas Co., <u>The Role of LNG (Past, Present, and Future)</u>, Tokyo, June 1985. IEE, "Japan's Long-Term Energy Supply/Demand Forecast," manuscript, June 7, 1984. PAJ, documents given to Professor Richard Samuels, autumn 1985.

From "The Demand for Natural Gas in Japan, 1985-2000," by Arthur W. Wright, presented at the Pacific Basin Trade in Natural Gas, January 1986.

# Table 4 Trends in Pipeline Construction Costs

A. 1983			
Length	Diameter	Cos	t
(miles)	(inches)	(million \$)	<pre>(\$/inch/mile)</pre>
48.6	48	135.0	57,870
74.1	42	131.2	42,157
158.0	42	313.0	47,167
38.6	42	68.2	42,068
60.6	42	129.0	50,684
10.5	36	7.9	20,999
360.0	36	536.0	41,358
23.0	36	20.0	24,155
B. 1984			
(miles)	(inches)	(million \$)	(\$/inch/mile)
22.5	42	21.4	22,686
217.6	42	291.2	31,863
155.3	36	157.1	28,100
29.6	36	30.8	28,953
86.5	30	79.2	30,510
112.0	30	73.8	21,964
23.8	30	15.1	21,184
C. 1985			
(miles)	(inches)	(million \$)	<pre>(\$/inch/mile)</pre>
5.4	42	6.6	28,887
4.1	36	10.1	67,931
81.0	36	51.0	17,476
11.1	36	8.5	21,154
322.5	36	251.7	21,680

Source: Oil and Gas Journal, Pipeline Economics issue, various years.

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JAPAN'S CONTRACTED LNG IMPORTS



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# <u>COAL</u>

# EVOLVING SUPPLY AND DEMAND PATTERNS

by

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Presented to the Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? and ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska

# COAL

# EVOLVING SUPPLY AND DEMAND IN WORLD SEABORNE STEAM COAL TRADE

# INTRODUCTION

This paper describes the evolution of world seaborne steam coal trade since 1975.<sup>1</sup> It highlights current trends and the historic and present sources of supply and demand and discusses selected factors that may affect future world trade patterns. It concludes with a general discussion on the prospects for United States participation in the growing world markets for steam coal.

One encouraging note is that in 1985 Alaska made its debut in the modern seaborne steam coal trade beginning with shipments to Korea from the Usibelli mine at Healy. These exports could be the beginning of a very bright future for Alaska, as the state has extensive reserves of steam coal that could compete in the growing seaborne trade.

Worldwide seaborne steam coal trade is linked very closely to the generation of electricity and industrial use of process heat in cement and other manufacturing plants. The main factors that influence this trade are: economic growth, electricity demand, indigenous coal production (and degree of protection from lower cost coal imports), and the delivered costs of coal relative to other substitutable fuels.

It may be of interest to know how these factors have changed seaborne steam coal trade in the past twelve years. In 1970, the total world use of steam coal was about two billion short tons. International trade in steam coal was only 80 million tons or about four percent of the total. Seaborne trade accounted for about 30 percent of international trade, or about 25 million tons. In 1982, the latest year for which good statistics are available, total world use of steam coal was about 3.6 billion tons. Seaborne steam coal trade was 110 million tons which is about 3 percent of the total and 37 percent of the international trade.<sup>2</sup>

<sup>1</sup> Seaborne coal trade is defined in this paper as shipments via ocean-going ships, excluding intracoastal movements, intra-EEC and central planned Eastern Europe trade.

<sup>2</sup> Estimated from various sources of statistical data.

## CURRENT TRADE HIGHLIGHTS AND TRENDS

Major changes have occurred in the international steam coal market since 1975. The basic considerations behind energy fuel choice decisions have not changed; coal still competes against all energy fuels, oil, gas and nuclear on a cost per Btu basis. What has changed are the importer/exporter trade patterns and they have been altered significantly.

From 1975 to 1985 seaborne coal trade grew from 37 to 136 million tons. In 1985 the major suppliers of seaborne steam coal were Australia, South Africa, United States, Poland and Canada in that order.

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By 1995 the market is expected to total about 233 million tons, which is equivalent to an annualized growth rate of 5.5 percent from 1985. This growth rate is considerably less than the annual growth of 14 percent from 1975 to 1985.

In 1975 the U.S. was the number two supplier, close behind Poland, but by 1985 it was a swing supplier because it became a high-cost source of import coal. As a swing supplier (an ability to ship large amounts of coal on short notice) it also offers importers a secure source of coal for their supply diversification plans. This swing supplier role will continue into the early 1990's although there are opportunities for the U.S. to become a major base supplier in certain markets.

Other trends are evident. In the next five years Colombia will be one of the top five exporters challenging the United States for third place, and displacing Canada from the top five. China could enter the market in a big way in the next five to ten years, although that is not certain.

The major markets for seaborne steam coal will not change appreciably in the next ten years. Western Europe in 1985 accounted for 56 percent of the total market for imported steam coal while the Pacific Rim was 38 percent. In 1995 the percentage of total imports going to Europe is expected to decline slightly to 52 percent while that to the Pacific Rim area remains at 39 percent.

Security of supply concerns, evident in the late seventies, have given way to a growing awareness of the geopolitical considerations of a world energy trade in steam coal. This change can be attributed largely to the fact that in the early eighties substantial excess production capacity developed as demand did not reach expectations. The current world excess

 $^3$  Data used in this paper are summarized in Tables 1 and 2

steam coal production capacity is estimated in excess of 40 million tons, exclusive of the over-capacity in the U.S. which is probably around 100 million tons.

These projections assume that no major policy changes towards imports or exports will be made by either the coal consuming or producing countries. While demand projections have a higher degree of uncertainty than supply projections both contain judgments on non-economic factors. One such factor is that coal purchases appear to be becoming more politicized. This perceived trend in coal trade is a real concern and needs to be carefully watched by both exporters and importers.

Most trade issues today are extremely controversial and energy trade is no exception. Almost every country in the world imports or exports energy in one form or another. More and more countries are pursuing efforts to protect their national industries, and when countries restrict coal imports or set-aside market shares for certain trading partners, these or other government interventions can have direct negative consequences for the growth in world coal use.

The challenge for both exporting and importing nations is to establish policies that foster an international coal trade based on free and fair trade. For world steam coal trade to grow and prosper and become an essential component of a secure and stable world economy, energy trade has to be based on market-oriented principles.

#### OVERVIEW OF HISTORICAL TRADE

One needs to examine only the changes of the past 10 years to identify the main events that appear to be shaping the future of steam coal trade for the remainder of this century.

Prior to the early 1970's the demand for steam coal outside major producing/consuming countries was relatively small and consequently seaborne trade was only about 30 million tons (see Figure 1). Nearly all imports were by Western Europe and its suppliers were Poland, the U.S., the USSR and the U.K. in that order. In 1975 Western Europe imported about 33 million tons, 89 percent of total seaborne trade, with the same four countries supplying over 90 percent of the imports.

The oil crisis in 1973 provided the impetus that changed the slowly growing seaborne coal trade. The change was accelerated by the second crisis in 1979. These oil crises focussed attention on coal as the only near-term alternative fuel to oil and gas. The only other option, nuclear energy, was faltering because of technical, financial and regulatory environmental problems.

The quadrupling of the price of oil made it economical to mine steam coal at great distances from the consumer. Therefore, it is not surprising that in the mid-to-late seventies electric utilities and major industrial firms in the U.S., Europe and Far East, rushed ahead plans for the immediate substitution of coal for oil and natural gas. This led to massive investments in new mines or expansions of existing mines in Australia, South Africa, Colombia, and Canada to supply the increasing demand. Supply capacity increased sharply, but the forecasted tripling of demand did not occur, bringing on the current over-capacity problems.

South Africa first emerged as a major supplier in 1976 with the commissioning of their Richards Bay port facility. At the same time Australia began to expand its capacity to export coal and Colombia took its first steps to enter the international market. Canada followed later, but its expansion was tied to metallurgical coal demand. In the late seventies both China and the USSR, with western partners providing the capital and technology, began to develop mines for export markets.

Most experts predicted steam coal trade would surge in 1978, but it wasn't until 1980 that seaborne trade showed the first big increase - - 22 percent over the previous year. As shown in Figure 2, this was followed by another big increase in 1981 of about 16 percent. Again, in 1982 an increase of 22 percent was recorded. This surge in demand was expected to continue in 1983, but it did not because conversion of oil-fired plants to coal slowed as oil prices continued to decline and the cost of capital was increasing.

In retrospect, a substantial part of the increase in demand in both 1981 and 1982 appears to have been panic buying. With OPEC threatening to raise prices even higher, coal buyers panicked when also confronted with possible shortages of coal because of industrial problems in Australia and Poland.

Coal importers reacted swiftly to secure supplies. As the U.S. was the only significant source of readily available coal U.S. coal companies were the main beneficiaries of this panic buying. In 1981 and in early 1982 our coal industry enjoyed increased sales at premium prices because of buyers' fears over shortages and their desire to build large stockpiles.

About mid-year 1982 and extending through 1983 the market returned to reality. Seaborne trade declined in 1983 by 12

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percent as stockpiles were consumed and real growth slowed because the massive switch of existing boilers to coal burning was essentially completed.

Again in 1984 there was a surge in growth of 24 percent, but only the uninformed interpreted this sizeable increase as a return to the 20 percent plus annual growth in steam coal demand. Exporters knew that many major users were forward-buying in anticipation of a United Mine Workers strike in the U.S. and possible major strikes in Australia. Neither country had major strikes, a non-occurrence that will have important ramifications on buying patterns in future years.

Early in 1985 many experts were predicting a rise of no more than 10 million tons in seaborne coal trade because of excessive stocks and the commissioning of only a limited number of new coal-fired power plants. However, preliminary numbers for 1985 suggest that expectations were exceeded for trade increased about 14 percent over 1984 and amounted to an increase of about 17 million tons.

#### MAJOR COAL IMPORTING AREAS

In this paper the major importing regions are aggregated into three categories: Western Europe, Pacific Rim, and Other which includes all other countries importing coal. Each of these regions are separately discussed.

#### Europe

Prior to 1980, Europe was the predominant market for seaborne steam coal as illustrated in Figure 1. Imports were largely to those countries that had no indigenous production. After the oil shocks, national policies encouraged the substitution of coal for oil on which most of Europe was heavily dependent, and the construction of new power plants accelerated, particularly in Italy and Scandinavia. Imports more than doubled from 1975 to 1980.

In the next five years, 1980 to 1985, as shown in Figure 3, imports increased by only 19 percent or 3.5 percent annually, a much slower growth than predicted in 1980. There were a number of reasons why higher coal trade did not materialize: slower economic growth, energy conservation, continued high subsidization of domestic coal production and oil prices that rose slowly and then began a decline that brought oil prices back to 1979 price levels. All of these factors, but particularly the declining oil prices in real terms and reduced electricity growth rates, stalled boiler conversions to coal. In many forecasts these plant conversions are still included in the demand figures, even though the probability of their converting to coal is unlikely. It is worth noting that these postponed conversions from the early eighties would not be economical if today's oil price levels hold.

# Pacific Rim

Prior to 1975 the Pacific Rim countries imported very little steam coal. Japan led the way in 1976 when it began to import steam coal to supplement its domestic production. Its imports reached about eight million tons in 1980, which accounted for about 75 percent of the total trade in the Pacific region. By 1985 Japan had increased its imports to 21.4 million tons, almost a threefold increase in five years.

Over the same five year period, imports by other Pacific nations grew to exceed Japan's total, giving rise to an overall fourfold increase in total Pacific coal trade from 1980 to 1985. The main importers Taiwan, Korea, Hong Kong and Malaysia.

A large share of the early growth in Pacific steam coal demand was from the conversion of electric power, cement and other manufacturing plants. Only in the last several years have new coal fired power plants boosted demand. It is estimated that in 1985 about 65 percent, or 27 million tons, of the total imported in the region was used to generate electricity. Japan alone accounts for 13 million tons of this total.

# <u>Other</u>

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The main regions in the Other category are Eastern Europe, Southern Mediterranean area, and South America. The principal countries in the latter region are Argentina, Brazil, Chile and Mexico. Coal use in the Other category is increasing as shown in Figure 3, totalling about 21 million tons in 1985. Growth is expected to continue and justifies a more detailed examination in future analyses.

# MAJOR COAL EXPORTING COUNTRIES

In the past ten years there has been a substantial reordering of the top five seaborne steam coal exporters. Shown in Figure 4 is the ranking for the years 1975, 1980 and 1985. In 1975 Poland

ranked first, but it slipped to fourth in 1985. South Africa, not in the top five in 1975, rose to first in 1980 and was barely edged out by Australia in 1985. Meanwhile, the United States had second place in 1975, retained that position in 1980, but slipped to third in 1985.

Figure 5 shows the four largest suppliers to Europe during the years 1980 through 1985. The trends illustrated in this graph are no surprise, but they do give ample evidence to what has happened. Poland and South Africa have levelled off at around 15 and 24 million tons respectively, and for very different reasons neither are likely to experience growth in the next five years.

The U.S., although up and down in volume of exports over the past five years, has a relatively constant volume market base. This base is unlikely to change much in the future without a significant improvement in delivered price competitiveness. One very important factor is the value of the dollar relative to both importing and exporting countries. There are other important cost factors that determine our potential for exports such as productivity and tax liabilities, but a discussion of these factors is beyond the scope of this paper. Absent changes in these factors the U.S. will remain the swing supplier. Possibilities do exist for basic changes, but it is not clear that any immediate opportunities exist.

Australia appears to be the exporter that is in a position to capture a large part of the growth in market demand. However, Colombia is beginning to export and, with Europe its natural market, will give Australia tough competition.

Figure 6 shows the four largest exporters to the Pacific Rim markets. Australia clearly dominates this market with a consistent 40 percent market share. South Africa maintained a very strong competitive position throughout the 1980 to 1985 period generally holding on to its one-third market share. Canada is slowly increasing its exports and will likely pass the U.S., whose sales are declining. Unless lower cost supplies can be developed in the U.S., future prospects are not promising. However, Alaskan coal reserves, such as in the Beluga coal field, could be the key to an expanded role for the U.S. in the seaborne steam coal market, especially in the Pacific Rim.

The new competitors on the horizon are Colombia, China, the USSR, and Indonesia. Probably only the first two are serious challengers, but neither will displace Australia or South Africa.

The broad treatment given to the rankings achieved by suppliers obviously leaves unsaid many other important factors that determine overall competitiveness. Inherent in these rankings are operating costs, such as the direct and indirect expenses of mining and transporting coal to the ports, as well as external cost factors such as monetary exchange rates, ocean freight costs, and government policies. In many cases these external costs can determine the relative competitiveness of an exporter.

Before exploring the future of the major steam coal exporting countries, a brief review of their major assets and liabilities will help to understand their possibilities. The views expressed are those generally held by the major importers of seaborne coal.

### <u>Australia</u>

Australia exports about 50 percent of its total coal production and is currently the world's largest seaborne coal exporter, having achieving this status in 1984 by overtaking the U.S (includes both metallurgical and steam coal). It has a current excess steam coal export capacity of about 10 million tons. It also possesses large, undeveloped, low cost mineable reserves and has an excellent infrastructure dedicated to coal exports. It could rapidly expand steam coal exports with relatively small additional investments at existing mines.

The federal and state governments actively help promote coal exports, but they also control coal exports because of the importance of the revenue to the entire Australian economy. Coal is their largest export item accounting for 14 percent of total export value.

A major impediment to exporting is the labor unions which in the past have forced delays in shipments. Another shortcoming is a shortage of domestic investment capital, which requires borrowing from international money markets or inviting foreign equity investments.

## <u>Canada</u>

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Canada's steam coal reserves are in the western provinces and are mostly metallurgical coal seams that have oxidized or have marginal coking properties. It has a current excess export capacity of around five million tons. Canada benefits from an excellent export infrastructure, and Canadian coal companies enjoy strong government support for coal exports.

Major impediments are high mining costs due to the large capital investments for developing mines in remote areas and mountainous terrain. The long mine to port distances also contribute to high transportation costs, but government investments keep these costs manageable. Major new mines are not expected in the next five to ten years because of worldwide excess capacity and high capital and operating costs for green-field Canadian mines.

# <u>Colombia</u>

Substantial reserves are available for development for the export markets, but except for El Cerrejon North mine, Colombia's transportation systems are inadequate. Major impediments are a lack of domestic investment capital and uncertainty of foreign investors over the long-term political stability.

The El Cerrejon North field gives Colombia a strong base for competing in the world steam coal markets as long as the government continues its favorable tax and profit remittance policies for its foreign joint venture partners. If Colombia can overcome its weak financial position and convince foreign investors that it has political stability, the potential is there to become a major supplier in the world steam coal markets.

# European Economic Community (EEC)

EEC producing countries with the possibility to participate in future seaborne coal trade are the U.K. and West Germany. Except for special circumstances the likelihood of substantial exports are minimal from either of these two countries and especially from Germany. In both countries the production of coal is subsidized by the Community, national, and state governments, because the average cost of mining is considerably above current world market prices. Since the mineable reserves have inherently high extraction costs, both countries are essentially precluded from meaningful participation in world trade.

# <u>Poland</u>

Poland has an incentive to maintain and expand, if possible, its current base of exports to the West because of its need to earn hard currency. It has a well developed mining industry, but its remaining reserves are at great depths. Mining costs are high, new mines are very expensive, and Poland lacks the investment capital to expand its production base. Poland is also under increasing pressure to export more coal to the USSR as production declines in the Donets basin.

Even with a stable - - but more likely declining - - production base Poland will have difficulty maintaining its exports to Western Europe. However, as a central planned economy it is in a position to export whatever quantities it has available after meeting its minimum domestic and eastern bloc needs.

# Peoples Republic of China (PRC)

China has the potential to be a major exporter and as a matter of national policy it has a goal to become a major supplier of coal to the Pacific Rim markets. It has extensive, high quality reserves available for joint development with foreign investors.

Major impediments are its inadequate internal transportation infrastructure, current inability to supply domestic demand and uncertain long-term ability to attract foreign capital. If China imposes a requirement on joint venture mines to dedicate a part of their output to internal consumption, investments by foreign partners become less attractive.

Traditionally, coal importers have been reluctant to commit to long-term arrangements and foreign investors have been cautious towards committing to large capital investments in a centrally planned economy.

#### South Africa

South Africa has the world's lowest cost mining operations (favorable mining geology and low labor costs) and with its dedicated export transportation system produces the world's cheapest steam coal. Although overall quality of reserves does not match that in the U.S., Canada, or Australia, the low sulfur content of South African coal has become a standard reference in the world markets for boilers not equipped with flue gas desulfurization scrubbers.

The increasing use of trade sanctions to demonstrate opposition to South Africa's apartheid policy is forcing some importing countries to reduce or terminate purchases of South African coal. If trade sanctions continue, investments in mines and port facilities could be discouraged, and export capacity may be limited to current levels well into the early nineties.

# United States

The U.S. coal industry has an excess production capacity estimated at more than 100 million short tons. It has a well developed inland transportation system and a port capacity more than twice current exports (capacity around 200 million tons). It has high quality, high Btu bituminous steam coals in the Appalachian fields, Colorado and Utah, and high quality subbituminous coals in the Powder River basin and Alaska. The U.S. is considered to be one of the most reliable and secure sources of supply. Despite all these attributes, the U.S. is a marginal supplier of steam coal because it is a high-cost supplier in both of the major markets due partly to the high value of the dollar. In Europe, South Africa holds the "free market" competitive advantage, while in the Pacific Rim Australia has that position.

It is generally agreed that the U.S. is reasonably competitive on a mine-mouth cost basis with other suppliers, except for South Africa. On a delivered cost basis, however, U.S. coal loses its competitiveness because of high transportation costs. These high costs are a combination of high inland domestic shipping costs and high ocean freight costs due to the distances to the markets.

# <u>USSR</u>

The Soviet Union has extensive coal reserves and is a major world producer of coal. However, it is unlikely to expand its current seaborne coal trade which is minimal and directed to western European nations and Japan. It lacks reserves close to its coasts and is constrained by availability of capital and hampered by changing political objectives.

Importers are generally reluctant to commit to long-term arrangements because of a lack of confidence in the Soviet Union's ability to supply large volumes of coal over an extended time period. Japan's commitment of capital and long-term contracts for metallurgical coal isn't likely to be duplicated soon for steam coal by other importing countries.

#### Other

The main coal exporters in this category are Brazil, India, Indonesia, and New Zealand. In the future these countries could be joined by Venezuela and Mozambique. None of these countries are expected to become major suppliers in the next ten years.

#### FUTURE WORLD DEMAND

All forecasts predict a continuing growth in seaborne steam coal trade, but there the consistency ends. In this paper the 1990 and 1995 forecasts represent an average of mid-range estimates from recent projections made by both industry and government organizations.

Figure 7 shows the actual trade for 1975 and 1985 along with projections for 1990 and 1995. In the last 10 years seaborne coal trade increased about 100 million tons, nearly an overall

four-fold increase. The average annualized increase over this ten year period was about 14 percent and over the last five years about 11 percent. An overall increase of 97 million tons is projected for the next ten years, an average growth of about 5.5 percent.

In the European market, the projected increase over the next ten years is about 46 million tons which is roughly equivalent to the increase in the past ten years (see Figure 8). There are reasons to question if the 1995 projection can be reached. In the past 10 years approximately half of the coal imported could be attributed to a decline in indigenous steam coal production. Also, in the past ten years a substantial part of the growth in coal use came from industrial conversions, especially cement plants. With the prospects for lower oil prices in real terms it is expected that there will be a slower growth rate for coal demand. Consequently, imports might only reach the projected level if EEC indigenous production declines.

A significant decline in Community production will probably not take place unless there is a substantial reduction in both Community and national subsidies, particularly in West Germany and the U.K. Recently the West German Government decided to increase subsidies in 1986 to make domestic coal more competitive with imported coal. Also, the European Community decided to extend current subsidies for indigenous production to July 1986 and proposed extending these subsidies with only minor changes through 1990.

Britain's National Coal Board, following the costly strike in 1985, has recently proposed a new strategy to make its coal industry more competitive. This strategy will require the closing of up to a third of their mines and reducing the work force by over 35,000 miners (about 20 percent of total coal employment) to achieve a 20 percent reduction in production costs. It remains to be seen if this rationalization plan can be carried out because of the potential adverse political consequences.

