Alaska Resources Development: What Beyond Prudhoe Bay?

Alaska’s natural gas, coal, and a number of other resources will remain largely in the ground until there are sharp increases in world prices of those resources, according to a new book by faculty and associates of the University of Alaska’s Institute of Social and Economic Research. Such increases, say the authors, are unlikely in the next decade or even by the turn of the century.

The book, Alaska Resources Development, says that while there will be some additional resource development in Alaska in the next 10 to 20 years, the kinds of development likely to occur will not come even close to replacing the income the state government will lose as production from the huge Prudhoe Bay oil field winds down. That single field now supplies about 90 percent of the general revenues of the state government—more than $3 billion in 1983—and economists estimate that Alaskans derived a third or more of all their personal income in the early 1980s as a direct or indirect result of state spending of oil revenues.\(^*\)

Many Alaskans believe that world demand for Alaska’s known or suspected reserves of petroleum, coal, minerals, fish, timber, and other resources will keep the state’s economy healthy after Prudhoe Bay oil has been depleted. Further, because the federal and state governments together own more than 85 percent of Alaska’s lands and control most of its resources, many residents also believe that government has the power to make or break future resource development in the state. However, the authors find that in the absence of the necessary market conditions, government can do little to foster sustained economic development in Alaska.

The book cites as the chief determinants of future resource development in Alaska: (1) the costs of producing resources as compared with their market value; (2) the world political climate and the availability of secure supplies of vital resources outside Alaska; and (3) government policy. Of the three, the first is by far the most important.

The authors’ general finding that many of Alaska’s resources will remain largely undeveloped in the immediate future is based on the fact that many of the resources found in Alaska also occur in adequate supply in other areas of the world where they can be produced for less. Alaska’s geographic isolation, its harsh climate, its vast size, and related factors mean that the costs of transportation, construction, labor, and almost everything else are high in Alaska—higher than anywhere else in the United States, and higher than in many areas of the world.

\(^*\)The Prudhoe Bay field has been a bonanza for the State of Alaska not only because it is a giant—the largest yet discovered in North America—but also because it lies under state lands, entitling the state to very substantial lease payments it would not