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Considering the strong social, economic and political pressures to continue subsidies to EEC coal producers, no appreciable drop in EEC production is expected in the next five to ten years.

In the Pacific Rim markets a total increase of 75 percent in coal import demand is expected by 1995, compared to imports in 1985. This high increase in demand implicitly implies that Japan will double its current coal-fired power generating capacity, since Japanese imports would have to account for at least 50 percent of total seaborne trade. This prospect appears favorable since Japan has plans to bring on line about 10,000 megawatts of new coal-fired capacity by 1995.

Increased coal use in the Pacific Rim region also implies that other major coal importing countries - - Korea, Taiwan, and Hong Kong - - will nearly double their coal-fired generating capacities. No other nations are likely to become big importers.

The greatest uncertainty in Pacific Rim demand for coal trade is the level of domestic coal production in Japan. Currently, Japan mines about 20 million tons, two thirds of which is sold as steam coal. Coal production is heavily subsidized as average costs are nearly double that of imports. The Japanese government and the industry are now negotiating the production levels and subsidies for the next five year plan which begins in 1987. Should the government decide to phase out its subsidies to the domestic industry, coal imports would rise accordingly.

Some Japanese officials argue that Japan should quickly phase out its domestic production not only because of high costs, but also for humanitarian reasons as mining conditions in Japan are very difficult and extremely hazardous. Their argument has become strengthened as several recent disasters have resulted in the deaths of many miners.

These same arguments have been made for phasing out Taiwan's domestic coal industry. A reduction in Taiwan's two million tons of steam coal production, however, would have a much smaller impact on seaborne trade.

#### FUTURE COAL SUPPLIES

As depicted in Figure 9, South Africa is projected to be the number one supplier in 1995 with 60 million tons - - just ahead of Australia's 57 million tons. The U.S remains in third place with 27 million tons, which is only a small increase above its current export volume. Colombia is close behind with 24 million tons, most of which will come from El Cerrejon North mine. Poland goes from 15 to 22 million tons in the next 10 years. Canada has a modest growth to 15 million tons. China reaches 11 million tons, and the USSR exports 4 million tons.

Current market conditions suggest that this forecast may need some adjustments. Australia's exports are probably understated while South Africa's are overstated, but the combined total for the two countries appears reasonable. Colombia's exports are well within reason, as are Canada's. Poland is not expected to increase its exports over the current level. China's 11 million tons may be too optimistic.

The forecast for the U.S. appears reasonable considering its swing supplier role. However, it is also possible for the

U.S. to acquire a much larger base volume market share if Alaska makes a significant contribution. Assuming that the other suppliers' shortfalls are within the proportions mentioned, it is within reason that the U.S. could capture an additional 15 to 20 million tons of steam coal exports by 1995.

In the 1995 forecast for the European market, Figure 10, the relative ranking of the major suppliers does not change from 1985 except for the introduction of Colombia, which is projected to become the fourth largest supplier. As discussed earlier, Poland's contribution is probably overstated and the U.S. share understated. Even though many factors can affect the relative competitiveness between potential suppliers, the market shares shown in Figure 10 appear to be reasonable unless coal exports are disrupted for a significant period of time. Two suppliers that appear most vulnerable to supply interruptions are Poland and South Africa.

In the Pacific Rim markets, Figure 11, there are no changes among suppliers that are not evident from the evolving supply pattern of the past several years. As mentioned previously, exports from China may be overstated which creates an opportunity for greater U.S. exports.

## PROSPECTIVE U.S. ROLE

Prospects for U.S. seaborne steam coal exports will be determined largely by the competitiveness of U.S. coal in the two major importing regions. The main factors that determine market share for the U.S., as well as all other major exporting countries, can be summarized in this way:

o Relative break-even costs and profit margins;

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- Reliability and productivity of the work force and export infrastructure;
- o Capability of meeting quality specifications; and
- Degree of government support, agreements, controls and impediments.

Each of these factors requires a detailed country by country analysis to determine its relative importance to the delivered costs in specific markets served by each exporter. In this paper only one factor is discussed - - the role of governments. It is one factor that can change in the short-term and significantly alter world steam coal trade patterns. Government intervention in world coal trade is not healthy for long-term growth. The possible consequences of direct government inter-ventions are feared by some exporters more than any other factor.

Changes in current environmental regulations on coal burning, either by air quality standards or emissions controls, will certainly affect the choice of suppliers to some extent. Current standards and present technologies do not preclude the purchases of a wide range of coals. Unless environmental requirements become more restrictive, current exporters will not be differentially disadvantaged to any significant extent.

One type of government intervention becoming more commonly used is the insistence of some importing countries to import coal only on a countertrade basis. Countertrade clearly distorts the market economics and has the undesirable effect of tying growth in the use of coal to other national goals.

Recently, several importing countries have announced government to government agreements that include commitments to purchase specified amounts of steam coal. Extensive use of bilateral agreements involving market set-asides will severely distort world trade in steam coal.

Another concern is producer/consumer organizations which have been proposed at various times. A recent effort by Japan's Ministry of International Trade and Industry, MITI, to promote a "Pan Pacific Coal Cooperation" plan has generated concerns within the coal industries of several countries exporting coal to Japan. Their concerns are that government decisions would infringe on or replace market forces and affect commercial trade in coal.

It should be noted that the U.S. government strongly opposes market interventions by multilateral producer/consumer organizations on energy demand, supply, investment and prices. The U.S. government believes that these issues are best left to the private sector.

These examples illustrate that governments can and do exercise significant control over world coal trade. If world coal trade becomes over-politicized there will be substantial trade distortions and trade in steam coal may be constrained.

If, on the other hand there is an open, market-oriented steam coal trade, the U.S. is ideally positioned to become a major participant in world steam coal trade. The U.S. has enormous reserves of a quality unmatched anywhere in the world; a domestic market that is open and fiercly competitive; and an exporting industry that has demonstrated to be a stable and reliable supplier.

# SEABORNE BITUMINOUS STEAM COAL TRADE HISTORICAL AND FORECAST

			I SHOLL LONS		
EXPORTERS	YEAR	WESTERN EUROPE	PACIFIC RIM	OTHER	TOTAL
Australia	1975	2.6	0 - 4	0.2	3.2
	1980	3.6	5.1	1.1	9.8
	1985	12.5	27.4	1.0	40.9
	1990	10.0	30.0	2.0	42.0
	1995	15.0	40.0	2.0	57.0
Canada	1975	0.9	0.1	0.0	1.0
	1980	0.7	0.5	0.0	1.2
	1985	1.3	2.8	0.6	4.7
	1990	2.0	5.0	3.0	10.0
	1995	3.0	10.0	2.0	15.0
Colombia	1975	0.0	0.0	0.0	0.0
	1980	0.0	0.0	0.0	0.0
	1985	0.4	0.0	1.5	1.9
	1990	10.0	1.0	6.0	17.0
	1995	15.0	2.0	7.0	24.0
EEC [a]	1975	2.5	0.2	0.1	2.8
	1980	0.5	0.0	0.4	0.9
	1985	0.1	0.0	0.1	0.2
	1990	3.0	0.0	0.0	3.0
	1995	3.0	U.U	0.0	3.0
Poland	1975	14.3	0.0	- 0.3	14.6
	1980	14.0	0.0	0.7	14.7
	1985	15.3	0.0	0.1	15.4
	1990	22.0	0.0	0.0	22.0
	1995	22.0	0.0	0.0	22.0
PRC	1975	0.0	0.5	0.4	n.9
	1980	0.0	0.7	0.4	1.1
	1985	0.0	1.5	0.4	1.9
	1990	0.0	6.0	0.0	6.0
	1995	1.0	9.0	1.0	11.0
South Africa	1975	· 1.8	0.1	0.7	2.6
	1980	23.5	3.7	0.0	27.2
	1985	24.2	13.6	2.2	40.0
	1990	30.0	15.0	2.0	47.0
	1995	40.0	15.0	5.0	60.0
United States	1975	6.4	0.0	0.1	6.5
	1980	13.6	1.5	0.9	16.0
	1985	15.8	3.2	2.7	21.7
	1990	15.0	3.0	3.0	21.0
	1995	17.0	7.0	3.0	27.0
USSR	1975	3.6	0.2	0.0	3.8
	1980	2.8	0.2	0.0	3.0
	1985	2.0	1.0	0.2	3.2
	1990	3.0	2.0	0.0	5.0
	1995	2.0	2.0	0.0	4.0
Other	1975	0.8	0.5	0.2	1.5
	1980	4.8	2.2	0.4	7.4
	1985	4.0	1.7	0.4	6.1
	1990	3.0	2.0	0.0	5.0
	1995	4.0	5.0	1.0	10.0
Total	1975	32.9	2.0	2.0	36.9
	1980	63.5	13.9	3.9	81.3
	1985	75.6	51.2	9.2	136.0
	1990	98.0	64.0	16.0	178.0
	1995	122.0	90.0	21.0	233.0

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[a] Excludes intra-EEC Trade
Note: Historical data compiled from numerous sources.
Forecast data are midrange estimates compiled from various projections.

TABLE 2

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# SEABORNE BITUMINOUS STEAM COAL TRADE FOR YEARS 1980 THROUGH 1985 (million short tons)

	IMPORTERS						
EXPORTERS	YEAR	WESTERN EUROPE	PACIFIC RIM	OTHER	TOTAL		
Australia	1980	3.6	4.0	2.2	9.8		
	1981	4.1	6.3	0.8	11.2		
	1982	4.3	8.4	1.3	14.0		
	1983	5.9	10.0	4.4	20.3		
01-	1984	9.5	14.3	8.2	- 32.0		
Janada	1980	0.7	1.3	0.0	2.2		
	1982	0.8	1.5	0.9	3.2		
	1983	0.9	1.5	0.2	2.6		
	1984	1.0	2.3	1.0	4.3		
	1900	1.J			4./		
Colombia	1980	0.0	0.0	0.0	0.0		
	1982	0.0	0.0	0.0	0.0		
	1983	0.1	0.0	0.2	0.3		
	1984	0.1	0.0	1.1	1.2		
	1985	0.4	0.0	1.5	1.9		
EEC [a]	1980	0.5	0.0	0.4	0.9		
	1981	0.5	0.0	0.6	1.1		
	1982	0.5	0.0	0.4	0.9		
	1984	0.4	0.0	0.2	0.8		
	1985	0.1	0.0	0.1	0.2		
Poland	1980	14.0	0.0	0.7	14.7		
	1981	4.4	0.0	0.0	4.4		
	1982	9.7	0.0	. 0.0	9.7		
	1983	11.4	0.0	0.0	11.4		
	1984	18.5	0.0	0.5	19.0		
	1982		U.U	U • L	•••c1		
PRC	1980	0.0	0.7	0.4	1.1		
	1982	0.2	2.3	0.0	2.5		
	1983	0.0	4.1	0.0	4.1		
	1984	0.0	2.5	0.0	2.5		
	1985	0.0	1.5	0.4	1.9		
South Africa	1980	23.5	3.7	0.0	27.2		
	1981	23.1	4.9	0.0	28.0		
	1982	18.9	6.9	0.0	25.8		
	1983	24 3	9.9 12 A	0.0	28.9		
	1985	24.2	13.6	2.2	40.0		
United States	1980	13.6	1.5	0.9	16.0		
	1981	25.9	6.1	0.9	32.9		
	1982	21.7	5.4	0.2	27.3		
	1983	13.2	3.9	0.0	17.1		
	1984	/.6 15.8	3.9	0.2	21.7		
	1000						
USSR	1981	2.0	0.3	0.0	2.0		
	1982	1.5	0.2	0.0	1.7		
	1983	1.8	0.6	0.0	2.4		
	1984	1.8	0.8	0.0	2.6		
	1985	2.0	1.0	0.2	3.2		
Other	1980	0.3	1.1	4.2	5.6		
	1981	5.2	1.6	1.3	8.1		
	1982	5.0	2.4	3.0	10.4		
	100V 1983	0.5	1.0	0.9 2 0	0.4 2 Q		
	1985	3.0	1.1	1.9	6.0		
Total	1980	59.0	11.7	8.8	79.5		
	1981	63.5	22.8	3.6	89.9		
	1982	75.6	28.1	5.8	109.5		
	1993	59.2	31.0	5.9	96.1		
	1905	55.2			110 0		

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[a] Excludes intra-EEC Trade
Note: Estimates developed from Coal Exporters Association data.
Permission to use is gratefully acknowledged.





FIGURE 2

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FIGURE 4



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FIGURE 6

PACIFIC RIM STEAM COAL SUPPLIERS







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SEABORNE COAL SUPPLIERS ACTUAL AND FORECAST











# BRITISH COLUMBIA MINISTRY OF ENERGY, MINES AND PETROLEUM RESOURCES

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# BUILDING RESOURCE TRANSPORTATION SYSTEMS

# PRESENTED TO THE RESOURCE DEVELOPMENT COUNCIL FOR ALASKA

# SIXTH INTERNATIONAL CONFERENCE ON "ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

LORNE E. SIVERTSON ASSISTANT DEPUTY MINISTER MINERAL RESOURCES DIVISION

> FEBRUARY 13, 1986 ANCHORAGE, ALASKA

# INTRODUCTION

- Thank you. I am pleased to be here today to speak at the Sixth Annual Conference on Alaska's Resources.
- The subject which I have been asked to address today is Building Resource Transportation Systems, a subject I believe to be of vital importance to Alaska and the Province I come from, British Columbia.
- My experience in this area has been gained through work for industry and government in Canada, the USA and Europe.
- I propose, however, to confine my comments to resource transportation development in British Columbia.
- I hope that what I have to say will be informative and perhaps of some use to Alaska as it grapples with the problems of resource and transportation development.
- I will be making perhaps an obvious point here that the two types of development are commonly related.

# A British Columbia Profile

- Before proceeding much further, I think it may be worth briefly describing for you some of the key characteristics of my Province, as they are germane to the subject.

# History

- British Columbia was explored first in the 1770's by the Spanish, with Vancouver Island becoming a British Crown Colony in 1849.
- The discovery of gold on the Fraser River in 1858 attracted thousands of people into what is now British Columbia, with the new colony of British Columbia being created in 1866, which included Vancouver Island and the mainland.
- British Columbia became a part of Canada in 1871 on the strength of a promise that a transcontinental railroad would connect it to the eastern provinces.
- The railroad was completed in 1886, allowing forest, mineral, and agricultural products to be shipped east, with manufactured goods and settlers transported on the return haul.

# The Economy

- British Columbia is a large province, having a land area of almost 1 million square kilometers, almost 25% larger than the size of California, Oregon and Washington combined.
- The population is 2.7 million, with 70% living in metropolitan areas in the extreme southwest.
- Energy, forest products and mining are major industries, with mineral output reaching \$3.5 billion in 1985.
- At 23 million tons of coal exports and 300 thousand tons of copper concentrate exports, B.C. is the third largest coal exporter in the non-communist world and the largest exporter of copper concentrates.
- It is also a major producer and exporter of pulp, paper, lumber and sulphur.
- Due to the vast size, difficult physical geography and widely dispersed mining and forest industries, an extensive and efficient transportation system is a fundamental requirement of the B.C. economy.

# B.C.'s Resource Transportation System

- British Columbia is served by two national railways as well as the British Columbia Railway.
- The B.C. railway was recently upgraded at a cost of about \$500 million to provide transportation for a major new coal development in northeast B.C., about which I will say more later.
- Both the Canadian Pacific and Canadian National railways are in the process of double-tracking and upgrading their mainlines which will cost \$5.4 billion over the decade for the B.C. portions alone, and will allow the railroads to meet their forecasts of shipping requirements for bulk commodities.
- B.C. has two major ocean shipping ports -- one at Vancouver and the other at Prince Rupert, near the southern tip of the Alaska panhandle.
- These ports load over 60 million tons per year of bulk cargo.

- The coal loading facilities at these ports are the newest and among the most efficient in the world and can accommodate ships of up to 250,000 dwt.
- B.C. has an extensive highway system, and one which is expensive because of the difficult topography. There are about 52,000 kilometers of provincial roads.
- The Province also has major oil and natural gas pipeline systems stretching from the border with the Northwest Territories to Vancouver and the US border, for supplying natural gas to the Pacific Northwest and California.

# Transportation Policy in B.C.

- While the government of British Columbia has built or helped to build an extensive and efficient transportation system to move resource products to market, provincial policy has required that there must be a clear economic justification before transportation infrastructure investments will be made.
- When new roads, rail branchlines, townsites and power supplies are required to facilitate natural resource development projects, the Province looks carefully at the bottom line before becoming involved financially.
- Important considerations are (in no particular order):
  - net public benefits as measured by incremental income and tax revenues from the project relative to the cost of infrastructure
  - multiple use opportunities
  - ability to pay and re-pay costs
  - project feasibility
  - environmental impacts and costs
  - regional development implications
- In the same way that the Province promotes efficient and productive investments in infrastructure, it generally promotes cost-based user charges when possible for infrastructure services.
- In the last few years, for example, the railroads in Canada, with the urging of B.C., have moved away from rail rates that had subsidized the shipment of western grain for 75 years to "compensatory" or cost-based rates for all commodities.

In B.C. and in Canada as a whole, we do not have legislation similar to your country's Jones Act. Shippers are free to choose charters offering the lowest rates to transport their commodities.

# Recent Applications of Infrastructure Policy

- With this brief outline of provincial transportation infrastructure policy, I would like now to spend a few minutes describing specific applications of this policy as it relates to three new mining developments with which I have been deeply involved.

### Northeast B.C. Coal Development

- The first project is the North East B.C. Coal Development.
- After a number of years of analysis and planning in government for the project, the Province of B.C. agreed with the owners of the two mines in 1981 to provide the coordination and financial assistance to build the necessary roads, power line, townsite, rail branchline and port.
- This was done on the basis of a comprehensive agreement between the Province, the mines, the federal government, two railroads, the port developer and a power utility.
- This project involved the development of two coal mines with a combined capacity of about 8.5 million tons.
- The project cost, including infrastructure, which was about one third of the amount, was \$2.9 billion.
- The project employed a labour force at the peak of 6200.
- The project was completed and the mines commenced production and shipments of coal to Japan at the end of 1983.
- Included in the provisions of the agreement were two levels of surcharge imposed by the Province designed to help amortize its infrastructure investment as well as cost-based user charges for facilities provided by the railroads, port, utility etc.

# Serem Gold Project

- The second project I wish to describe briefly is a proposed gold mining project in a very remote area of northern B.C., with a great precious metal resource potential.
- Serem Inc., the project developer, early in 1985 requested assistance to build a 130 kilometer road extension to their gold discovery.
- After careful assessments of the company's feasibility studies and cost-shared engineering and environmental studies for the road, and in view of the potential for stimulating a number of other mines in the area, the Province offered to provide up to 50% of the capital costs for the road, secured by a legally binding contract which includes a provision for the repayment of the loan.
- If the price of gold fails to rise to a specified level, indexed for price inflation, after the mine comes into production in 1988, the Province will not be re-paid.
- However, if the price of gold exceeds a specified "trigger" price, payments will be due with interest.
- A second trigger is included in the agreement at even higher gold prices to pay back the loan twice as fast.
- In recognition of multiple use benefits, if major new mines are developed in the area which make use of the road, the outstanding balance of the loan will be forgiven.

# Mount Klappan Anthracite Coal Project

- At about the same latitude as Wrangell Alaska but a few hundred miles east in B.C. is one of the largest anthracite coal deposits in the world.
- The indicated resource potential is perhaps 3-4 billion tons of high quality anthracite coal; anthracite being a source of almost pure carbon for thermal and metallurgical purposes.
- Gulf Resources have been exploring this coal deposit for several years and have been sharing the costs with the Province for infrastructure planning and environmental studies.

We are spending \$1 million with the company this year on such studies, for a new port development at Stewart, B.C., on road routes to connect the mine to existing highways and on power options -- a hydro-electric transmission line versus on-site thermal-electric power.

- We expect a project investment decision in September of this year, with construction possibly commencing fall, 1986.
- The total project cost would be about \$600 million.
- While no decision has been taken by the Province on the nature and extent of assistance to build the needed infrastructure, help could be provided on the basis of a firm production commitment by the company, compliance with regulatory requirements and consistency with our policy guidelines for such support.

# Public Policy Implications for Alaska

- I have attempted here to briefly describe the resource base nature of the B.C. economy, the challenges of building transportation and other infrastructure in a vast, mountainous and sparcely populated region, and I have attempted to describe the current transportation systems we have in place to facilitate resource development.
- I have attempted as well to explain principles that are followed in making infrastructure investment decisions in British Columbia.
- From a public policy perspective for Alaska, I believe there are several points worth considering:
  - 1. First, to the extent that economic growth is lead by the resource sectors, there will be an on-going need to develop new and more efficient, cost-competitive transportation systems.
  - 2. Second, there are compelling reasons for a government role in planning, coordinating and possibly participating in these investments because of the public goods nature of transportation infrastructure -- that is, if it is built for one user, many more can use it at no, or little increase in initial cost -- because of the high cost of such investment and because of regional and environmental impacts of such investments.

- 3. Third, while many proposals may be advanced for government infrastructure support, such help should only be contemplated where there are demonstrable net benefits -- income gains to the state or province. Support should not exhaust benefits, otherwise it is simply an income transfer from one group (the public) to another (the developer).
- 4. Finally, while governments may need to be involved in developing transportation infrastructure, this need not preclude the recovery of investment through user charges or repayments in installments. In this way government helps overcome capital cost barriers, shares risk and reward.

# CONCLUSION

- On that note I would like to conclude this talk and to thank you for your kind attention.
- I hope what I have said has been of interest and of some value to you.

THANK YOU

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# EFFECTS OF GOVERNMENT DECISIONS AND REGULATIONS ON INDUSTRY COMPETITIVENESS

# By

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### Presented to the

Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska

# Introduction

Thank you for the opportunity to speak before this distinguished audience. The overall topic of the effects of government decisions and regulations on industry competitiveness is broad indeed. Any reasonably complete discussion of this topic would monopolize the entire conference. Therefore, the focus of this paper is narrowed to cover environmental legislation and regulation -- and the resulting impacts on the competitiveness of the minerals industry. This emphasis arises, in part, because government actions in this arena have had significant and adverse consequences for the minerals industry and also because our firm has been both witness to and an active participant in the analysis of some of the major environmental policy impacts on the minerals sector.

This paper is organized as follows. First, a brief review of salient economic statistics relative to overall U.S. industrial competitiveness is presented. The relevant data show that although the United States is among the most productive of the major world economies, our competitive edge is indeed being narrowed. Next, some brief asides are ventured relative to claims of the "deindustrialization" of America. The more extreme of these claims are shown to be without merit, but there are clear imperatives to action nonetheless. In particular, certain resource-based industries face significant challenges to survival. Unless these challenges can be met, we face a continual erosion of the international competitiveness of our minerals industries. This would be particularly unfortunate for Alaska -- a state with substantial, yet undeveloped, natural resources.

Government policies that can help/hinder our struggle for increased competitiveness are identified, and some salient aspects of environmental policy are examined. It is argued that a reexamination of our approach to environmental decision-making is appropriate. Five specific areas for improvement are suggested. These problem areas include:

- (i) the need to consider the effects of international competitiveness in making environmental decisions,
- (ii) the need for regulatory stability,
- (iii) the need to reduce uncertainty over environmental decisionmaking,
- (iv) the need to increase the consistency of environmental decision-making, and
- (v) the need to devise effective alternatives to the adversary process for resolving environmental disputes.

# Background

America's industrial competitiveness is a timely and important theme for this conference and is likely to emerge as one of the key public policy issues for the remainder of this century.

The competitiveness "problem" is also highly controversial. Economists are not sure exactly how competitiveness should be measured, observers are divided on whether the situation is improving ("creative revitalization"<sup>1</sup>) or getting worse ("A nation of hamburger stands" is a critical metaphor to describe the employment shifts away from manufacturing industries and towards the services sector), and political leaders are unsure what policy initiatives, if any, are required to improve matters.<sup>2</sup> Some politicians advocate the development of an "industrial policy," much like that in Japan, to stimulate the growth of America's competitiveness. Others claim that entrepreneurs and free market forces will make the necessary adjustments if only government can be "kept off our backs." In short, the question of competitiveness is ill-defined, and "answers" or policy responses are highly politicized. Nonetheless, most observers share a common perception that maintaining our competitive edge is important to America's long-term economic prosperity -- and many fear that this competitiveness is eroding.

# Pertinent General Remarks Relative to Competitiveness

Government Printing Office, Washington, D.C., pp. 1-56.

In their recent report,<sup>3</sup> the President's Commission on Industrial Competitiveness argued that no single measure or economic statistic could be used to characterize the competitiveness of an economy. Rather, a series of

# <sup>1</sup>Kahn, H., <u>The Coming Boom, Economic Political, and Social</u>, Simon & Schuster, 1982.

<sup>2</sup>For popularized versions of this idea, see the following: Bowen, W., "How to Regain the Competitive Edge," Fortune, March 9, 1981, pp. 74 et seq. Cook, J., "The Molting of America," Forbes, November 22, 1982, pp. 161-167. Barnett, D. L., "Rebuilding America, It Will Cost Trillions," U.S. News & World Report, September 22, 1980, pp. 56-60. Taylor, A., "Curing Ailing Industries," <u>Time</u>, July 14, 1980, pp. 42-43. Nickel, H., "The U.S. Needs An Industrial Policy; Interview with Frank Weil," Fortune, March 24, 1980, pp. 149 et seq. "Lets Rebuild America," Nations Business, May 1981, pp. 70-71. Brockway, G.P., "The Dismal Science: America's Setting Sun," The New Leader, June 14, 1982, pp. 8-9. Mass, N. J., and P. M. Senge, "Reindustrialization, Aiming for the Right Targets," <u>Technology Review</u>, August-September 1981, pp. 56 <u>et seq.</u>. "The Reindustrialization of America," <u>Business Week</u>, Special Issue, June 30, 1980, pp. 58 et seq. <sup>3</sup>Global Competition, The New Reality, The Report of the President's Commission on Industrial Competitiveness, January 1985, Superintendent of Documents, U.S.

statistics were deemed necessary to measure the important dimensions of the international competitiveness. The Presidential panel selected four key indicators and argued that:

- (i) The United States remains among the most productive of the world's major economies, as measured by levels of real gross domestic product (GDP) per employed person.<sup>4</sup> However, the differences in real GDP per employed person between the United States and other major industrialized nations have narrowed in recent years. Figure 1, for example, shows the compound average annual percentage change in real GDP per employed person for selected countries between 1973 and 1983. The figure for the United States is appreciably beneath the European countries, let alone the newly industrializing countries in the sample.
- (ii) The competitiveness of the United States has been reflected in rising real incomes. For example, with certain exceptions (e.g., the Great Depression), the real hourly compensation of U.S. workers has grown steadily (e.g., at a 2.6% annual rate between 1963 and 1973) during this century. However, since 1973 real wages have not grown appreciably, a point made in Figure 2.
- (iii) Real returns on assets invested in the U.S. manufacturing base have generally decreased since the mid-1960s -- it is too early to tell whether the recent economic recovery is "an incident or a condition."
- (iv) The U.S. trade balance has deteriorated sharply in recent years, as has the U.S. share of world trade of manufactured goods. Although the recent strength of the dollar was one cause of this decline, this factor alone cannot explain these trends.

All in all, these (and other) statistics indicate that the situation is not as critical as the doomsayers would have us believe, but certainly does not justify an attitude of complacency either. We may not yet be facing a crisis, but a continuation of current trends would lead to a world economic order quite different from that which we know today. We can no longer take it for granted that our children will enjoy the highest standard of living among the major industrialized countries.

<sup>&</sup>lt;sup>4</sup>Some oil-rich countries have GNP/capita values higher than the United States, but this fact is not inconsistent with the above statement. In any event, the prospects of lower petroleum prices may soon change this situation. It should be noted that comparisons among countries depend upon the measure used for comparison (the United States does not rank as highly if GDP/capita is used rather than GDP/employed person) and the period chosen for comparison (e.g., as related to exchange rates). These differences, while perhaps important, do not alter the general conclusion that the <u>relative</u> U.S. position is becoming worse.

FIGURE 1. AVERAGE ANNUAL CHANGES IN REAL GDP PER EMPLOYED PERSON FOR SELECTED COUNTRIES BETWEEN 1973 AND 1983 POINTS TO A U.S. PROBLEM.

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SOURCES: U.S. DEPT. OF LABOR, BLS, WORLD BANK AND INTERNATIONAL MONETARY FUND, INTERNATIONAL FINANCIAL STATISTICS.

# FIGURE 2. REAL HOURLY COMPENSATION IN BUSINESS SECTOR HAS STAGNATED AFTER YEARS OF GROWTH--EVIDENCE OF THE PRODUCTIVITY CHALLENGE.

REAL HOURLY COMPENSATION INDEX (1967=100) 110 г YEARS SOURCE: ECONOMIC REPORT OF THE PRESIDENT 1985,

TABLE B-40.

#### Manufacturing and Minerals Sectors

Competitiveness in the manufacturing sector has been a subject of intense interest in the competitiveness debate. Exponents of the "deindustrialization" hypothesis note that the U.S. share in world trade in manufactured goods has generally declined since 1960 and moreover, that import penetration ratios (imports/domestic production) for foreign manufactured goods have increased for a majority of manufactured goods.<sup>5</sup> More sanguine observers note that the real GDP of all manufacturing sectors has maintained approximately a constant proportional share, nearly 25%, of real GDP/GNP since 1950,<sup>6</sup> hardly evidence of rapid "deindustrialization." They concede that manufacturing workers represent a declining proportion of the wage and salary workforce, as illustrated in Figure 3, but argue that this is largely the effect of improved productivity and hence competitiveness gains. Further, the hypothesis is ventured that increasing import penetration ratios arise from increased total demand for manufactured goods by U.S. consumers and manufacturing industries rather than a sign of ill-health of the manufacturing sector.

Notwithstanding this ambiguity of evidence, there have been some clear winners and losers within the manufacturing sector. Some industries in the manufacturing sector (e.g., electrical machinery, chemicals, and printing and publishing) have posted large gains in output.<sup>9</sup> But others, such as the nonfuel minerals industries, have faced very difficult times, and words such as

<sup>5</sup>New York Stock Exchange, "U.S. International Competitiveness," 1977, cited in <u>Report of the President's Commission on Industrial Competitiveness</u>, January 1985, Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

<sup>6</sup>From data contained in the <u>Economic Report of the President</u>, transmitted to the Congress, February 1985, Table B-11, p. 245. See also, "U.S. Manufacturing? It's Alive and Well," <u>The Wall Street Journal</u>, Monday, 23 December, 1985, Vol. CCVI, #123, Eastern Edition, p. 1.

<sup>7</sup>Such gains in competitiveness are essential if these industries are to survive, but still may involve significant dislocations. Unless the industry in question can expand production at a sufficient rate, worker layoffs are the inevitable result. New non-union firms with lower wage scales prosper at the expense of their unionized counterparts, resulting in intense pressure for "give-backs" or other concessions at unionized facilities. Average wage levels decrease. This is exactly what is happening in the Pacific Northwest timber industry, for example. For an interesting discussion of this situation, see Nicholas D. Kristof, "Timber Towns Grow Silent," <u>The New York Times</u>, Friday, January 17, 1985, pp. D1 and D11. In general, productivity and competitiveness gains in mature industries (slow growth in demand) are a "good news - bad news" situation.

<sup>8</sup>Bryan, M. F., "Is Manufacturing Disappearing?," <u>Economic Commentary</u>, Federal Reserve Bank of Cleveland, 15 July 1985, p. 2.

<sup>9</sup>Bryan, M. F., "Is Manufacturing Disappearing?," <u>Economic Commentary</u>, Federal Reserve Bank of Cleveland, 15 July 1985, p. 3.

FIGURE 3. THE MANUFACTURING SECTOR HAS RETAINED IT'S SHARE OF REAL GNP/GDP, BUT MANUFACTURING WORKERS' SHARE OF TOTAL EMPLOYMENT HAS DECREASED



"rationalization" "downsizing" and the "competitive core" have entered the lexicon of executives in such basic industries as steel, copper, and other non-ferrous metals.

Depressed commodities prices and other factors, such as aggressive and partially-subsidized foreign competition, and U.S. government mandated expenditures for environmental controls have forced plant closings, layoffs, and mounting losses in place of accustomed profits.

#### The Alaskan Perspective

These latter developments should be of particular concern to Alaska, a state endowed with substantial and underdeveloped natural resources.<sup>10</sup> I'm sure that most of you in this audience are fully familiar with Alaska's resources from a state perspective. But, it is also important to consider the role of Alaska's resources from a national perspective. Some of the richest unexploited mineral deposits in the world can be found in Alaska and the development of these resources could be an important factor in maintaining the competitiveness of the mineral sector. As one example, U.S. zinc ore grades have steadily declined in past years to levels of under 4%, compared to 6% to 9% in some of the major mine producing countries.<sup>11</sup> The Red Dog zinc-lead-silver-barite deposit in Alaska contains more than 17% zinc, and could ultimately account for as much as one-third of U.S. mine production: exploitation of this one deposit could reverse the downward trend in U.S. zinc grades! Other examples include,<sup>12</sup>

- -- Alaska is the location of numerous "world class" mineral deposits such as the Quartz Hill Molybdenum deposit being developed by U.S. Borax.
- -- The bulk of U.S. platinum production has come from Alaska.
- -- The largest nickel reserve in the United States occurs in Alaska.
- -- Alaska may contain up to one-half of America's coal reserves and one-fifth of the world coal resource base.
- -- Alaska may contain over one-half of all oil and gas reserves to be discovered in the United States.

<sup>10</sup>Useful profiles of Alaska's mineral industry and resources can be found in <u>Alaska's Mineral Industry 1984</u>, available from the Alaska Division of Geological and Geophysical Surveys, Fairbanks, Alaska.

<sup>11</sup><u>Mineral Facts & Problems 1980 Edition</u>, U.S. Department of the Interior, Bureau of Mines, p. 1025.

<sup>12</sup>These are just some of the interesting minerals-related statistics to be found in the Resource Development Council's <u>International Conference on Coal</u>, <u>Minerals</u>, and <u>Petroleum -- Proceedings</u>, Anchorage, Alaska, February 16-17, 1983, see especially pp. viii, xi, 158, 41, 88.
Few would dispute the assertion that Alaska's mineral resources could be pivotal to the future competitiveness of America's mineral industry in the future.

#### Competitiveness In the Mineral Sector is a Question of Relative Cost

Most fuel and non-fuel minerals, and some of their immediate derivatives such as semi-fabricated metal shapes, are classed as commodities. For any given product, prices throughout the world are in a delicate equilibrium, differing among locations only as a result of transport costs, tariffs or quota equivalents, and other trade barriers. The overall price level is determined by the world-wide balance between demand and supply, rather than by any individual producer.<sup>13</sup> In this setting, the measurement of competitiveness reduces to a matter of relative delivered cost. Low-cost producers survive and prosper, while higher cost producers earn lower profits and may ultimately be forced to close operations on an intermittent or permanent basis.

Costs, in turn, depend upon numerous physical, economic, and managerial factors. The cost structure of a mine, for example, depends upon the size and quality of the ore body, location, transportation costs to markets, <sup>14</sup> extraction technology, labor and capital productivity, etc.

But competitiveness in the mineral sector also depends upon factors controlled or influenced by <u>government policy</u> both here and abroad. Access to government lands, environmental requirements, health and safety regulations, tariffs and trade actions, the structure and technical provisions of tax laws, etc., are increasingly important in the delicate calculus of competitiveness. Table 1 provides a partial listing of the broad categories of government actions relevant to the minerals industries together with some subjective remarks relative to each. Although the list is incomplete, it gives some idea of just how pervasive is the role of government with respect to these industries.

As stated earlier, an item-by-item discussion of all these dimensions of government policy is not possible given time constraints; the focus of the following discussion is on environmental laws and regulations. It should be noted in passing, however, that U.S. Government policies towards the mineral

<sup>&</sup>lt;sup>13</sup>Cartels, such as OPEC, can manipulate prices to a degree, depending upon their collective share of market, and demand and supply elasticities in the short and long term. Most cartels (including OPEC) collapse ultimately, however.

<sup>&</sup>lt;sup>14</sup>Lack of infrastructure, high transportation costs, difficult working conditions, and high labor costs have been obstacles facing minerals producers in Alaska even though some of Alaska's mineral deposits are otherwise highly attractive.

# TABLE 1. FEDERAL ACTIONS THAT AFFECT INDUSTRY

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AREA	HOW IMPLEMENTED	REMARKS
TAX POLICY	Investment tax credits, depreci- ation schedules, depletion allow- ances, etc.	Tax reform proposals would have gen- erally unfavorable effects on the minerals industry.
EXCHANGE RATE	Variety of mechanisms, interest rates, etc.	Dollar now beginning to fall from high levels of recent past, but many U.S. producers are still not competitive.
TRADE ACTIONS	Overall trade policy, quotas, tariffs, and non-tariff barriers, decisions on "201" and "301" cases.	Mixed, from point of view of minerals industry, e.g., recent decisions in copper and steel industries.
PRICE CONTROLS/ PRICE SUPPORTS	Periodic controls on prices or price support mechanisms.	Generally unfavorable compared to other nations. In past 15 years, there have been minerals price con- trols in U.S. and sporadic price sup- ports in several other countries.
GOVERNMENT LOANS OR GUARANTEES	Defense production and related acts, investment insurance and other activities (e.g., Chrysler "bailout").	More important in historical context in United States. Other countries generally more supportive.
STOCKPILES AND THEIR MANAGEMENT	Purchases/sales to/from stockpiles of strategic and critical materials.	Stockpile objectives have never been clearly articulated stockpile management inconsistent and politicized.
GOVERNMENT LAND POLICY	General Mining Law, Mineral Leasing acts, special acts that withdraw acreage.	In recent years numerous laws have combined to reduce sharply the avail- able Federal lands for minerals exploration and development.
ENVIRON- MENTAL LAWS AND REGULATIONS	Self-evident; major statutes in- clude the Clean Air Act, Superfund (CERCLA), RCRA, etc.	Have added substantial costs to certain sectors, e.g., non-ferrous smelting, of the minerals industry. Future costs associated with RCRA and related laws could be major factor.
ANTI-TRUST	Actions of government in opposi- tion to specific mergers, faced divestitures, etc.	Currently less of an issue than in the past, when several specific mergers were opposed.
RESEARCH AND DEVELOPMENT	Sponsored research and development and data-gathering by such agencies as the Bureau of Mines and Department of Energy.	In recent years the Bureau of Mines has been under intense budget pressure.

sector are not particularly favorable relative to those of our major international competitors and, moreover, appear to be changing for the worse.<sup>15</sup>

#### Environmental Policies

Although environmental sentiments have always been a part of our cultural heritage, it was not until the 1970s that these were institutionalized in a major way. Several important pieces of legislation were enacted that dealt with virtually all aspects of our quality of life and environment; clean air, clean water, land laws, toxics, workplace safety, solid and hazardous wastes, etc. In their wake came countless regulations necessary to translate Congressional intent into practice.

#### Costs By One Definition

That these laws have improved the quality of our physical environment is undeniable,<sup>10</sup> but this progress has been costly -- and in some ways that are just now becoming evident. It has been particularly expensive for mining and the "smokestack" manufacturing industries which have faced the greatest challenges to competitiveness in other respects. Table 2 shows one measure of this cost, pollution control expenditures calculated as a percentage of total capital spending over the period from 1970 to 1983, for several industrial categories. Industries most affected (by this measure) include; non-ferrous metals, pulp and paper, iron and steel, stone, clay, and related, electric utilities, chemicals, petroleum, and mining.

In the United States copper industry, for example, it has been estimated that environmental compliance costs are about 15 cents per pound for a material that currently sells for 70 cents per pound. Obviously, such regulatory costs make it more difficult to compete -- particularly against foreign sources that are not similarly burdened.<sup>17</sup>

<sup>16</sup>For an interesting perspective on those who might argue otherwise, see J. L. Simon, "Resources, Population, Environment: An Oversupply of False Bad News," <u>Science</u>, Vol. 208, 27 June 1980, pp. 1431 <u>et seq.</u>

<sup>17</sup>Principal competitors for shares in the domestic copper market include Canada, Chile, Peru, Mexico, Zaire, and Zambia. Environmental control requirements are not absent in these countries, but are much less stringent than in the United States. Recently the Canadian government has increased the stringency of its air pollution control requirements, but has also made government funds available to modernize the smelters. <sup>&</sup>lt;sup>15</sup>The relative attractiveness of U.S. policy towards the mineral sector compared to other nations is complex and controversial. Nonetheless, our judgment stands. For additional background, see "The International Competitiveness of the U.S. Non-Ferrous Smelting Industry and the Clean Air Act," April 1982, Everest Consulting Associates, Inc., Princeton, N.J., and CRU Consultants, Inc., New York.

TABLE 2. POLLUTION CONTROL EXPENDITURES AS A PERCENTAGE OF TOTAL CAPITAL SPENDING 1970-1983 RANKED IN DESCENDING ORDER BY INDUSTRY OR INDUSTRY GROUP

Industry or Industry Group	1970	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	1980	<u>1981</u>	1982	<u>1983</u>	Average <u>1970–83</u>
Nonferrous Metals	8.1	10.2	15.3	18.0	28.3	27.6	20.4	29.1	12.0	7.6	7.9	6.7	8.1	8.9	14.9
Pulp & Paper	9.3	20.7	23.3	22.8	16.6	21.9	25.7	13.0	7.9	7.9	6.8	4.9	5,2	6.7	13.8
Iron & Steel	10.3	12.8	12.3	11.7	9.3	14.9	20.4	16.7	17.3	19.9	15.3	13.0	8.3	5.9	13.4
Stone, Clay, etc.	6.4	13.2	9.6	8.9	17.5	17.6	9.0	7.3	8.5	3.6	5.0	5.0	3.1	10.7	9.0
Elect. Utilities	3.8	4.4	7.9	7.6	7.1	9.1	9.2	10.6	8.7	10.6	9.3	10.0	8.6	10.4	8.4
Chemicals	4.9	8.2	10.9	10.2	7.3	8.9	12.3	10.5	7.7	6.9	7.6	6.7	7.2	4.9	8.2
Petroleum	6.0	9.0	10.7	12.7	7.2	12.8	7.5	8.3	5.4	7.1	4.2	5.1	4.8	5.9	7.6
Total Nondurables	5.2	7.3	9.2	9.8	8.5	10.3	10.2	8.7	6.1	6.1	4.9	4.8	5.7	5.1	7.3
All Manufacturing	5.1	6.8	7.6	8.5	8.5	9.6	9.3	7.9	5.9	5.5	4.5	4.1	4.1	4.2	6.5
Mining	5.3	2.8	5.1	7.7	7.0	8.2	6.9	17.5	10.7	1.5	1.4	5.9	3.6	0.6	6.0
Other Durables	9.3	6.4	4.8	6.5	9.0	7.5	6.2	5.0	5.1	6.2	4.9	6.8	3.7	2.1	6.0
Total Durables	5.0	6.3	6.0	7.5	8.4	8,8	8.3	7.1	5.6	5.0	4.1	3.5	2.6	3.1	5.8
Textiles	2.3	3.3	2.6	3.5	5.4	8.9	12.6	6.0	7.9	8.8	5.3	4.9	4.7	3.7	5.7
Fabricated Metals	4.1	7.1	7.3	7.2	5.6	10.8	11.2	5.8	5.2	3.8	3.4	1.9	1.7	3.8	5.6
Autos & Trucks	4.2	6.7	6.6	11.2	10.6	5.7	4.8	3.8	4.3	8.4	7.7	1.5	0.2	1.0	5.5
Food & Beverages	3.1	3.8	5.2	6.3	13.3	5.3	7.3	5.2	6.3	3.3	2.7	4.1	6.8	3.1	5.4
Rubber & Plastic	5.4	5.4	5.8	6.2	3.0	4.8	5.7	11.8	5.7	6.2	2.9	3.6	4.5	0.9	5.1
Instruments	3.5	9.1	3.2	2.8	4.8	5.5	5.5	3.0	4.1	5.4	3.2	5.6	4.1	2.3	4.4
All Business	2.6	3.2	3.9	4.6	5.3	5.5	5.7	5.6	4.2	5.2	3.2	3.0	3.0	3.2	4.2
Aerospace	2.8	4.8	6.1	10.2	2.0	4.6	4.7	3.2	2.9	1-1	0.5	2.1	2.0	1.9	3.5
Non-Elect. Mach.	3.5	3.4	3.8	4.2	4.1	2.3	4.1	6.6	3.9	2.2	1.7	2.7	1.5	3.1	3.4
Other Nondurables	5.5	1.0	5.0	3.1	2.2	1.3	2.2	5.1	3.0	2.6	2.8	0.9	5.5	4.5	3.2
All Non-Manufacturing	1.3	1.7	2.4	2.9	3.8	3.3	3.6	4.2	3.3	2.8	2.2	2.2	2.3	2.3	2.7
Elect. Mach.	2.3	2.3	2.8	3.7	2.3	4.2	4.8	2.7	3.4	2.9	2.0	1.3	2.2	1.0	2.7
Airlines	0.7	0.7	2.4	9.3	9.2	1.4	1.8	1.7	1.0	2.7	1.9	0.0	3.5	0.2	2.6
Railroads	1.6	1.2	1.6	2.2	1.9	2.0	1.1	1.8	1.6	1.5	3.7	1.9	4.3	2.3	2.1
Gas Utilities	4.4	2.0	1.6	1.5	2.2	1.3	3.5	3.7	1.4	0.6	0.0	0.0	0.1	1.2	1.7
Communications	0.0	0.0	1.2	2.0	4.8	1.4	1.5	1.9	1.0	0.9	0.2	0.4	0.5	0.6	1.2
Trade & Services	0.6	1.3	1.2	1.3	1.8	1.2	1.3	1.6	1.7	1.5	1.1	0.1	0.5	0.5	1.1

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Sources: Data taken from McGraw-Hill Economics, Annual Surveys of Pollution Control Expenditures.

As can be seen from Table 2, the proportion of capital expenditures allocated to pollution controls is currently somewhat lower than during the years of particularly heavy spending in the mid-70s. This reflects the schedule for compliance and the success of many industries in achieving compliance. The effects of solid waste legislation have yet to be felt -- particularly in the minerals industries, however, and sharply increased environmental expenditures may follow.

Initially, air and water pollution controls accounted for the largest share of control expenditures. However, solid waste control costs are now growing in importance, a point underscored by the data in Figure 4. Depending upon the ultimate form of RCRA regulations, Superfund requirements, and EPA actions on mine wastes, solid waste control costs could become dominant, particularly for the minerals industry.

I recognize that some of you in this audience may feel that these expenditures have been well justified and, indeed, that even more stringent requirements are appropriate. Others, particularly from those industries hardest hit by environmental requirements, may view the situation quite differently. Where we "draw the line" on environmental control is obviously a central question. But it is also important to examine "how we draw the line" -- the process of standard setting. In this regard, I would like to discuss five areas where failures of process are limiting the quality of our decisions and perhaps needlessly hurting our competitiveness in global markets.

#### Incomplete Benefits Measures

Proponents of strict environmental laws point out that simply because pollution controls cost money, and thus increase minerals production costs (as determined by traditional accounting methods) does not mean that American minerals producers will become less productive -- in a conceptual sense -after such costs are imposed, or that such controls are not justified in a cost/benefit sense.<sup>10, 19</sup> Nonetheless, environmental laws and regulations do

"A major part of the problem in the environmental area is that we are not used to thinking of a clean environment as a normal economic commodity. Environmental conditions have been excluded from our traditional measures of economic output for two reasons. Since they cannot be sold in private markets, it is difficult to determine exactly what they are worth. And, in the past, they may have had a zero price. If the water is clean, no one would be

<sup>&</sup>lt;sup>18</sup>Different groups may assign differing values to a cleaner environment, however, and even if we use an improved economic framework for calculation, controversy over environmental rules would not disappear.

<sup>&</sup>lt;sup>19</sup>One of the conceptual problems involved in an examination of the effects of environmental laws and regulations on America's competitiveness is that traditional engineering/economic/accounting methods do not enable non-market goods, such as clean air, to be included in competitiveness, productivity, or relative cost computations. As Lester Thurow in <u>The Zero Sum Society</u>, Penguin Books, 1981, pp. 105-106, argues:

FIGURE 4. % OF MANUFACTURING'S TOTAL POLLUTION CONTROL SPENDING BY TYPE OF POLLUTION SHOWS THE GROWING IMPORTANCE OF SOLID WASTE EXPENDITURES.

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**X** OF TOTAL POLLUTION CONTROL SPENDING



SOURCE: McGRAW-HILL ECONOMICS--SURVEY OF POLLUTION CONTROL EXPENDITURES--SOLID WASTE NOT DISAGGREGATED PRIOR TO 1975.

act to increase production costs. Unless U.S. producers can compensate for these cost increases, these firms will become less competitive, and minerals production will shift to nations where a lower implicit value is placed upon a clean environment. Because of this, environmental regulation can have the paradoxical effect of <u>increasing</u> rather than decreasing pollution -- when measured on a world-wide basis.<sup>20</sup>

### Problem #1: Failure to Ask the Right Question

Proponents of a cleaner environment argue that just as it is unfair to characterize environmental control investments as "unproductive," it is wrong to assume that no economic activity follows from these investments. After all, people must design, manufacture, sell, and service pollution control equipment and the revenues of these firms enters the national accounts. A11 that happens, it is argued, is that environmental constraints will shift our pattern of consumption towards more pollution control devices and less of This argument is not without merit for many industries and other goods. products, but neglects the international nature of the market place for commodities -- particularly minerals. Foreign competitors are often willing to make different societal tradeoffs from those that we have made in the United When this happens, the effect of domestic environmental constraints States. may be simply to shift the locus of production/jobs/industrial development, to competitors with fewer environmental regulations. In other words, it may be incorrect to calculate the increased costs of pollution controls and ask, for example, whether we would mind paying Y cents more per pound of copper to reduce sulfur dioxide emissions by X%. A more relevant question is whether we are willing to suffer the loss of Z% of our copper industry for this environmental benefit.<sup>21</sup> Such questions apply particularly to any commodity

willing to pay for clean water -- they already have it free. But neither of these reasons alters the fact that clean water is an economic good just as much as the private boat that sails upon it. Given the relative supplies and demands for a clean environment, environmental goods now have a positive price. They are a part of economic growth. They have not yet been included in our measures of GNP, except on an experimental basis, but this reflects measurement problems in calculating the GNP and not the economic merit of including them."

<sup>20</sup>This is certainly the case in copper smelting, for example. U.S. copper smelters now capture more than 60% of input sulfur, on average, and by 1988 this figure will rise to nearly 90%. If U.S. control requirements are made more stringent, undoubtedly more domestic smelters will close, and other countries will increase output to compensate. Principal suppliers of refined copper to the United States and their average level of sulfur capture in 1983, include Zambia (35%), Canada (26%), Mexico (15%), Chile (8.4%), Peru (3%), and Zaire (3%). Any increase in copper production levels in these countries at the expense of U.S. copper production will <u>increase</u> global SO<sub>2</sub> emissions. Nor is this an isolated example. For an interesting parallel in the silverware industry see Duane Chapman, "Global Pollution and International Trade," Cornell University Agricultural Economics Staff Paper 85-24, September 1985, Cornell University, Ithaca, New York, 14853. producing industry, where small net cost differences can dramatically affect sourcing decisions and international competitiveness.

Framing the question correctly does not necessarily imply that we will change our answer -- environmentalism is a popular cause -- but it might. In any event, no useful purpose is served by answering the wrong question.

As a practical matter, this means that the government must consider explicitly the trade and competitiveness consequences of environmental legislation/regulation. Legislators and regulators cannot simply assume that the effects of environmental regulation can be measured solely by the cost of buying and operating pollution controls; this is particularly true with respect to industries, such as minerals, subject to intense foreign competition. Global competition and the integration of the U.S. in a global economy are today's realities -- a point underscored by some of the indicators given (Table 4 shows that it is not only legislators and environin Table 3. mentalists that need to be reminded of the realities of global competition; industrialists have been wrong in the past too!) I hasten to add that more than simply awareness is at stake here. Improved economic supply/demand models which incorporate the international nature of the marketplace need to be developed and used. Some of the work done by the U.S. Department of Commerce is encouraging in this regard, but more of this analysis needs to be done.

#### Problem #2: Lack of Regulatory Stability

Although the data given in Table 2 may suggest that, in the aggregate, environmental control expenditures are declining after the "bulge" of the 70s, most minerals producers are facing ever more stringent environmental standards. With respect to air pollution, for example, emission credits for use of supplemental control systems were eliminated by the 1977 amendments, stack height regulations have become more stringent, the list of "criteria" pollutants may soon expand, and concern over acid rain or visibility impairment may prompt more stringent SO<sub>2</sub> or NO<sub>x</sub> emissions standards. Standards have been and are getting tougher.

<sup>21</sup>In principle, a "pollution equalization" tariff could be established that would offset the cost advantage enjoyed by foreign competitors. Such tariffs have been proposed by various members of Congress in the case of some primary metals, for example. But these have not received any general support, run counter to current U.S. trade policy, and would be difficult to implement in practical terms. Pollution equalization tariffs are also subject to criticism in a conceptual sense; where, after all, does the government's responsibility to "level the playing field" begin or end? Are minimum wages, employer paid social security costs, or other government-mandated costs to be similarly treated?

Tax credits for pollution control equipment would be a more direct and arguably more efficient mechanism for compensating companies in this situation. However, in these times, proposals to lower taxes for industry are not likely to be viewed with favor.

STATISTIC	DURING EARLY POST WAR YEARS (1945 - 1950)	PRESENT (1983 - 1985)	COMMENT/RELEVANCE			
U.S. GNP as Proportion of World GNP	≻ <sup>1/3<sup>a</sup></sup>	1/5 <sup>a</sup>	The United States accounts for a decreasing share of the world's GNP as other nations develop economi-cally.			
U.S. Exports as % of GNP U.S. Imports as % of GNP	3.5 <sup>b</sup> 3.7 <sup>b</sup>	9.9 <sup>b</sup> 11.7 <sup>b</sup>	The United States is becoming more linked to the world's economy definitions of competitors and markets are changing.			
Ratio of World Trade to GNP of Industrialized Countries (1950 = 100)	100 <sup>0</sup>	192 <sup>d</sup>	World trade is expanding at a ratio greater than the GNP of industrial- ized countries. In fact, world trade is expanding at a rate greater than world GNP. Participation in this world trade is essential to U.S. economic survival.			
Foreign Direct Investment in the U.S. (\$ Billions) U.S. Direct Investment in Foreign Countries (\$ Billions)	2.5 <sup>e</sup> <10	160 <sup>f</sup>	Further evidence of the development of economic linkages between the United States and the rest of the world.			
% of American Products That Compete With Imports	?	705	U.S. marketplace is becoming more competitive. No numerical estimate is available for the World War II period.			
Ratio of Sales of Domestically Produced Auto- mobiles to Foreign Automo- biles	1/246 <sup>h</sup>	1/4 <sup>i</sup>	Illustrates dramatic increase in penetration of imports in a critical sector of the U.S. economy. U.S. consumers benefit from these choices, but extent of import pene- tration shows a competitive dis- advantage in this sector.			
U.S. Travelers to Foreign Countries (MM)	.827 <sup>j</sup> (1 in 199 Americans)	12 <sup>k</sup> (1 in 19 Americans)	International travel becomes more commonplace, reflecting higher levels of discretionary income, lower real travel costs, and increased international business.			
Foreign Travelers to the United States (MM)	.31	8ĸ				

TABLE 3. GLOBAL COMPETITION -- THE NEW REALITY: SELECTED INDICATORS

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#### TABLE 3. GLOBAL COMPETITION -- THE NEW REALITY: SELECTED INDICATORS (continued)

- a <u>Global Competition the New Realty</u>, Report of the President's Commission on Industrial Competitiveness, January 1985, Volume II, pp. 16-17.
- <sup>b</sup> Raw data given in Economic Report of the President, February 1985.
- <sup>c</sup> For 1950, earlier data not considered as reliable.
- <sup>d</sup> Based on data contained in International Monetary Fund, <u>International</u> Financial Statistics
- <sup>e</sup> International Transactions of the United States During the War, 1940-1945, 1948, U.S. Department of Commerce.
- <sup>f</sup> Preliminary figure is \$159,571 MM for 1984, source: Gregory Fouch, Bureau of Economic Analysis, U.S. Department of Commerce, (202) 523-0547.
- <sup>g</sup> <u>Global Competition the New Realty</u>, Report of the President's Commission on Industrial Competitiveness, January 1985, Volume II, p. 175.
- <sup>h</sup> Data are for year 1951, and supplied by Earl Kreher, Motor Vehicle Manufacturer's Association, Washington, D.C., (202) 862-3900.
- <sup>1</sup> Statistical Abstract of the United States, 1985 Edition.
- J Data circa 1952, from F. P. Sasscer, "Expansion in Foreign Travel," <u>Survey</u> of Current Business, U.S. Department of Commerce, June 1956, pp. 17 et seq.
- <sup>k</sup> Data for 1984, from J. E. Bolyard, International Travel and Passenger Fares, 1984," <u>Survey of Current Business</u>, May 1985, pp. 14 et seq.

## TABLE 4. NOT ONLY LEGISLATORS AND ENVIRONMENTALISTS NEED TO BE REMINDED OF GLOBAL COMPETITION

"The question has been raised whether the cost of manufacture in a country like Germany might reach the point where, through evolution, motor cars could be produced and sold in competition in the American market . . In my opinion it is impossible to reach the conclusion that competition from without can ever be any factor whatsoever."

-- Alfred P. Sloan, Jr. (President of General Motors), quoted in The New York Times, September 12 1929

"Though import sales could hit 425,000 in 1959, they may never go that high again"

-- Business Week, January 17, 1958, p. 31.

"With over 50 foreign cars already on sale here, the Japanese auto industry isn't likely to carve out a big slice of the U.S. market for itself."

-- Business Week, August 2, 1968, p. 68.

In 1980, according to Ward's Auto Reports, 2,398,000 foreign cars were sold in the United States, a substantial plurality of them Japanese. In total, imports accounted for 27% of American new car sales during the year.

Source: Cerf, C. and V. Navasky, <u>The Experts Speak</u>; The Definitive Compendium of Authoritative Misinformation, Pantheon Books, 1984, p. 231.

On the one hand, it can be argued that our knowledge of the deleterious effects of air pollution is expanding, and that tougher standards may be a necessary consequence. But, on the other hand, this greatly complicates planning in capital intensive industries, because <u>lack of knowledge</u> about the "regulatory future" occasions errors of two types:

-- some investments will be made that later regulatory decisions render unwise, and

-- other investments will be rejected because of the presumed presence of later regulatory costs which don't materialize.

Either error is costly and inefficient -- regardless of the merits of strict standards. This argues for <u>regulatory stability</u> or measures to increase <u>regulatory certainty</u>. As used here, the term regulatory stability is not intended as an industrial euphemism for regulatory <u>leniency</u>.

Few would argue against this principle in the abstract, the thorny questions arise in practice. How should the concept be implemented? What should be done, for example, if having signed off on "firm and fair" standards previously unknown health or welfare issues emerge? We need to find some imaginative solutions to these practical difficulties. Would it be possible, for example, to have a contract between the regulatory body and the firms affected? The contract could stipulate exactly what standards are to be met, including compliance dates and other provisions similar to consent decrees. If later circumstances indicated that changes were appropriate, a mechanism could be established to find remedies.

# Problem #3: Uncertainty<sup>22</sup>

Uncertainty is the problem that motivates the concept of regulatory stability. A firm's uncertainty in estimating future environmental control costs arises from three sources,

- (i) uncertainty in cost estimation for control technologies,
- (ii) uncertainty that the proposed remedial actions/design changes, etc., will, in fact, achieve the specified environmental standards, and
- (iii) uncertainty over what the standards are or will be.

Industry has had to live with the first two categories of uncertainty -- but there is no good reason for having to deal with the third category.

<sup>&</sup>lt;sup>22</sup>Economists sometimes distinguish between risk and uncertainty -- the term risk used to describe a variability in outcomes that can be quantified (e.g., in an actuarial sense), whereas "uncertainty" has outcomes that are themselves uncertain and not readily subject to conventional analysis. This distinction is not made here.

Earlier it was mentioned that solid waste regulations were now being written and could turn out to be quite costly for the minerals industry. EPA is now in the process of deciding what regulations to propose in connection with mining wastes. At issue are what wastes are to be classified as hazardous, what treatment technologies or standards are to be applied, etc. Thus, some uncertainty in the resulting cost burdens is to be expected. Table 5 shows an extract from one EPA consultant's report on the possible costs of alternative regulatory scenarios, calculated as a percentage of present direct operating costs for five metals under study. Possible costs range one or two orders of magnitude, depending upon the stringency of the regulations.<sup>23</sup> I ask you to put yourself in the position of an investor or a firm attempting to make sense of this. According to these estimates, for example, copper production costs might increase only slightly (at best), or alternatively might double when the regulations are in place! Immediately, such a table invites speculation, e.g., that the high cost estimates are "obviously impossible" in view of their certain effects on the U.S. copper industry -- perhaps these are intended as "straw men" to make industry more "pliable" -- "things could be much worse, you know," etc. We take no position on the matter other than to note that this uncertainty is counterproductive. If the referenced report is deemed to be credible, its only effect will be to discourage domestic invest-ment, or failing this, to delay it until this uncertainty is resolved.

Such wide ranges in estimates of environmental cost associated with solid waste are common. At the time that "waste end" taxes were debated as part of Superfund reauthorization, Everest Consulting Associates estimated that these taxes could cost the copper industry anywhere from a few cents per pound to several dollars per pound. Some legislative aides thought these calculations gratuitous<sup>24</sup> as they could not imagine that things could turn out that way in practice. Perhaps so, but just <u>how</u> might things turn out in practice?

Here again interest groups on both sides of the environmental issue have a mutual interest in reducing uncertainty. Worthwhile investments may be foregone and worthless investments selected as executives try to second-guess future environmental regulations.

#### Problem #4: Inconsistency

Environmental regulations are not always consistent and, moreover, in some cases this inconsistency follows directly from the law itself. We use the word consistent in its literal sense, and not as a surrogate for "uniform."

<sup>&</sup>lt;sup>23</sup>We do not fault the consulting firm, Charles River Associates, for this uncertainty. They presumably made these calculations in response to scenarios/specifications established by EPA.

<sup>&</sup>lt;sup>24</sup>One reason for the wide range in these estimates is that substantial quantities of genrally low toxicity wastes are generated in the mining industry. In copper, for example, nearly 600 tons of waste (overburden, tailings, slags, sulfuric acid, etc.) are produced for each ton of copper produced. Alternative definitions of what constitutes waste have great leverage in the calculations.

### TABLE 5. SUMMARY OF INCREMENTAL RCRA COMPLIANCE COSTS UNDER VARIOUS ASSUMPTIONS

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METAL	LOW COST SCENARIO	HIGH COST <u>SCENARIO</u>
Copper	1.7	120
Gold	1.1	23
Silver	2.5	40
Lead	1.9	21
Zine	5.2	39

Figures shown are the incremental cost of RCRA compliance expressed as a percentage of estimated direct operating costs of metals production.

Source: Charles River Associates, Draft Final Report, "Estimated Costs to the U.S. Mining Industry For Management of Hazardous Solid Wastes," August 1985, p. 2.

For example, polychlorinated biphenyls (PCBs) are linked to cancer according to some views and are, in any event, subject to regulation. Although there are no national standards for cleanup of PCB spills,<sup>25</sup> certain EPA regions (e.g., Region V) and many states require cleanup to "background" or "detection limits" -- <u>ca.</u> 1 or 2 parts per million (ppm). One of the reasons for establishing the threshold this low is that infants and mouthing children sometimes ingest soil (a so-called pica tendancy) and this cleanup level is thought to reduce the lifetime incremental probability of cancer to a level of approximately 1 in 1 million.<sup>26</sup> At the same time, the FDA standard applicable to PCBs in red meat is 3 ppm. Now, as most of us consume greater amounts of red meat than soil in our diet, it is difficult to rationalize this state of affairs. The difference in nationwide PCB cleanup costs between a 1 ppm and a 3 ppm standard is not known with any precision, but should be reckoned in tens of millions of dollars, so this difference cannot be dismissed as being inconsequential.

Our environmental laws themselves lack consistency. Under terms of the Clean Air Act, EPA is not permitted to weigh costs against benefits in setting primary health standards. But under the other laws, and by Presidential Executive Order, costs are to be considered. These differences can produce absurd results. For example, from time to time, EPA has considered adopting a short-term (one-hour) standard for sulfur dioxide, based largely on con-tentious findings of reversible effects on populations of exercising asthmatics. If these health effects are proven, EPA will have no option but to set a new standard,<sup>27</sup> regardless of the costs of this standard. However, regulations affecting carcinogens may be subject to a cost benefit test (if not emitted to the air), and it is possible that cost considerations could result in more lenient standards. This doesn't make sense from either an equity or efficiency perspective. It is easy to imagine circumstances where marginal cost consistency is violated -- that is, an investment of the same magnitude as required for attainment of the short-term SO2 standard might reduce adverse health effects to a much greater degree if allocated to control of some other pollutant in some other medium. Again, neither the interests of environmentalists nor industrialists are well served by this inconsistency.

<sup>25</sup>Some are under development as of this writing.

<sup>26</sup>Our own estimates and those of others differ substantially from this figure, but that is a separate issue. Prof. Bruce Ames, Chairman of the Department of Biochemistry at the University of California, Berkeley, has estimated that if the relative risk of drinking tap water is set equal to 1.00, ingestion of PCBs leads to a risk of 0.2 (no misprint), while the risks for selected other substances are: peanut butter -- 20; comfey tea -- 25 to 500; and beer (one a day) -- 2500. See M. Castleman and M. Roffers, "Ready Ames Fire," <u>San</u> <u>Francisco Focus</u> (magazine of KQED-TV, PBS), November 1985, pp. 55, et seq.

<sup>27</sup>Current suits by the Environmental Defense Fund, Natural Resources Defense Council, Sierra Club, National Parks and Conservation Association, State of New York, State of Connecticut, State of New Hampshire, Commonwealth of Massachusetts, State of Vermont, State of Minnesota, and State of Rhode Island versus Lee Thomas, Administrator of the U.S. Environmental Protection Agency and the U.S. Environmental Protection Agency, in Civil Actions No. 85-9507 (DNE) and No. 85-, United States District Court, Southern District of New York argue just this point.

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It can only be hoped that Congress will rethink this matter when it reauthorizes the Clean Air Act.<sup>28</sup>

#### Problem #5: The Adversary Process

In a democratic society such as ours with all the constitutional safeguards to free speech, a fair judicial system, etc., it is only natural that citizens, interest groups, corporations, etc., have a diversity of views on many issues -- and the environment is no exception. Such diversity of views is a sign of a healthy democracy and, in this sense, is important to America. There is, however, a point beyond which diversity becomes polarization, where litigation becomes a substitute for common sense, and where an adversary attitude permeates all dealings between government and industry.

<sup>28</sup>EPA and other agencies are aware of these difficulties (see below) and, within the limits of the law, are attempting to develop a more coherent risk assessment scheme. In our view, environmental laws should facilitate this process rather than make it more difficult. Some relevant comments in a recent EPA report on risk analysis (<u>Risk Assessment and Management: Framework</u> for Decision Making, EPA 600/9-85-002, December 1984, p. 24) are as follows:

"In making such balances, the risk management approach regards risks of the same type (e.g., risks of a particular disease) as comparable regardless of the route through which people are exposed to them. This makes sense because we know that risk may be transferred around the environment and among environmental media by natural processes or by pollution control itself, and the idea is, of course, to reduce the total risk in the whole environment.

In practice, however, this is extremely difficult to do, as EPA operates under eight major statutes, each directed at a different form or locus of pollution. These statutes not only establish the values that the Agency must protect (and these naturally differ among the statutes), but in the case of risk to human health, they often appear to direct different approaches to risk reduction. Briefly, there are two broad groups of statutory mandates to which any risk management approach must be adapted. In the first (e.g., Toxic Substances Control Act), explicit balancing of risks against benefits or costs of control is authorized or required. When applied in reference to programs under such laws, risk management is the analysis and exposition of the balancing considerations.

In the second group (e.g., the Clean Air Act), a standard that protects human health or some other value must be established or some particular level of technical control must be applied. Cost considerations may be specifically prohibited during the development of the protective standard. Here risk management means finding the most efficient way of achieving the standard, while at the same time assuring that policies designed to remove specific pollutants under these laws do not have perverse effects, such as transferring an equal or increased risk to another environmental medium." Examples can be found where the legal and consultant's fees have exceeded the cost differences of the alternatives under debate.<sup>29</sup>

I believe we need to actively seek measures that foster cooperation between industry, government, and environmentalists. This is by no means a new idea, but it is an idea whose time has come. One of the schemes that has recently enjoyed some success at EPA is a process that they term "reg/neg,"<sup>30</sup> short for regulatory negotiation. The goal is to simplify the regulatory process and to "keep EPA out of court" -- by bringing the various interesteds (industry, environmental groups) together to seek a consensus policy. The consensus policy has a much greater likelihood of avoiding subsequent litigation. Such lawsuits are disruptive, costly, and surprisingly frequent: according to EPA,<sup>31</sup> nearly 80% of their regulations have been the subject of some legal action! According to William Ruckelshaus, former EPA Administrator,<sup>32</sup> the costs of this are prodigious indeed,

"It takes approximately 50 person-years -- that's a terrible word, but its the way we describe a year's worth of work by someone in the Agency or in the government -- it takes about 50 person-years every year in the Office of General Counsel to handle this load; about 75 in the program areas; there is another 25 in the Department of Justice; and 175 at least by plantiff's counsel. If we add to that countless additional resources expended by other parties of interest and the courts themselves we would come to quite a figure."

Obviously everyone has something to gain if this process can be streamlined.

EPA's experience with the Reg/Neg process to date has suggested that not all issues can be effectively dealt with by this process. After a review of the literature on the subject of environmental negotiation, EPA has come up with several criteria to select candidate issues. These criteria are summarized in Table 6.

Reg/neg or any other management technique does not offer any guarantee of success. According to Eugene Smith, a U.S. Borax and Chemical Vice President, such negotiation failed to streamline the EIS approval process for the Quartz Hill deposit,<sup>33</sup>

<sup>29</sup>"Attorneys Say Trying Cases Under CERCLA Costs More Than Cleaning Up Hazardous Sites," <u>Environment Reporter</u>, 2/8/85, pp. 1640, <u>et seq</u>.

<sup>30</sup>Rich, Laurie, "EPA Brings 'Reg/Neg' to RCRA," <u>Chemical Week</u>, 18, 85 (20).

<sup>31</sup>Kirtz, Chris, EPA, personal communication.

<sup>32</sup>Address by William D. Ruckelshaus before the Conservation Faundation's Second National Conference on Environmental Dispute Resolution, Washington, D.C., October 1, 1984.

<sup>33</sup>Smith, E. D., "The Development of Quartz Hill: A Brief Case History," in International Conference on Coal, Minerals and Petroleum -- Proceedings, sponsored by Resource Development Council for Alaska, Anchorage, Alaska, February 16-17, 1983, pp. 183 <u>et seq.</u>

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# TABLE 6.EPA REG/NEG CRITERIA

#### Criteria for the Regulation

- The proposal should require the resolution of a limited number of interdependent or related issues. There should be several ways in which the issues can be resolved. The relevant legislation should accommodate these alternative outcomes. There should be no serious obstacles to implementing a negotiated solution.
- To promote timely resolution and to limit a participant's ability to gain from delay, there should be a legislative or judicially imposed deadline or some other mechanism forcing publication of a rule in the near term, i.e., 8 to 12 months.
- Some or all of the parties should have common positions on one or more of the issues to be resolved which might serve as a basis for additional agreements during the course of negotiations.
- The costs and benefits should be narrowly concentrated on a few identifiable entities.

#### Criteria for the Participants

- Those participants interested in or affected by the outcome of the development process should be readily identifiable and reasonably few in number. They should have sufficient resources to take an active role in negotiations, and should have relatively equal power to affect the outcome.
- The parties should be likely to participate in negotiations as an alternative to litigation. They should feel more likely to achieve their overall goals using negotiation rather than existing alternatives.

Source: Chris Kirtz, EPA

"Despite the fact that Alaskan and lower 48 environmentalists were parties to the special language of ANICLA that deals with the Quartz Hill deposit, they have appealed the access road and bulk sampling EIS and the access road permit. It appears to us that they take any action, regardless of its merits, that may burden the project with added costs and unnecessary delays. I think we all know how damaging such actions can be to major capital-cost projects. We can all cite cases where such unnecessary costs and delays have stopped projects."

As attorneys are fond of saying, "Justice delayed is justice denied."

Reg/neg is only one approach to the problem. Ultimately, <u>attitudes</u> have to change. Federal and state employees have to learn to be partners, not policemen. Industry executives, likewise, need to stop defining "oivil servant" or "fair-minded environmentalist" as oxymorons. And everyone has to stop thinking in conventional terms of winning and losing. If America cannot learn to reconcile industrial development and environmental concerns in a timely fashion we will all lose the competitiveness race.

# <u>STATE - FEDERAL ISSUES</u>

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Senator Frank Murkowski

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Ву

Alaska Congressman Don Young United States House of Representatives Washington, D.C.

## Presented to the

Resource Development Council for Alaska, Inc. Sixth Annual International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska

Thank you for the opportunity to address this, the Sixth Annual International Conference on Alaska's Resources. Alaska finds itself at a crossroads today, and we must choose our direction and then dedicate ourselves to the trail chosen.

Alaska has been blessed by owning Prudhoe Bay and the enormous revenues which have made recent decisions easier. At the same time, we have been cursed in the sense that easy short-term decisions do not necessarily serve long-term interests.

The current outlook facing Alaska provides all of us with challenges--challenges which once again compel us to make wise decisions.

Basically, there are two ways to look at challenges, and these two ways are at the core of the two potential paths for Alaska I mentioned earlier.

One way is to look at the challenges as problems requiring hand wringing and tough choices. This path includes rationing more scarce economic assets and minimizing the impact of such rationing. In my opinion, this path is not the right one for Alaskans. I prefer the second approach--the approach that can most simply be described as the path that Alaskans might take if they look (as I think Alaskans will) at challenges as opportunities.

The wonderful aspect about being Alaskan is that you have tremendous opportunities. These opportunities are available right now, and I believe Alaskans can and should put out the welcome mat so those opportunities will come knocking. And knowing Alaskans, if opportunity knocks, we'll open our doors and show him our hospitality.

I think all of you know about Alaska's resources, but if you will bear with me, I'd like to go over them with you again.

If there is one thing that Alaskans have, it is an abundance of surface beauty. At over twice the size of Texas--Alaska is larger than many nations of the world and more beautiful than all of them. Tourism, then, is an increasingly important part of Alaska's economy, as it should be. The only drawback to tourism in Alaska is that for the average family, Alaska is a fairly expensive place to visit, and is therefore presently limited. That doesn't have to be the case, and it just so happens that our opportunities to increase tourism coincide with our opportunities to develop other vast natural resources.

Let me explain. Alaska's beauty and natural splendor are due to its mountains, its valleys, its mighty rivers and glaciers, its plains and it forests. Its rich cultural assets stem from the adaptation of people to their environment--as diverse an environment as the state is large. The natural beauty of Alaska was caused by enormous forces at work in the earth, and those same forces responsible for carving out enormous mountain ranges and valleys also created large and rich deposits of mineral and other wealth in Alaska. You will get no arguments on that score.

I said before that Alaska is expensive to visit--why? The answer is simple--transportation. If transportation and access to Alaska could be improved, tourism would grow at an exponential rate, and contribute greater amounts to the economy as a whole. Furthermore, Alaska's mineral wealth requires transportation to allow it to effectively compete with other world sources. We have some of the most beautiful scenery, and the most rich mineral wealth in the world--many times in the same places.

Alaskans have the opportunity--if they choose, to provide jobs and economic growth by developing transportation to our mineral wealth; at the same time we can make possible new tourism opportunities for millions of Americans through this same transportation system.

It's happening right now in Southeast Alaska, on Prince of Wales Island. There, where timber, rather than mineral wealth, has been extracted, logging has assisted in constructing roads to access and improve the productivity of our national forest resource, and make possible access to better manage wildlife resources for all. These roads now link communities once isolated and as a bonus, what were once log landings are now primitive campsites, where people can enjoy the wonders of Southeast Alaska at a reasonable cost. This cost will drop as transportation is improved in Southeast, as it will statewide. This, in a small but important way, is the dual opportunity of Alaskans developing and managing their resources while improving the climate for affordable tourism.

Opportunity knocks also from a United States hungry for strategic minerals now provided by sources unreliable or hostile to our nation. More people are recognizing that we increase our likelihood of overseas military involvement and increase the chances of dealing with unsavory nations by failing to develop our abundant natural resources here at home. Voices that cry for absolute preservation of lands through mineral lock-ups cannot with straight faces continue to blast the U.S. for economic ties with nations we rely on for strategic minerals we have, but are unwilling to develop, right here at home.

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Alaska's location presents clear opportunities for the state. While our location away from the Lower 48 creates transportation challenges for tourism, tourism is assisted by our location in the Pacific Rim. In addition to attracting tourists from the Pacific Rim, Alaska is attracting increasing interest from our trading partners in the region. They come to see Alaska's beauty and go

away thinking about our mineral, energy and fiber wealth. No one has been more aggressive in this area than my good friend and partner, Senator Frank Murkowski. As you know, the Senator is Chairman of the Subcommittee responsible for relations with the Pacific Rim nations, and I know he has been talking about Alaska's potential with our friends in the region. The current destabilization of the world oil cartel gives these growing nations the opportunity and flexibility to search for alternatives to what they have discovered to be insecure sources in the Middle East. They want and need coal, oil and gas for energy, timber and timber resources, and minerals of all kinds. They need and want them, and they see we have them. The market for the Red Dog Mine in Northwest Alaska is the Pacific Rim--without that market and the transportation corridor I pushed through the Interior Committee last year, there would be a mineral deposit, but no mine.

All of these opportunities exist, and more. Earlier I mentioned that now is the time for Alaska to extend the "Welcome Mat." The reason for that is clear--without such a welcome mat, opportunity will fail to knock, and Alaskans will not be able to answer the door.

What can we do at both the state and federal levels to put out the welcome mat? The answer is simple, and just so happens to coincide with what many see as a problem for the state and the federal governments--lower budgets.

We can and should reduce the money we spend to thwart development, recognizing that roadblocks to development create roadblocks to tourism and the economic diversification we all seek.

We should recognize that in order to compete, we must make ourselves lean and competitive. We must have state and federal policies which encourage the mutualistic development of <u>all</u> of our resources. There are those who will continue to pit one interest against another, saying it must be one industry or another. I say we need to recognize that development of oil is good for the fishing industry--oil revenues and jobs and taxation help pay for new airports and transportation systems to get the fish to market. And likewise, fishing communities provide logistic support, a local work force and irreplaceable knowledge of the climate and the environment.

If you stop and think about it, big government and large amounts of state and federal spending has contributed to the slowing of development and economic diversification in the state. With the exception of long-term investments in roads and infrastructure, big government and big budgets have led to bureaucratic red tape, delays and more delays. When was the last time any of you--devoted to development of new industries and jobs in Alaska--has complained because government was underfunded? The truth is, it has been exactly the opposite. More money in the budget means more people thinking up ways to impose conditions on productive industries which make them more unproductive, more costly, and more uncompetitive in the U.S. and world markets.

Some of you may be thinking that Don Young is the eternal optimist--that this guy could find a silver lining behind a thermonuclear cloud. That may be true, but it's true for a reason--I believe that nothing will stop Alaskans in their quest to improve this state for themselves, their children and their children's children if they are given the right to decide their destiny. When I look back on the growth in government spending, it coincides with a reduction in the possibilities for the realization of Alaska's potential. When Alaskans can decide for themselves, rather than having the government decide what choices will be available to them, the state will reach its potential.

In sum, I think the outlook is good. Alaska has the resources our national and the world needs. By developing them we make available more tourism opportunities, as well as economic diversification to make Alaska livable for our children--we can leave a legacy. Further, despite all the talk about reduced budgets for government, I think Alaskans need more government like we need a hole in the head. What we do need, and what will make that legacy possible, is to be freed from government's limits to our lives and our dreams. That is the outlook in 1986.



From Rags to Riches: A Strategy That Works

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by

## John C. Anderson, Director, Department of Trade, State of Washington

#### presented to the

Resource Development Council for Alaska, Inc. Sixth Annual International Conference on Alaska's Resources

> Crisis in Resource Production: Can America Compete? and Alaska's Competitive Position: Public Policy Issues

> > February 12-13, 1986 Anchorage, Alaska

I've had the pleasure of visiting Alaska several times in the past 15 years, and on more than one occasion, I've considered becoming an Alaskan. Both of my sons have worked in the Bristol Bay fishery over the past several summers. I like Alaska and Alaskans.

Alaska is truly awesome to me. I'm humbled by its size and majesty. I'm also humbled by the task of talking to you today about economic development. This afternoon I would like to talk about my experience in economic development in the State of Washington. I sincerely hope that Washington's experience with economic development may be a useful reference for Alaskans as you consider strategies for your future.

In recent years our global, national and state economies have not been performing the way we'd like.

- . The result has been unemployment, inadequate public revenues and reduced public services.
- . Our response to this situation has been increased economic development effort--which is public-private intervention in the economy--in an attempt to improve the economy's performance in our own self interest.

In November 1984, Washington voters elected Booth Gardner, a business democrat, as Governor. When Booth Garnder took office in January 1985, the economic problems of the state were clear; the economy was lagging.

- . Unemployment in Washington was 10.9 percent vs. 8 percent for the nation as a whole.
- . We had 225,000 people out of work.
- . Tax revenues were declining.
- . There was general frustration with the condition of the state economy.
- . There was dissatisfaction with the performance of the state economic development program.
  - \* In fact, the program performance had been a factor in the election.
  - \* Economic development in Washington lacked public/private coordination and cooperation.
  - \* It had no credibility with the legislature.

\* The public perception was:

-- Washington had no plan

-- no statewide program (fragmentation)

-- no leadership

That was the situation in January 1985. Let me tell you how we responded:

- . After a few weeks of monastic seclusion and huddles with the Governor, we devised the Washington Plan for Economic Development.
- . Governor Gardner publicly announced the plan on February 5, 1985, 20 days after he took his oath of office.
- . Two weeks later, we convened a conference of all economic development interests in the state, to ask them what they thought of the plan they liked it.
- . The legislature approved the program and budget during its regular 1985 session...
  - \* substantially increasing authorized funding for economic development programs;
  - \* and consolidating numerous and fragmented economic development activities in state government into one management group.
- . The plan was funded and implemented the first of July, just slightly over seven months ago.

# The Washington Plan's philosophical underpinning is that the economy is the engine of the ship of the state providing:

- . jobs for citizens
- . sales and profits for business
- . tax revenues for government
  - \* money for health and social services, roads and education

The Washington Plan's characteristics:

- . <u>It's an action plan.</u>
- And because we believe economic development is everybody's business, the plan is designed to allow any interested citizen or organization to participate.

- . It provides an organization structure for a statewide public-private partnership to implement development programs.
- . It defines a balanced multi-program, statewide economic development drive.

Team Washington, the Plan's action arm, provides organization and cooperative statewide programs in:

- . <u>retention of existing</u> manufacturing, processing and assembly facilities;
- . recruiting of new manufacturing, processing and assembly facilities;
- . export development;
- . tourism development;
- assistance to existing business, particularly small business;
- . film and video recruiting

The Washington Plan provides funding to Team Washington economic development programs on the local/regional level:

- . Associate development organizations (ADOs) representing all 39 of the state's counties, receive up to \$25,000 in state matching funds per year to provide a full-time economic development staff, office and local program.
  - \* These are generally private/non-profit coalitions made up of people from:

-- government;

-- visitor and convention bureaus;

-- business;

-- chambers of commerce;

-- labor;

-- agriculture;

-- education;

-- ports

- . These ADOs are part of an action plan--a big step beyond rhetorical economic development. This element of the Washington Plan--this part of Team Washington--solves the problem of state-local coordination.
- . For example, each ADO representing one county-wide area (in some cases two) has signed an agreement with the state's Department of Trade and Economic Development.
- . The agreements stipulate specific services that each ADO will provide, and spells out the Department of Trade's responsibilities to the ADO. It defines process so we have predictability.
- . In six months, we signed up all 39 of the state's counties.

The Washington Plan also provides funding to statewide business-based organizations.

- . The Economic Development Partnership for Washington is a non-profit organization of private sector leaders from all over the state.
  - \* The Partnership, under contract to the state Department of Trade and Economic Development, recruits, trains and certifies Washington ambassadors.
  - \* Washington ambassadors are principally business leaders. There are about 120 right now, bringing back intelligence on business opportunities for the state as they travel the U.S. and other countries.
  - \* Ambassadors also volunteer to work with the associate development organization which represents the Ambassador's home community. This work often assists existing local businesses.
  - \* Ambassadors, traveling in the U.S. and abroad on Team Washington economic missions, also provide private funds, otherwise unavailable to government, to host receptions and dinners.
- In addition, our Department of Trade and Economic Development Team Washington programs cooperate closely with business-based organizations such as the Washington State-China Relations Council, the Washington State Visitors Association, the Washington State Council on International Trade and others. This assures coordination of government and business economic development initiatives.

The Washington Plan includes several other elements:

- . The Economic Development Board is starting work on a strategic analysis and long-range plan for Washington. The Board includes business and labor leaders, and legislators from both sides of the aisle.
  - \* The strategic plan will tackle among other issues, the Washington State tax structure, which is dysfunctional.
  - \* The Economic Development Board does not concern itself with short-term tactical economic development issues or programs. The Board solves the problem of strategic planning.
  - Another element of the Washington Plan is the Economic Development Cabinet.
    - \* It is made up of the heads of 25 state agencies. It is designed to expedite resolution of issues, and action on development projects.
    - \* The Governor as chairman may require agency heads to report back in writing within 24 hours of a meeting with action plans that assure economic development opportunities are fully realized. He had made it clear that any agency head who fails to comply may be making a career decision.
    - \* The Economic Development Cabinet solves the problem of fragmented, uncoordinated response among state agencies.
- Another component is the Community Revitalization Teams made up of economic development specialists from several state agencies. These teams have capacity to analyze problems of distressed communities and suggest possible solutions to their problems. These are mobile teams which attack unanticipated problems caused by natural or economic disaster.
- Last but not least, the Washington Plan includes the Washington State Department of Trade and Economic Development.
  - \* It has been energized across all programs, with increased budget, and reorganization.
  - \* It provides leadership to Team Washington.
  - \* It coordinates Team Washington missions, in which ADOs and ambassadors participate on trade, investment and tourism initiatives.

\* Team Washington economic missions have included:

-- Japan and China in October 1985;

-- Southern California last week;

-- Europe this May;

-- East Asia next fall

Results to date, in one year, of the Washington Plan are encouraging:

- . unemployment in Washington was 10.9 percent (225,100) in January 1985;
- in December 1985, 12 months later, it was 8.4 percent (176,300);
- . that improvement occurred in the face of an increase in the work force of 40,000--much of it due to in-migration;
- . tax revenues have stabilized;
- . new industry has come to Washington
  - \* In July 1985 we turned the corner when we won a hotly contested national competition to attract the RCA/Sharp Microelectronics Corporation
  - \* For 1985, first phase plant investments amounting to \$550 million that will create 3,000 jobs were announced under the Washington Plan. These are diversified and distributed all over the state. Only one was high tech. The majority were resource-based, basic industry. These investments were exclusive or expansions of existing businesses, which were substantial.

Just as importantly:

- . we have an organization a team;
- we have a process for the continued planning and implementation of statewide cooperative economic development programs;
- . we have a plan;
- . and we have a new spirit
  - ... of cooperation

... of confidence, but not over-confidence

... of can-do

Today we can stand on our own in a highly competitive world economy, seeking our rightful place in the global economic order. I honestly don't know how much of our experience might be transferable to Alaska.

- . Although we have much in common, we also have significant differences.
- . But our approach may be of interest. We took a look at our advantages, and we're acting on them. We're prepared to share information and experience with you.
- . But regardless of what your basic economic advantages or disadvantages might be and what strategy you employ, there can be no substitute for:
  - \* leadership;
  - \* consensus;
  - \* commitment;
  - \* and cooperation

. At bottom, that's what we have going for us right now in Washington State.

- We have the five "Ps" of economic development:
  - \* Product
  - \* People
  - \* Process
  - \* Plan
  - \* Promotion

That doesn't mean we have solved all of our problems. We have many serious issues to address and we have plenty of work to do. But, Ladies and Gentlemen, we feel good about what we're doing. We're working hard and we're making progress while having fun.

We in the State of Washington have always appreciated and valued our relations with Alaska, and we look forward to the continuation of those close relations far into the future.

# Organizing for State Economic Progress

by

R. Scott Fosler

Vice President and Director of Government Studies Committee for Economic Development Washington, D. C.

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Presented to the Resource Development Council for Alaska, Inc. Sixth International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? and ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska
# Preface

The Committee for Economic Development has been studying the economic role of states in preparation for a policy statement to be issued later in 1986. This paper is based on preliminary findings from that study, which is still underway. It does not necessarily represent the views of CED or of the trustees of CED. Nor does it attempt to address specifically the circumstance of Alaska. Rather, it provides a summary of recent developments in the various states in economic strategy, and suggests some generalizations, the applicability of which to Alaska is for Alaskans to decide.

## Introduction

Since the mid-1970s, the fifty states have undertaken economic development projects in such areas as venture capital, financial and technical assistance, small business incubation, education and infrastructure improvement, regulatory reform, job training and placement, and technological research and development. A 1983 report by the National Governors' Association described over 125 state institutions and programs, many of which were created since 1980, geared toward improving technological innovation and economic growth.<sup>1</sup> For example:

• The Minnesota Seed Capital Fund specializes in providing early stage financing, typically on the order of \$50,000 to \$250,000, to firms offering significant job creation potential in the state. In 1982, a \$1 million investment in new companies attracted additional debt and equity financing of \$14.5 million.

• The Hawaii High Technology Development Corporation was formed in 1983 for the purpose of issuing bonds for infrastructure development to support innovative technology-based firms.

The President's Commission on Industrial Competitiveness in 1984 documented similar state initiatives, especially in the areas of technological development, human resource development, capital resources, export trade, and entrepreneurial development.<sup>2</sup>

This new wave of state action was motivated principally by the economic turmoil of the 1970s: surging oil prices, rising interest rates, chronically high unemployment, inflation, recession, and lagging growth and productivity. The recession of the early 1980s reinforced state leaders' concern. Cutbacks in federal spending made it clear that they could not look to Washington for new program initiatives to alleviate economic hardship. To the contrary, they could expect greater responsibility for providing public services. With their two most reliable revenue sources -- federal grants and increased state tax rates--severely constrained, state leaders redoubled their efforts to promote a healthy state economy as the best way to provide jobs and assure adequate revenues to fund state programs. The drop in oil prices over the past two years has had especially severe effects on those states whose economies are dependent on oil.

Underlying these immediate pressures, however, are longer term trends that justify more effective economic strategy on the part of states. • The movement toward service and knowledge-based <u>employment</u>. Just as the proportion of workers in agriculture dropped dramatically as agricultural productivity increased, so the proportion employed in manufacturing is also declining as industrial productivity increases. The proportion of the workforce employed in services will therefore increase, and knowledge and information industries will become increasingly important to the economy.

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• Increasing competitiveness. Markets for many traditional industries no longer provide for substantial growth so that firms in those industries are subject to tighter price, quality, marketing, and service competition. New industries are highly competitive as they seek to capture new markets. Regions are more competitive with one another, and state and local governments have become more actively involved in attracting business. Global competition is challenging the American economy and its regional components on all these fronts.

Rapid and uncertain change. Change has been the essence of American economic progress. But the kind of change facing the country today is different in several ways. It is even more uncertain than in the past, because of the restructuring in manufacturing, changes in the world economy, and a revolution in social values that are occurring simultaneously. Growth rates have slowed substantially since 1974, and many areas of the country have faced serious problems even as the economy as a whole has recovered from the recessions of the early 1980s. The foreign challenge to the American economy is still not fully appreciated by most Americans.

In a world shaped by such forces, nearly any place can compete with any other place. The physical constraints or advantages associated with geographical location, soil, access to raw materials, and even climate, while certainly not insignificant, have declined in relative importance. Comparative advantage among places now has more to do with human will, energy, values, and organization.

In the past, it was not so important that state governments recognize their pervasive economic impact. The national economy was growing and largely unaffected by international competition, and every state benefited from that economic strength. Errors, waste, missed opportunities, and economically harmful actions had limited effect or were never even detected in the momentum of growth. Now, however, the margin for error in state actions is radically reduced. The economic differences among the states are great enough that it

would be impossible to prescribe specific policies applicable to all. However, the economic environment they all confront does suggest a need to rethink the states' role in the economy, and the way they organize to carry out that role.

#### Strengthening Economic Foundations

Priority attention should be given to strengthening the foundations on which the state economy depends. Most of these foundations are familiar, but may have been neglected. Some have not been widely recognized in the past as economic foundations, but are critical to the emerging economy. Those foundations and their corresponding state responsibilities are portrayed in Chart 1.

The relative importance of each foundation to a particular state will vary according to the nature of the state economy. The state responsibility in each case, however, is critical to economic health.

# Developing an Economic Strategy

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States need an economic strategy to preserve and strengthen these foundations and to chart a course through turbulent times. A strategy is required for three reasons. The first and most important is to refrain from taking actions, or to correct past actions, that are economically harmful. Because the state's effect on the economy is pervasive, actions that have accumulated over time, and many proposed for the future, may do more harm than good.

The second reason is that there are so many things that need to be done, and so many people and institutions involved, that it will be impossible to do everything well. Choices must be made, resources leveraged, and efforts coordinated.

The third reason for a strategy is that the economic environment is rapidly changing and competition is fierce. States that are highly dependent on a few major industries such as natural resources or manufacturing are especially vulnerable to change and thus need to anticipate and prepare for adverse circumstances.

The first step in developing an economic strategy is to have a thorough understanding of the nature of the state's economy, its strengths, weaknesses and evolutionary history.

In recent years it has become popular to compare states by various composite indices that are alleged to reflect the states' relative business climate. For example, the Alexander Grant index uses 23 factors to compare the states. While useful

# <u>Chart l</u>

# State Responsibility for Economic Foundations

# Economic Foundations

A vigorous private sector conducive to the starting and expansion of business and the reallocation of business resources in accordance with market demand and entrepreneurial initiative.

A capable and motivated labor force that is well educated and supported by a human resource system that facilitates and assists in finding employment that best uses workers' abilities.

A system of physical infrastructure including: transportation, communication, energy, water supply, and waste management that is effective and efficient.

<u>Ample natural resources</u> for current and future use and development.

Universities and other research and development institutions that are involved in the development of knowledge and its market applications.

A system of regulation, capital, and technical assistance that encourages enterprise development.

A guality of life that is attractive to employees and their families.

Fiscal stability that is characterized by reasonable tax rates and prudent debt policy. State Responsibilities

Establishing a climate conducive to private private sector vitality.

Primary, secondary and higher education; training; employment service; health and human services.

Transportation, water supply and sewage, waste management, communication, and energy.

Management of land, water, air, agriculture, minerals, forests, and wildlife.

Development and dissemination of information, support for universities, and development of linkages between universities and business.

Attraction, start-up, expansion, and retention of enterprises through a productive mix of promotional, financial, regulatory, and technical assistance policy.

Policies that enhance the physical environment, public services, amenities, and a sense of community.

General, business, and personal taxes; expenditures for state programs, and debt.

to a point, conventional statistics can also be misleading in portraying a state's economic condition and, hence, in suggesting a course of action. Aggregate and net figures often hide significant changes within sectors that reflect the dynamics of the economy. From 1979 to 1983, for example, Michigan experienced its worst downturn since the Great Depression, a condition widely attributed to the state's heavy reliance on manufacturing which was thought to be in general decline. Yet, during that period, some 2,304 new manufacturing firms were established in the state, more than the 2,161 that were lost.

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It is equally important to assess the economic landscape and make judgments about the forces that are driving the national and international economy and where they are likely to take the state economy. Political leaders tend to have very short-term horizons. Economic development officials are concerned with whether they are gaining or losing jobs for the state. Such short-term considerations inevitably condition daily decisions. They are not, however, adequate guides for a state economic strategy, which requires a longer-term perspective.

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- In 1929, 18 states had per capita incomes less than 75 percent of the national average. By 1981, only one state, Mississippi, was below 75 percent.
- In 1929, 10 states had incomes 25 percent greater than the national average. By 1981, only Alaska and the District of Columbia had per capita incomes above 25 percent.<sup>3</sup>

But despite the growing similarities among state economies, significant differences remain. Every region of the country depends more heavily on some industries than others. Industries suffer disproportionately during recessions or radical price changes on world markets, and in turn, the regions where those industries are concentrated suffer disproportionately. The regional differences have been intensified by the growing foreign challenge to the U.S. economy.

Following World War II, the United States was without

economic peers. And with only 5 percent of its GNP in foreign trade, the American economy was still largely insulated from foreign competition. By 1985, however, foreign trade had soared to 15 percent of GNP. Foreign manufacturing has seriously challenged American products both abroad and at home. And the growing trade and balance of payments deficits in evidence by the early 1980s were testament to the extent the U.S. economy had become integrated with, and vulnerable to, a large and competitive world economy.

States which rely heavily on durable goods manufacturing have been especially hard hit by foreign competition. In markets such as steel, automobiles, and other traditional durable goods industries where there is substantial capacity, even small marginal advantages in price, quality, or service can result in loss of market share. States that have depended on extractive industries--for example, timber in Washington, Oregon and Alaska, copper in Montana and Arizona, and oil in Texas, Louisiana, Oklahoma, and Alaska--have found those economic mainstays severely diminished or lost. Farm states have been severely hit by lagging exports, due in part to the unfavorable exchange rate, and in part to substantial increases in both U.S. and foreign farm production capacity.

The foreign challenge now has extended to emerging technologies. In 1985, the Japanese captured more than 60 percent of the market for 64K RAM memory chips. The loss of microelectronics sales abroad has contributed to California's decline in exports from \$4 billion in 1981 to under \$3 billion in 1984.<sup>4</sup> The loss in semi-conductor manufacturing to Japan is also an indication that simply being on the cutting edge of technological development through constant innovation is no guarantee of sustained economic advantage.

In the end, state policies rest on basic assumptions -- implicit or explicit -- about the way in which wealth is created. Competing theories of economic development abound, but the implicit assumptions underlying state policy frequently rest on questionable and often contradictory theory.

For most of their history, state governments have been important but reactive economic participants in an economy driven by private market forces. However, if states generally have shown little initiative in the past, they have provided important services and the political and legal framework essential to economic development. The nation's industrial economy could not have functioned without an education system, roads, water supply and sewage systems, ports and airports, and other services which were principally state and local government responsibilities. Such services, however were rarely developed as part of a conscious state economic policy. Rather, they grew

incrementally, in response to specific pressures that resulted from practical needs.

Assessing the economic impact of state actions since the 1970s is problematic. The economic revival of Massachusetts which began in 1975, for example, does not appear to have been stimulated by the much publicized economic programs of the state government which did not get started until the late 1970s. One state effort that did seem to have an effect was the targeting of geographical areas for economic revitalization. The renewal of old cities like Lowell can be traced in part to actions taken by the state to guide private investment to the city. Efforts by banks and private educational institutions also helped to develop Massachusetts' high technology potential. In general, however, it appears that the state's economic success can be attributed to its base in microelectronics (which in turn was closely related to MIT), business services, and a labor force willing to work for less than average national wages. If Massachusetts' numerous government programs of the past eight years did not contribute to the initial economic revival, did they accelerate it? We do not yet know, although there is some evidence that they did.

A similar pattern appears in other states. California's economic success throughout the twentieth century can be attributed largely to the dynamics of the private economy. The Federal Government has played a major role in key instances, especially in the aerospace industry in Southern California and in providing the initial demand that spawned the microelectronics industry in Silicon Valley. The state has responded to the growth engendered by these forces, providing vital public services -especially transportation, water supply and education -- without which economic expansion would have been stifled. There were also some instances of unusual foresight by state leaders, including the commitment to an extensive public higher education system which helped establish California's preeminence in the development of high technology.

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The story of the Research Triangle in North Carolina offers an unusual example of state leadership. The concept linking research and regional development in North Carolina can be traced to the sociology department of the University of North Carolina in the 1930s. A real estate developer and graduate of MIT later gave tangible expression to the concept by proposing a research park bounded by Duke University in Durham, the University of North Carolina in Chapel Hill, and North Carolina State University in Raleigh, the state capital, (and therefore called Research Triangle Park). The proposal received the enthusiastic support of Governor Luther Hodges. Sustained support by leaders in business, government, and the universties over the next three decades was required to turn the concept into the reality it is today.<sup>5</sup>

#### Organizing to Enhance Competitiveness

The substance of an economic strategy cannot be divorced from the process by which it is fashioned and pursued. The many questions regarding an appropriate state strategy cannot be answered easily or with finality. Factors affecting the state economy are so pervasive and complex that no one person or small group of people are likely to have the information or wisdom to develop an effective strategy in isolation. A strategic vision for the economy, moreover, is also a political statement. enunciates or assumes goals and values that are subject to It is premised on assumptions about how the economy choice. works that are based as much on political or ideological predisposition as on supposedly objective economic theory. Finally, if a strategy is to guide action, it will do so only if numerous people and institutions understand it, share its vision, and work in reasonable harmony to accomplish it.

There are several deficiencies in the structural framework for economic policy found in most states.

First, because economic concerns are narrowly defined, they tend to be equated with the state agency which bears the "economic development" label. Despite widespread recognition of the broader reach of economic issues, many states continue to define economic concerns in terms of such traditional responsibilities as industrial recruitment, financial incentives to business, small business assistance, etc.

Second, efforts at broader definition, even when they are attempted, usually fail to be translated into a cohesive policy or implemented in a coordinated fashion. Few governors appear to have developed organizational mechanisms that effectively link key elements of economic policy so that their implementation in practice matches their connection in concept. Cooperation between the public and private sectors is still more often rhetoric than fact.

Third, economic concerns are defined with an insufficient view to the long run. Since the principal motivating force driving top state officials is the election cycle, it is rare that policy genuinely looks beyond the time horizon of the next gubernatorial or legislative election. This bias is reinforced by the dearth of professional analysis and public understanding as to the long-term economic implications of policy. Fourth, in the absence of a broader and longer term perspective, de facto economic policy at the state level is determined by numerous decisions made in isolation of one another and driven by individual administrative and political agendas. The consequence is that the potentially positive effect of state action on the economy is frequently lost, while negative or contradictory actions predominate.

Effective state structures for developing economic strategy appear to have three key characteristics:

- The initial agenda is broader. The economic Impact of numerous state programs, and their relationship to one another, is taken into account. Developing the human resource base through improved education and training may, for example, be more important than industrial recruitment programs.
- Participation is more inclusive. The broader agenda implies more participants, in particular
  1) relevant agencies of state government,
  - 2) other levels of government, and
  - 3) the private sector.

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Adapting to changing circumstances requires change, experimentation and adjustment.
Strategies cannot be rigid, nor can all responsibilities be fixed in a few individuals or agencies. The breadth and complexity of the issue requires special attention to linkages, both formal and informal, to improve communication among key participants at each stage in the process.

Key to the process is more effective economic intelligence, which can come from several sources: state agencies, universities, research institutions, business, Federal Reserve Banks, the federal government, and private consultants. Special task forces are regularly used to expand the intelligence reach to those with firsthand information about the economic affairs of the state. At least twenty states have appointed advisory task forces to address the question of how to promote technological research and development. Examples include the Alaska Council on Science and Technology, and the Iowa High Technology Conference.

Many states are consciously developing a more cooperative approach to state economic strategy. Indiana's development of a strategic plan, for example, enjoyed bi-partisan support, in large measure because of the leadership and cooperation of the

state's top Republican and Democratic politicians. The Republican governor and lieutenant governor, who is also ex-officio head of the state's Department of Commerce, were intent on developing an active economic development program. The president of the state Chamber of Commerce, who was also the defeated Democratic nominee for governor, initiated the idea for a state strategic plan for economic development. The plan itself, In Step with the Future, was produced with the involvement of representatives from industry, banking, labor, and the state universities, and led to a clear consensus that aggressive action was called for. The more than one hundred background and technical papers commissioned (from the state chamber of commerce; Indiana, Ball State, and Purdue Universities; the state department of commerce, and the consulting firm, A. D. Little) produced information which both heightened the awareness of the need for action and gave a clearer picture of the condition of Indiana's economy and options for improving it.

Indiana produced not so much a written, definitive plan, as it did a structure and process for state economic policy. The written document was sufficient to establish the basic condition facing the state, and develop consensus as to general goals and directions. But for the long haul, it was clear what was needed was a process that could be adapted to changing circumstance, and broad enough to encompass the numerous functions and actors that affected economic development in the state. Indiana's strategic planning structure, the Indiana Economic Development Council, acts as an "initial guidance system" for state institutions <sup>b</sup> It attempts to link the involved in economic affairs. activities of these institutions as they relate to seven broad areas of economic concern: business climate, education and training, energy, infrastructure, technology, productvity, finance and capital.

Leaders in Rhode Island, by contrast, developed a detailed economic plan that was put to public referendum. The Greenhouse Compact proposed by the Rhode Island Strategic Development Commission in 1983, laid out a detailed, 1,000 page plan for stimulating state economic growth. Eighty percent of state voters rejected the proposal in the referendum, largely, according to surveys, because they did not believe that the estimated cost of \$750 million would yield benefits to the average citizen, and because they lacked confidence in the way the plan was developed and would be implemented.

Every state has an agency designated as responsible for economic development (variously called departments of commerce, industry, industrial development, and economic development).<sup>7</sup> These agencies typically include such traditional economic development functions as promotion, financial incentives, and

site location assistance, and may also include the promotion of state products, special assistance to particular industries, such as tourism, and natural resources. As state economic policies have become more aggressive and more comprehensive, the roles of such agencies among state governments have grown more variable. Some, such as those in Connecticut, Rhode Island, and Tennessee, have expanded to incorporate new responsibilities for technology-related industry while remaining the lead agency in economic policy development. In other states, they have continued to perform the traditional economic functions while other agencies, or newly created non-profit corporations, have taken on responsibilities for the newer economic functions. In still other cases, governors have established another mechanism, such as a development council consisting of relevant department heads, or assigned coordination to staff in their own office or another department to coordinate economic policy implementation.

Many state governments now recognize that other traditional state functions have as much if not more impact on the state's economy than those housed in the formally labeled department of economic development. Departments of transportation, education, employment and training, public health, natural resources, and environmental matters are now usually seen as having an important economic role. State university systems have received special attention as sources of technological research and innovation. North Dakota State University, for example, established a "Quest for Technology" program to seek out marketable ideas among research underway.

The legislature plays a critical role in economic policy through its lawmaking, budget, revenue raising, and organizational powers. Few legislatures, however, have played a leadership role in planning, implementing or evaluating economic policy. Most legislatures are not well organized, or are politically ill-disposed to undertake comprehensive or long-range thinking. The California legislature in 1982 attempted to address this problem by creating a new Committee on Economic Development and New Technologies with subcommittees on international trade and investment, rural economic development and biotechnology. Another Committee on Small Business was also created to determine ways to stimulate new enterprise. The State Senate in 1984 established a Select Committee on Long Range Policy Planning to examine the state's industrial competitiveness and recommend policies to promote economic progress to the year 2000.

Local government is one of the most important, and often most neglected, instruments of state economic policy. Just as states are in a better position than the federal government to deal with many practical aspects of economic policy, so local governments are often in a better position than the state to do so. Many local governments feel that the state is ineffective in meeting its responsibilities to build and maintain roads and other facilities, and in providing adequate funding for education and human services. Local officials also complain that states refuse to give local governments the legal, administrative and financial tools -- the basic powers of home rule -- that would permit them to mount their own effective economic development programs.

During the past decade, a growing number of businesses have come to appreciate the impact of state government on them directly, and on the economy in which they function. In recent years new business organizations have developed at the state level to address issues of economic importance to the state. Most are similar to organizations on the local level which have a rich history of constructive contribution.

 The Business Council of Pennsylvania is a non-profit, non-partisan association of executives from major corporations of Pennsylvania. It was organized in 1979 to promote economic growth and development, private sector employment, and fiscal responsibility in the Commonwealth of Pennsylvania. The Council seeks the direct participation and involvement of its members in the development of public policy, working in partnership with the legislative and executive branches of government.

Similar organizations in other states include The Partnership from New Jersey, the Minnesota Business Partnership, the Tennessee Business Roundtable, the Massachusetts Business Roundtable, the Hawaii Business Roundtable, and the California Roundtable. Such organizations can provide useful analysis of the state economy and important trends, and offer guidance to state government in determining strategy. They also enhance the opportunity of forging partnership arrangements at the state level to pursue objectives that require joint participation.

Informal networks among government, business, educational, labor, and other community leaders are also helpful in strengthening public private cooperation.

 In North Carolina, informal networks among leaders in government, business, and education at the state level played a major role in the development of the Research Triangle. "State leaders were sufficiently secure that they erected no clubs or other barriers holding back others who aspired to positions of state leadership, and their sense of responsibility for the state gave them broad social support. Just as North Carolina, with no single large urban area, centered their philanthropy on the state, establishing the first state symphony in the 1930s and the first state art museum in the 1950s, so the modernizers thought of the state as a whole."<sup>8</sup>

- In Michigan, informal discussions among leaders in venture capital, education and banking led to the establishment of several new institutions designed to strengthen the state's position in new manufacturing technology.
- In Massachusetts, informal interaction among state business and government leaders has been instrumental in building support for new economic initiatives. Periodic off-the-record meetings among top government, business, and labor leaders have also served to address key issues regarding the state economy.

#### Summary

The states, in sum, have arrived at a point where economic policy is a serious matter. It can no longer be viewed simply as a package of tax incentives and promotional brochures, or even as an eclectic collection of all the latest institutions and programs that have been proliferating in other states. State economic policy today must be seen as the sum total of actions taken in every aspect of state government that affect economic performance in the state. States that fail to confront this reality will be at a competitive disadvantage to those states that do.

The new economic role for the states builds on past experience but recognizes the need to adjust to changes occurring in the contemporary economy. The emphasis should be placed on freeing the latent energy, talent, and motivation in the private sector to compete and perform. In many instances, the most important thing state government can do is get out of the way, removing barriers to economic performance that cannot be justified by an overriding public interest. However, it is also the case that the state is an active and important participant in the economy. Its traditional role in providing support systems is all the more important today, both because many of the traditional foundations have fallen into disrepair, and because new foundations are required for a changing economy.

Above all, the state is an agent of collective action for an important geographical area and community of people. It can choose to react to pressures as they occur. Or it can anticipate the rapid changes occurring in the economy and consciously accept or reject the many options open to it for economic progress.

#### Notes

- 1. National Governors' Association, <u>Technology & Growth:</u> <u>State Incentives in Technological Innovation</u>, (Washington, D. C.: National Governors' Association, 1983).
- 2. President's Commission on Industrial Competitiveness, Innovations in Industrial Competitiveness at the State Level, prepared by SRI International, December, 1984.
- 3. Federal Reserve Bank of Chicago, <u>Economic Perspectives</u>, September/October 1984, pp. 17-18.
- Douglas C. Henton and Steven A. Waldhorn, "California: Inventing the Future through Investment and Innovation," Case Study prepared for the Committee for Economic Development, August 1985, p. 15.
- 5. Ezra F. Vogel, <u>Comeback</u>, (New York: Simon and Shuster 1985) pp. 243-245.
- 6. Charles R. Warren, "Economic Development in Indiana: A Strategic Step," Case Study prepared for the Committee for Economic Development, August 1985.
- 7. Three states -- Alabama, Connecticut, and Pennsylvania -established their departments in the 1930s; seven were established in the 1940s; twelve in the 1950s; thirteen in the 1960s; eight in the 1970s; and seven since 1980.
- 8. Ezra F. Vogel, op. cit., p. 243.

## ALASKA'S ECONOMIC PRIORITIES: A FIVE-YEAR STRATEGY

#### By

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### Presented to the

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Resource Development Council for Alaska, Inc. Sixth Annual International Conference on Alaska's Resources

> "CRISIS IN RESOURCE PRODUCTION: CAN AMERICA COMPETE? AND ALASKA'S COMPETITIVE POSITION: PUBLIC POLICY ISSUES"

> > February 12-13, 1986 Anchorage, Alaska

The day after last year's conference, representatives of Alaska communities met in Anchorage to set a course for their local economic activities. At that meeting RDC was asked to sponsor three additional workshops during the year to help communities set priorities and launch programs to create new jobs.

Workshops were subsequently held in Wasilla, Soldotna and Fairbanks. The second year of our program to set economic priorities for Alaska begins tomorrow at the Anchorage Assembly Building on Tudor Road at 9 a.m.

What did we learn and what did we accomplish during this past year?

Probably most surprising to us, we learned that the citizens of Alaska communities of all sizes consider themselves prodevelopment. Yet their elected officials do not always reflect this attitude. In discussing various problems communities have faced, the point was repeatedly made that if elected leaders oppose development, or didn't understand economic issues, very little could happen in a community. In certain instances, candidates campaigned on a platform of "controlled growth" which, after election, turned into "no-growth."

When I use the words "pro-development," to describe how most Alaskans perceive themselves, it should be clear that prodevelopment doesn't mean "any kind of development."

Some representatives, particularly those from the smaller communities, have definite, specific ideas about the kinds of development projects they'd like to see in their towns. Mining is fine, so long as it's not too large a project. Logging operations and forest products industries would be welcomed in these small towns, if they're not too large. A furniture manufacturing plant that would train and employ local citizens was considered very desirable.

Community leaders did recognize the need to expand their tax bases. They are deeply concerned about their future ability to fund maintenance and operations costs for facilities and services that have resulted from Prudhoe Bay revenues.

Consistent, however, was the strongly-expressed condition that any new industry not be encouraged or allowed that would adversely affect an existing one, fisheries being the main concern here. Interestingly enough, "adverse effect" was also viewed by some as a super market chain or shopping mall that would compete with local business. Communities want lower prices and more variety in good and services, but in some cases influential citizens discouraged new competition or projects that might lead to more competition, such as a road to another area of town away from Main Street.

Nearly all the communities represented at our workshops wanted economic diversification, though some only on a limited basis. The lack of surface transportation connecting rural communities or regional centers to smaller communities was seen as one of the biggest inhibitors to economic diversification. Economic data showed that those towns with surface access were far less dependent on state revenues than those without it. The economies of communities accessible by road or rail were more diversified and fewer people worked for government. State revenue declines were believed to have potential for hurting the isolated communities more because, proportionately, more of their populations worked for government, and cutbacks would have a greater impact. The smaller the community, the greater the impact of reductions in government funded positions and services.

Local hire was a big issue with every community. Workshop delegates believed hiring and training local people would result in building a stable workforce, save unemployment and welfare costs and benefit their economies through expenditures of earned wages. If new development did not hire local people, they didn't want the development, unless it left dollars in the community in some other way.

What else did we learn? We learned there was a tremendous need for developing and maintaining current information on the makeup of local economies. Many Alaska communities had virtually no statistical or demographic information to give potential investors, or to use for planning and spending decisions. As communities became aware of the need for this data in developing their own information banks, they sought assistance from entities such as the Fairbanks Community Information Center, which has a model system.

The biggest paradox in community attitudes toward economic development concerns population growth. They want economic development, but not necessarily more people. They want shopping centers, restaurants, medical centers and all kinds of retail services, tourist facilities, convention centers, and community halls, without understanding that a certain level of population is required to support such facilities. And, as I said, they want their current population to be totally employed before bringing in a single new resident.

That reminds me of a story one of the speakers at our conference last year told me. It was Allen Bleiken, head of the Edmonton Economic Development Authority. Bleiken said a study had been conducted in Edmonton that asked people about their attitudes toward population growth. The questionnaire gave current population figures and asked what projected increases were acceptable, with several choices. The first year the study was done the respondents overwhelmingly selected the figure that was

the population they had at that moment. Some years later the study was done again, and by then 10,000 more people had moved into Edmonton. Again, the response was "exactly what we have now--we don't want more people." Then Edmonton had a huge industrial boom and the population grew another 70,000. The question was asked again, and sure enough, people said the ideal population was just what they had.

In Bleiken's opinion, that example illustrated the point that people have great fears about how added population will affect their lifestyles, and justifiably so. But in retrospect, these same people found that the gains from population growth far outweighed the losses. The people of Edmonton will tell you without the slightest bit of hesitation that today theirs is the best city in the world!

Even more confusing on the population issue were the projections communities made for population growth in the next five years. Estimates ranged from losses of 20% to increases of over 30%, but few towns could document their estimates. The City of Valdez projects that, if its economic development program is successful, there'll be a 50 to 100% increase in population in five years. From your travels throughout Alaska you probably know which ones would roll out the red carpet for you and which ones would put up a fence after they moved in.

We found out the kinds of development Alaska's communities prefer: Commercial fishing and onshore fish processing, tourism, petroleum support, transportation services, particularly air and port-related, retail services of all kinds, petroleum refining, agriculture, timber harvesting and processing, mining ventures (remember, these two can't be too large), handicrafts and native art industries, livestock grazing and production and small manufacturing of a non-polluting nature. Even if a town served only as the support base for a major development nearby, it generally preferred getting the income without the people.

So we see communities often know what they want, but getting it is another matter. What we have learned these past two days has heightened our awareness of where work is needed to improve Alaska's standing in the global marketplace. And tomorrow community leaders will have a hands-on session designed to help achieve their goals.

Let's talk about economic development strategies again for a moment. Why are they so difficult to formulate and put into action? Because in any diverse society, gaining agreement and <u>support</u> for anything is always difficult.

The biggest failure of economic development strategies over the years has been that they're hard to sell. What good does it do for a state or local government to formulate a development strategy if the public won't buy it? What good does it do if the private sector develops a plan and government and the legislature won't buy it? Not much.

The Resource Development Council or Commonwealth North, both of which have intensively studied approaches to improving our state's economy could do it, but again, who would buy it?

Even the task forces which have dedicated major efforts to solving specific industry problems--The Agriculture Action Council, the Timber Task Force, the Mining Advisory Committee--have made solid recommendations, but can they sell them? How do they get other industries, the public, the governor and the legislature to support them?

Alaska communities have formulated local strategies, but more often than not they haven't worked. Why? Because the package couldn't be sold to all the parties.

The fact is, when you're talking of selling economic strategies, you're talking egos, power and politics. And sometimes one or all three of those elements gets in the way of gaining support for even the best-designed program.

Scott Fosler told you what happened in Rhode Island over a year ago. By a 4 to 1 margin, Rhode Island voters rejected a referendum designed to create 60,000 jobs in seven years and coordinate industrial development. The Greenhouse Compact planners pointed to the inability of existing American political institutions to forge a national industrial policy despite widespread concern with the economy.

The Compact Commission took great care to eliminate political representation in its membership. The idea--for economic development to be "above politics"--seemed at the time to be a good one, so the decision was made that those who would be taking the risks and making the investments would develop the program.

An assumption was made that if Rhode Island's economy were to develop, all groups in society must sacrifice, abandon old prejudices and work together. They said economic development must be above politics; above labor/management disputes; above disagreements between proponents of government and antagonists of government, between those for and against land development and between those for and against social welfare programs.

After such an overwhelming loss at the polls, a survey was conducted two days later to find out what happened. What went wrong when victory had been so optimistically predicted? I'll be glad to give you a copy of the survey report, but for now I can only give you a taste of why the multi-million-dollar program was opposed. Here are some of the conclusions we should remember in developing an Alaska strategy:

(1) It was too specific. By proposing specific goals for designated industries (fishing, jewelry and tourism), it invited opposition by industries which wouldn't benefit.

(2) Instead of designing an easily understood program, the 1000-page document was exceedingly complex and few voters could understand it.

(3) It ignored a long-held hostility of residents to high taxes and proposed \$40 million in new taxes.

(4) Rather than negotiating with political entities and gaining their early support, the Commission insisted that the plan simply be put to the voters. As observed in the survey report, "Although never stated explicitly by the Commission, the strategic assumption behind this approach was that state economic planning could not work unless democratic support was mobilized on its behalf."

(5) Leaders of the Compact were not drawn from the citizenry but instead represented the elite of commercial, financial, labor and government sectors, people who were believed to control various sectors of the economy.

(6) The new agency created to implement the program, governed by the appointed commissioners, was not perceived by the voters to represent the average citizen's interests. There was a deep-seated mistrust of the sectoral elites represented on the Commission.

(7) There was a strong sense of "what's in it for me?" and most of the voters concluded "not much." They concluded it was simply a large-scale spending program that would cost them money and give them few benefits.

An observation, by Anton and West, who analyzed the survey data, is of interest. "A planning group chosen to represent economic sectors rather than political constituencies runs the risk of being cut off from those constituencies. The Strategic Development Commission in Rhode Island may well have included some of the best and brightest among the state's institutional elite, but when push came to shove, no one in the legislature worked hard to mobilize support for the Commission's plan, no candidate for major state or local office worked hard for the plan, and even the governor seemed little more than a half-hearted supporter at the end." "In American politics, operating outside the established political institutional structure can be a two-edged sword."

#### Implications for Alaska

Observing the Greenhouse Compact experience can be helpful to us as we explore means of developing strategies to enhance our own economy.

From our experience we know that economic development plans devised by state agencies have not been accepted by the populace and in many cases were not even accepted by other state agencies. Nor has the populace been able to conceive a plan acceptable to state administrations and legislatures.

I believe it correct to say that there never has been consensus on what is needed to enhance Alaska's long-term economic progress, but that's not to say a lot of people haven't tried.

One of the major problems has been the tendency to look at economic development issues in isolation, either from other development concerns or isolated from social and environmental issues. In the reverse, environmental and regulatory decisions have frequently been made without analyzing their effects on the overall economy.

Statewide and regional port and other transportation planning have occurred without adequately considering potential industry and population needs. The same holds true for energy planning. Land classification and zoning have taken place, often precluding future industrial opportunities or needs for access.

Each of you could add examples to the list showing how we have failed to find workable solutions to factors inhibiting economic progress. But it can be done.

During these two days we have gotten an earful, some good news and some bad news, relating to Alaska's competitive position. We have learned of strategies that worked and of those that didn't. We have a better understanding of what other states are doing and why. We know we're not alone in the struggle to create jobs, to protect and enhance our existing industries, to bring in new ventures and investments.

And we know that Alaska, given its global position as a resource state, is unique from every other state in its development goals. For that reason, Alaska's approach to an economic strategy must, in itself, be uniquely tailored if it is to be successful.

#### <u>A Five-year Strategy</u>

The year 1986 is the second of a five-year undertaking by the Resource Development Council to bring about positive direction and action that will lead to an expanding, more balanced economy. For several years the Council has studied the needs of specific industries, and it can speak to those needs. Commonwealth North has addressed the issue as well, as have other groups through the issues and policies they support. But none of us has been successful in generating the broad, statewide consensus needed to effect major policy changes.

As the first stage of developing a five-year strategy for achieving Alaska's economic priorities, RDC leaders said direction should come from the bottom up, so to speak, and not from the top down. So we charged Alaska communities last year to begin raising economic development issues on the public policy agenda at the local level, and they have done that. We asked them, if not already doing so, to establish economic development task forces that would identify problems and seek solutions, and they are doing that. They began looking at where they were, where they wanted to go and how to get there.

We impressed upon these communities that, by working together and with their dominant or chosen industries, they could be a major force in bringing about the changes needed to help their economies.

Tomorrow morning Scott Fosler and others will meet with these community leaders, in a sharing effort to solve the most difficult problem we have encountered--that of identifying the most workable process or structure for reaching consensus on economic priorities, a process that will help Alaska avoid the pitfalls of the Rhode Island experience.

With a process in place that is acceptable to large numbers of people, we believe it will then be possible to elevate economic development to the level of a movement. And a powerful movement is what we need, a movement in which everyone plays a role. We have a successful environmental movement, why not an economic development movement?

When such a force is mobilized, the Resource Development Council can step back and be just one voice among many contributing to the achievement of major economic goals for our state. In this formative stage, however, we would like to hear from each of you with your ideas as to how to pull this movement together and keep it focused.

Elevating economic development to the level of a movement will require intense concentration by all elements of Alaska society, public and private. It will take education, time, dedication, and a spirit of cooperation by more Alaskans than have ever been united in a common cause. Only with that spirit of cooperation can those of us here today and others who share such dreams meet the challenge of Alaska's competitive position in the global marketplace. Our livelihoods and those of our children depend upon how well we do the job.

# APPENDIX A

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Response to Call for Papers on

Crisis In Resource Production: Can America Compete? and Alaska's Competitive Position: Public Policy Issues Joseph M. Gughemetti, President American Land Alliance Thursday, February 13, 1986 Address prepared for the Development Council for Alaska, Inc.

The warnings could not have been clearer. The response was overwhelming. Never again would America's industrial, economic, and military system lie hostage to foreign sources of oil and strategic minerals. We would develop a comprehensive energy independent program. We would overhaul our natural resource management system. We would accelerate our offshore oil leasing program. We would inventory the minerals and oil resources of our federal lands prior to any wilderness designations. And we would develop a comprehensive program which assured that in a short period of time America would become energy independent.

The first warning: January 14, 1975, Secretary of the Treasury, William Simon, sent a memorandum to President Gerald Ford stating:

"As a result of my investigation, I have found that crude oil, principal crude oil derivitives and products, and related products derived from natural gas and coal tar are being imported into the United States in such quantities as to threaten to impair the national security..."

The second warning: March 14, 1979, Secretary of the Treasury Blumenthal sent a similar memorandum to President Jimmy Carter stating:

"The continued threat to the national security which our investigation has identified requires that we take vigorous action at this time to reduce consumption and increase domestic production of oil and other sources of energy."

The oil embargo of 1973, the Iranian hostage crisis, both, sent a stinging message to Democratic and Republican leadership alike. A bipartisan effort was launched, reviewed, and endorsed for a national energy independent program.

Despite all the political bipartisan rhetoric, nothing has been done to initiate, let alone, achieve a national energy independent program. Nothing has been done to overhaul an outdated, and improperly managed federal stewardship of our natural resources. It could have occurred under President Reagan. It did not occur.

Almost 800 million acres of federal land await reasonable land management. And hundreds of millions of acres in private await implementation of reasonable ownership environmental safequards, stripped of excessive and unnecessary bureaucratic delays. Over a billion acres designed to serve the multiple use of varied needs of the American population: recreational, wilderness, timber harvesting, grazing, farming, but also needed exploration for oil and mineral production. Yet despite all the rhetoric of President Reagan's initial Secretary of Interior James Watt that they would achieve a meaningful reform of our land management programs, beyond relatively minor national adjustments, nothing close to an energy independent program exists; a new and dynamic management concept for our federal lands was not created. Thus, as we witnessed rhetoric slings between environmental groups and James Watt, and as the public continued in the misperception that the Reagan Administration was somehow devouring or raping the federal lands, the policies of the past were continued and have now been accelerated.

As a nation hangs on a precipice of potential economic disaster our government does nothing. And if nothing is done in the final three years of this Administration, it may be too late.

Instead of addressing these issues, this Administration has now signed into legislation more wilderness designation, and its resulting bans on exploration, than all other administrations combined in American history. It is this Administration's Secretary of Interior who eight months ago initially proposed to ban new oil leasing off 98% of the California coast until the year 2000. It is this Administration that has refused to fully implement a review of strategic mineral exploration, an inventory of mineral resource, and address the future needs of mineral resources.

What is the coming resource crisis? It lies in a careful analysis of the current dependence on foreign oil of the western world; an analysis of the ties between oil dependence and Third World debts to American banks; and the ever-increasing possibility that the random act of any one terrorist in the Middle East would trigger by a relatively simple military act, the termination of oil resources from the Middle East, and thereby invoke the American guaranteed response contained in the Carter doctrine and Reagan Corollary: military confrontation to preserve access to foreign oil.

Let us look at the cold hard facts of energy and mineral dependence in the world, not the rhetoric, not the public perception, not the complacency of this Administration and an entire nation.

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In 1974, an analysis following the OPEC oil embargo, showed that our foreign dependence on oil was 37.5%. What is our foreign dependence today? 38%, projected to be 44% by 1990, and 52.5% by 1995. Although, the United States has diminished its reliance on OPEC sources, but a series of commitments to our allies, to strategic military reserves and the our own practical storage capacity limitations, render the long-term effect of an OPEC import reduction de minimis in comparison to our overall The contributing factors are alarming. problem. We maintaín a strategic agreement with our western allies to share available oil resources in another oil crisis. Japan is now 60% dependent on OPEC oil sources; West Germany is 26% dependent; France is 42% dependent; Italy is 65% dependent. And, does it take any great degree of imagination to envision what will occur to the Western World economy if Japan, West Germany, France and Italy would collectively lose over 50% of their oil resources; and the impact their loss would have on our quarantee to share our oil. Is there anyone who cannot envision the economic consequences in inflation, interest rates, and debt resulting from the deprivation of that source to the Western World. Yet we sit here and do nothing about it. We sit here and ignore the warnings to a Democratic and Republican President and the mandate once issued by a bypartisan Congress.

The media would have you believe that there is a calming influence by virtue of an enormous oil glut. May I suggest that glut is illusory, but more importantly, merely the wake before the storm. The issue is not the amount of oil being thrown into the world market by OPEC nations at this time. The issue regarding our energy independence is our capacity to locate and store domestic oil for a prolonged period of time should a From all estimates that I have received, the cut-off occur. so-called domestic oil glut, would in the event of an OPEC or Third World cut-off, sustain our loss needs for no more than approximately 90-120 days. The glut in the market does not the issue of the potential backup address and reserve requirements of the entire Western industrial world if, the Middle East finally explodes and a terrorist takes that final step to close off oil exportation. And the storm that is about to occur is of enormous consequence. As consumers rejoice over impact of current reduced gas prices, they ignore the the strategy of the OPEC nations in creating that surplus: that by flooding the market at a substantially reduced price, Third World debtor nations who rely upon oil production for their ongoing economy, will not survive this competitive market. And when OPEC has eliminated them from this competitive pool, OPEC will once again establish the controlling monopoly on oil for a significant As that price per barrel drops part of the industrial world. daily, what will be the impact on the major competitive oil producers now servicing the United States? What will be the impact on debt written Mexico who produces oil, but has a 96 billion dollar deficit to American banks? What will be the impact on oil producing Venezuela that has a 35 billion dollar debt with American banks? And how did those debts even occur in the first In great part they occurred by virtue of the inflation place. and economic recession that occurred following the first oil embargo, when Central American governments borrowed heavily from American banks, which in turn supplied the money from extensive investments from Arab nations who were selling the oil. Does it take much imagination to envision, that a slight but prolonged

depression in oil prices throughout the world could finally trigger a default on Central American bank loans?

So the issue we face is twofold. First, is the United States prepared in any realistic capacity for another cut off of OPEC oil? The answer is demonstratively no. By virtue of the extensive commitment of Western Europe to OPEC sources for oil, by virtue of our treaty commitments, and by virtue of our own limited storage capacity, we are in no better position than 1973, and in fact, I stand here to tell you today, that we are in a brink of an economic disaster should but a series of events occur, like a domino effect, out of the Middle East. And our leaders do nothing.

Second, are we as a nation prepared to respond quickly to a cut off of OPEC oil by accelerated exploration and deployment of our reserves, or do we face the Carter doctrine-Reagan corollary alternative: an act of war. The answer to that question is also unequivocal. Because of delays and environmental restrictions attributable to resource production, there is no capacity, I repeat, there is no capacity of the United States to respond on a timely basis to accelerated resource production to meet any imminent emergency. And it is for that reason, that President Carter and President Reagan both committed that in the event of the cut off of oil, the United States would commit our country to war in a Third World nation to guarantee access for oil there that is not politically expedient to explore here.

And what have we done in the last 10 years to relieve America of a frightening and potentially devastating reliance upon foreign strategic minerals? With some exceptions, again we have done nothing of substance. Let us take just a brief view of four of the most critical minerals necessary for industrial American. Chromium is a super alloy essential for making stainless steel and in combination with other minerals necessary to establish products resistent to corrosion, oxidation or intense heat. Both its primary material and its mineral form supply a vast range of necessary industrial products from support for steel, to combustion sections of jet engines, to stress resistent products of springs and bearing steels, to steel furnaces, boiler fire boxes, foundries, truck parts, metal treatments - the list is endless.

Cobalt is an essential element for tool bits, magnetic alloys, high strength steel and aids in the refining of petroleum and manufacturing of chemicals.

Manganese is essential in steel making and is also the most economic way to increase steel's hardness.

Platinum and its group metals are necessary in petroleum refining, chemical processing, automotive exhaust treatment and numerous other products.

Again, it is not difficult to imagine what would happen to America's industrial capacity if access to these strategic minerals were terminated. Yet we sit here today with frightening dependence on foreign sources for those minerals, who themselves face explosive political climates. The United States has an 82% dependence on foreign imports of chromium, of which 55% comes from South Africa. The United States has a 95% dependence on foreign imports for cobalt, of which 49% comes from South Africa. The United States has a 99% foreign dependence on manganese, of which 31% comes from South Africa; and finally the United States has a 91% foreign dependence of platinum, of which 49% comes from And are you watching the daily news out of South South Africa. And have you considered the impact of a full fledged Africa? civil war in South Africa; and have you considered the further impact of a communist led African league that would like to take over South Africa? And instead of addressing our own capacity to explore and develop our own strategic minerals, in advance of that crisis, and before the resulting effect on the American economy, we expend our greatest efforts, our most extensive rhetoric and our overwhelming financial assistance to dialogue the racial policies of South Africa. How changes in irresponsible can we be?

There was a concept - in fact, a requirement, that before the United States placed in permanent reserves massive landholdings under the classification wilderness, we would inventory those lands to determine the location and amount of strategic minerals. Whatever happened to that massive inventory requirement? It has been ignored.

Instead, this Administration passes wilderness designation after wilderness designation, systematically locking up the strategic future of the United States.

The greatest frustration occurs by the lack of sophistication of those who should know better, when those responsible for the natural resource questions that affect the economic stability of the United States, lack even the bare understanding of the process. Last year, when Secretary Hodel announced a tentative agreement with environmentalists to ban oil leasing off 98% of the California coast to the year 2000, he attempted to alleviate fears that a potential crisis could occur by placing within the agreement a provision for a presidential declaration of emergency which would allow immediate exploration. How in the world did Secretary Hodel conceive that the President would have the authority to suspend over 48 federal environmental laws without a legal challenge in the court system that could delay, defer or terminate that declaration? How in the world did Secretary Hodel conceive that a declaration of emergency by the President would address the practical realities which preclude the production of oil until an average of 10 years after the leasing event?

In California, litigation has commenced by the Coastal Commission or environmentals groups at the first act of potential

oil production - the leasing cycle. The leasing cycle alone can be held up for years in federal court before the second cycle even commences. And even when that second cycle of exploration commences, lawsuits have been filed in the federal court among other grounds to stay the operation of exploratory vessels because of the potential impact of their exploratory devices on the serenity of whales. And I am not kidding. That lawsuit was filed.

We are walking a slow straight line to an economic diasater, or an insane military intervention in the Middle East. It is as if no one wants to look at the other end of the tunnel and see where we are headed. It is as if no one listened to the lesson of history, or no one cares, or it is politically expedient to ignore those issues at this time. And as in the past, America will learn its lesson only after it is too late, only after there is a crisis, only after there is a depression triggered by one act in the Middle East - and the events will unfold like dominos - and no one has a contingency plan available for the Western World. Certainly we don't.

It is for these reasons that the American Land Alliance last year joined with numerous other groups to encourage Senator Richard Lugar, Chairman of the Foreign Relations Committee, to conduct for the first time foreign policy overviews based on the extent to which our foreign policy is dictated by foreign resource dependence - both oil and strategic minerals. He has agreed to conduct those hearings. They are perhaps our last chance to bring to the attention of the American people, to the media, and perhaps finally to our own elected officials, that we face a potential disaster. It is perhaps a last chance to explain to the American people the series of foreign policy dominos which would fall by act of a single terrorist to disrupt oil production, and the resulting economic impact first on Western Europe, than on Third World debtor nations, and finally and most assuredly 90-120 days thereafter on the entire American economy. We need to bring to America's consciousness, this reality. We need to jar loose some action. We need to prepare a long-range plan that addresses these issues now, before the event, rather In essence, we need to abide by the than after the event. commitment made almost a decade ago and not implemented by either party, either President, or the United States Congress. It must start now - it must start with a comprehensive review of our foreign policy decisions and their relationship to oil dependence and strategic mineral dependence.

In addition, we must forge a new land management policy. We must initiate a comprehensive review of resource management in order to draft a comprehensive energy independent program. A comprehensive package of oil deployment, nuclear reactors, water projects, alternative energy sources, and conservation. As I address you today, this Administration plans to reduce mileage requirements for new American automobiles at the same time that our dependence in foreign oil increases daily. That is an insame policy. We call upon every group, every business, every

alliance, every group of individuals to join with us again in a renewed and urgent endorsement to Senator Lugar to proceed with comprehensive hearings on the relationship of foreign policy to foreign dependence on oil and strategic minerals. We call upon you to join with us in forging a demand for a new comprehensive management plan in the United States which achieves first a thorough inventory of our known resources, and then establishes a comprehensive plan by which in decade, through primary energy sources, alternative sources, and conservation, the United States can become 100% energy independent and thus never again place its economy, its military security, its well-being on the whim of Third World politics.

It is so easy for us to be comfortable - comfortable when the economy is soaring (as it did in 1928), comfortable in inflation that is down (during a temporary flood of the oil market), and complacent in the good times attitude of this Administration. It is much more difficult to ignore the present economic conditions and favorable economic climate that may last for a year or two, or even five years more, and ignore our obligation to a future generation to address to an urgent problem.

It is not politically expedient to say those things now. It does not reflect a temperate attitude. It does not reflect calm and serene complacency. But if you care about this country, you will have the courage to act now, to speak up now, to harness future events before they occur.

I encourage all of you then, to join the American Land Alliance's request that we address this issue now in advance of the problems which I envision, and by so doing demonstrate that we have learned the lessons of history. We must begin anew a comprehensive new management plan of all lands in the United States. We have three years remaining to find some means, some manner, some mode of communication, to bring this to the attention, the leadership and the direction of President Reagan before his term expires. It must be done now.

# A THREE POINT PROGRAM TO ENHANCE

# ALASKA'S ECONOMY

by

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## BOB RICHARDS

# Candidate for Governor

#### PRESENTED TO

SIXTH ANNUAL INTERNATIONAL CONFERENCE ON ALASKA'S RESOURCES RESOURCE DEVELOPMENT COUNCIL FOR ALASKA, INC.

> ANCHORAGE, ALASKA FEBRUARY 13, 1986

The vast potential of Alaska presents an exciting opportunity for Alaskans to gain impressive advancement in both economic growth and the quality of life. The challenge is to achieve consistent, smooth, strong economic growth that is environmentally sound and socially responsible. This paper outlines a three-point program to achieve this objective.

Point number one is the establishment of a consistent, favorable environment for investment in Alaska by business firms. Opportunities for our small and medium locally owned businesses usually depend upon the development of our resources which in turn largely depends upon investment by firms in the resource extraction industries.

Business leaders pride themselves on being risk takers. Indeed, return on investment is the reward for taking risk, and here in Alaska we see risk taking of all types by both small local firms and large multinational corporations.

But there is one kind of risk that is anethma to the business mentality. It is political risk--the risk associated with politicians making short run politically expedient decisions.

The first step, then, to achieving sound economic growth is to reduce political risk by creating an environment that is consistently friendly toward investment by private industry.

When I say an environment that is friendly to business, I do not mean letting big business roll over the State of Alaska. Clearly, one of

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the glorious developments in our society has been our concern over protecting the environment, insuring safe working conditions, and other enlightened behavior. And, clearly, any corporation that operates in Alaska should behave as a responsible corporate citizen.

When I say a friendly atmosphere, I mean an atmosphere that understands basic economics, an atmosphere that is characterized by consistent tax laws and other statutes which effect business investment, and an atmosphere that is constructive and creative rather than adversarial and bent on throwing sand in the gears.

Some of the things that we have done have been bafflingly absurd. Can you imagine in your wildest dreams that, upon a fall in the price of oranges, the State of Florida panickly increasing the taxes on citrus growers? Yet that is precisely what has been proposed by some here in Alaska when our major industry faced decreasing revenues.

The petroleum industry is Alaska's vanguard industry, and over the past decade we Alaskans, on our own accord, have established a relationship with this industry that places our fortunes in bed with the petroleum industry.

Hence, it is critical to encourage and stimulate the growth of Alaska's other basic industries: fishing, forest products, tourism, hardrock mining, agriculture, and contruction. An aggressive program to foster diversification should be pursued by the State of Alaska.

But just like diversification, there is another important concept in

economics--the law of comparative advantage. Simply stated, it means that an economy is best off if it plays its strong suit.

And our strong suit is oil and gas, and vigorous pursuit of broadening our economic base will include encouraging development of oil and gas whose potential in Alaska has barely been tapped.

Therefore, the State of Alaska should be constructive and consistent in its posture toward the petroleum industry--indeed, in our posture toward every industry.

Let us now turn our attention to the second element to achieving consistent economic growth.

Our state government is unique. In no other state in our country is state government such an important participant in the economy. This is because of two things. First, our state government is a major employer. Second, our state government owns over one-fourth of the land (28% to be exact).

The implication of this is that it is not sufficient for our state simply to perform the normal roles performed by most other state governments. It is not sufficient for our State just to be a regulator or a responder and reactor to proposals put forth by others.

Indeed, if the State of Alaska is going to fulfill its responsibilities to its citizens, it is also important that the State play another role: initiator. The State of Alaska should initiate projects and activities that serve as a catalyst to stimulate further investment by the private sector.

I find it perplexing that NANA Regional Corporation and Cominco, who are pursuing the Red Dog Mine, had to beg the State of Alaska to become a participant in the project.

Rather, if our State is going to successfully compete with other states and nations for investment by business firms and create jobs by expanding our economic base, then our State is going to have to initiate projects. The State of Alaska should say, "we will invest in the port and road facilities if you will invest in the other mine facilities. And yes," says the State of Alaska, "we will charge you a fee for use of our facilities so that we get an appropriate rate of return and the project will not represent any subsidy provided by the citizens of Alaska."

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At the very same time that Alaska was reluctantly considering participating in the Red Dog project, premiers of Canadian provinces and governors of other states were inviting Cominco representatives into their states, showing them the mineral resources, and meeting with them on ways in which their states and provinces might make it easier for Cominco to invest in projects that will further the development of their particular state or province.

Now, lest I be misinterpreted, Cominco is not important as an end in itself. What is important is the healthy, prosperous advancement of this glorious part of the globe which we call Alaska. And in order to have a consistent, advancement which creates job opportunities for people and creates a flow of funds for parks and bike paths and
concerts and outdoor art fairs, then it is the State's responsibility to initiate action which attracts investment by Cominco and other private enterprises.

So I have discussed two elements that are going to attract this investment. First is the creation of an environment that is friendly to business--business that behaves responsibly. Second is the state government to initiate projects which serve as a catalyst for further investment by the private sector while generating an attractive financial return for state government.

This brings me to the third element. This is an element that is clearly understood by every shop owner throughout our State, by every real estate agent, by every small business person throughout Alaska.

The third element is that, after we have the product--and the product being a friendly atmosphere for investment in which the State assists in initiating projects--then this product has to be sold.

As any sales person knows, effective sales does not mean giving away the store. Good effective sales means going out and convincing the customer to buy the features of the product which you are offering. And this is exactly what the State of Alaska should be doing.

In this regard, let us turn our attention across the Pacific to where Alaska's economic destiny lies. As an economist I find it more than intriguing that on the western side of the Pacific Rim are Japan, Korea, and Taiwan, three of the world's most rapidly growing economies, and on the eastern side of the Pacific is Alaska, an immense and politacally secure source of raw materials badly needed by these economies; yet, there is negligible trade between the two.

The reason more trade does not exist between Alaska and Asia is largely because Alaska has not been effectively or consistently sold.

The Department of Commerce and Economic Development should be reoriented into an effective sales organization. We must recognize that the world market for our resources is not a seller's market. It is a buyer's market.

But first, before we ever leave the shores of Alaska to go on a selling trip, there is a great deal of work to do determining precisely what is is we are offering for sale. Our resources must be inventoried, sustained yields established, and specific proposals prepared.

In conclusion, to avoid the economic stagnation that seems to be before us and to achieve consistent strong economic growth that is environmentally and socially responsible, the State of Alaska must abandon its destructive, adversarial relationship with the private sector and adopt a constructive, creative relationship with business, initiating projects and selling specific proposals.

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To accomplish this three-part program requires the emergence of a Grand Alliance between the public sector and the private sector: a constructive partnership between government, business, and labor.

I am not suggesting that one side will sell out to the other. Rather, I am suggesting a marriage like any strong marriage wherein each partner maintains his and her independence; wherein each partner clearly fulfills his and her individual aspirations; but wherein each partner recognizes that the union results in the whole being greater than the sum of the parts.

I am suggesting this because the way to create jobs is through business investment in our basic resources which in turn stimulates growth of locally owned enterprises.

And the way to stimulate business investment is through creative cooperation by state government. Hence, we must move forward to a new era in Alaska, described as a Grand Alliance between the public sector and the private sector.

#### Opportunities for Enhancing Alaska's Economy

by

## John A. Sandor

Although private and government resource managers have encountered serious obstacles in efforts to explore and develop Alaska's natural resources, these obstacles can be alleviated. With special initiatives and strategies, Alaska's economic future can be greatly improved.

Opportunities include:

: 20 1. EDUCATION, INVENTORY AND RESEARCH

This is one of the essential foundation blocks to sound resource management and development. Alaska National Interest Lands Conservation Act (ANILCA) designations were often made without adequate knowledge of resource values.

Improved inventories of resource values and the methods of accessing and developing natural resources will help define the opportunities for successful development. Good inventories will also help assure protection of the environment and all resources.

Research is essential in the development of new or improved products from Alaska's various resources. This is important if we are to improve our marketing position within and outside Alaska.

Education-research in international trade, economic and business practices must also be improved, so that Alaskans can better compete in the market places of the world.

2. TRANSPORTATION SYSTEM STRATEGY FOR ALASKA

Access is another basic requirement for the successful development of natural resources and for the sound growth of new or expanded communities. Road, railroads, aircraft and marine transportation systems are all important to the improvement of Alaska's economy.

A number of transportation initiatives have been undertaken, but they usually focused on single-use objectives. This is understandable because the need for transportation was often linked to a specific project.

Paper by John A. Sandor, formerly Regional Forester, U.S. Forest Service and Member of the Alaska Land Use Council. Now, Owner Alaska-Pacific Rim Enterprises, PO Box 1135, Juneau, Alaska 99802. Although the development of a transportation system for one resource might not be economically feasible, the development of such a system for multiple purposes could justify the investment needed. Greater investments should be made in integrated transportation systems which serve both the public and private sectors.

Cost-share agreements between private land owners and adjacent government land managers can effectively be used to develop transportation systems which serve both land managers.

Integrated infrastructure development would encourage the growth of industries and also meet community expansion objectives.

## 3. DEVELOPMENT OF ENERGY INTERTIE SYSTEMS

It is also important to proceed with the development of improved and more efficient energy generating and distribution systems. The lower prices of oil may discourage development of other energy sources in the short run. However, the world will again be facing an energy crisis, as oil supplies diminish and markets are controlled.

Because of the geographic distribution of communities and resource values, energy intertie systems should be extended. Such systems should not only link Alaska communities where feasible, but also consider intertie links with Canadian power sources.

In addition to the development of hydroelectric projects, industries which have the potential of generating power as a secondary product should be encouraged to do so. For example, sawmills at Haines and Klawock both had the potential of supplying electric power to local communities but encountered barriers to developing such power or linking into the community systems. Use of wood waste or low valued wood products for power generation can significantly improve the economic viability of small and large mills.

#### 4. GREATER COMMITMENT TO MULTIPLE USE MANAGEMENT

The Alaska Constitution together with Federal and State laws provide for multiple use management of public lands.

Decades of multiple use management throughout the United States clearly demonstrate the merits of this form of management. Yet increasing blocks of federal and state lands in Alaska have been and are being withdrawn or are classified with management restricted to single-use or limited resource objectives.

For example, in Southeast Alaska, 65% of the forest lands capable of producing commercial forest products are already withdrawn from commercial timber production. Mineral exploration and development is also often prohibted on these lands. Nevertheless, efforts continue to withdraw additional areas from timber and mineral development.

5. ELIMINATE REDUNDANT GOVERNMENT STUDIES, PERMITS, PROCESSES, AND CONTROLS

One of the major obstacles to sound resource development is the redundant requirements of federal, state and local government agencies. These redundant requirements result in repeated project delays, increase costs and discourage investments which can enhance the local and state economy.

Although each level of government has a legitimate regulatory responsibility, redundant processes can be eliminated while still assuring compliance with all laws and protection of the public interest.

6. INCENTIVES TO ENCOURAGE THE DEVELOPMENT OF ALASKA INDUSTRIES

The State of Alaska should enact legislation to enable state and local governments to grant tax and other incentives to encourage industrial development projects in the State.

Such authority was available in Alaska until repealed during the prosperous period of high oil revenues.

By using such incentives, the British Columbia Provinicial Government has just been successful in encouraging one of the major US forest product firms to build a \$40 million waferboard plant at Dawson Creek in Northeastern British Columbia. This will bring 400 new jobs to that area. It should be noted that the forest products produced will have to be shipped over 600 miles by rail to seaport and then on by barge to the West Coast. Alaska had the timber supply, local markets and direct seaport access, but inadequate incentives. This is one of the reasons that more than 70% of the forest products used along Alaska's Railbelt are imported from British Columbia and the contiguous 48 states.

### 7. EXTEND EFFORTS TO PROMOTE ALASKA PRODUCTS IN FOREIGN MARKETS

The market potential in the Pacific Rim and other regions of the world is tremendous. Although efforts have been underway to promote fisheries, agricultural, forest, oil, gas, minerals and other products, the potential has been barely tapped.

Alaska forest products exports to Japan is less than 1 percent of the total wood imports of that country. The Peoples Republic of China, South Korea and Taiwan provide an even greater opportunity for export of forest and other Alaska products.

Alaska trade missions to these countries the past six years have been an excellent start. Efforts by the Alaska Seafood Marketing Institute have also been good. This type of creative marketing should be extended to other Alaska products.

National efforts to assure fair trade practices and improved market access to these and other countries should be supported. Provisions of the Export Trading Act of 1982 may also be beneficial to some of Alaska's export industries.

#### 8. RECREATION AND TOURISM

Although there have been substantial and steady increases in the recreation and tourist industries, there are many more opportunities for growth.

Special initiatives are needed to provide visitors with the opportunity to enjoy Alaska's extraordinary natural resource values. For example tens of thousands of travellers from foreign countries stop at Anchorage's international airport, enroute to other destinations. Most never leave the airport, but simply wait for the resumption of their flight. Visitor information facilities at the airport should be expanded to illustrate the recreation opportunities throughout the state.

The private sector should also be encouraged to invest in the development of recreation facilities on private or public lands so that visitors may have a geater variety of locations and activities to visit and enjoy. Current efforts to bring the Winter Olympic Games to Alaska is an excellent example of what should be done.

#### 9. THE ALASKA LAND USE COUNCIL

The Alaska Land Use Council, established under authority of ANILCA, provides an excellent opportunity for the State of Alaska, Federal agencies and major private land owners with the opportunity to work together in effectively implementing the Alaska Lands Act.

Substantial cooperative work has been done, but funding reductions threaten the future work of the Council. The State, Private and Federal entities involved should explore opportunities for improving their cooperative ventures and work toward restoration of the operating funds for this important organization.

## ALASKA'S FUTURE IS VERY BRIGHT

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It is exciting to consider the many opportunities to improve Alaska's economy.

Although there are problems and barriers to the fulfillment of many of these opportunities, they can be overcome.

Cooperation and mutual support is a key to the achievement of these initiatives and objectives. I am optomistic that most Alaskans would support such efforts.

With that cooperation, Alaska's economic future is very bright.



## APPENDIX B

## List of Conference Attendees

Resource Development Council for Alaska, Inc. Sixth Annual International Conference on Alaska's Resources Crisis in Resource Production: Can America Compete? and Alaska's Competitive Position: Public Policy Issues

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## LIST OF THOSE ATTENDING Resource Development Council Conference Crisis in Resource Production: Can America Compete? Alaska's Competitive Position: Public Policy Issues February 12-13, 1986 Sheraton Anchorage Hotel

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## THURSDAY, FEBRUARY 13, 1986

PART II -- Alaska's Competitive Position: Public Policy Issues

- 8:15 Master of Ceremonies, Mano Frey, Executive President, Alaska State Federation of Labor
- 8:25 **COAL: EVOLVING SUPPLY AND DEMAND PATTERNS** *Joseph J. Yancik,* Director, Office of Energy, International Trade Administration, U.S. Department of Commerce, Washington, D.C.
- 9:05 **BUILDING RESOURCE TRANSPORTATION SYSTEMS** *Lorne Sivertson,* Assistant Deputy Minister, Mineral Resources, Ministry of Energy, Mines and Petroleum Resources, Government of British Columbia, Victoria, B.C.
- 9:45 Break
- 10:20 EFFECTS OF GOVERNMENT DECISIONS, REGULATIONS ON INDUSTRY COMPETITIVENESS Dan Maxim, Everest Consulting Associates, Inc., Cranbury, New Jersey
- 11:10 Break for noon luncheon



- PART III Putting it All Together for Alaska
- 2:00 Master of Ceremonies, Janie Leask, President, Alaska Federation of Natives
- 2:05 **FROM RAGS TO RICHES: A STRATEGY THAT WORKS** *John Anderson, Director, Department of Trade, State of Washington, Olympia, Washington*
- 2:45 **ORGANIZING FOR STATE ECONOMIC PROGRESS** *Scott R. Fosler,* Vice President and Director of Government Studies, Committee on Economic Development, Washington, D.C.
- 3:25 Alaska Railroad Corporation Energy Break
- 3:55 ALASKA'S ECONOMIC PRIORITIES: A FIVE-YEAR STRATEGY Paula P. Easley, Executive Director, Resource Development Council for Alaska, Inc.
- 4:35 **No-Host Reception** Exhibit area

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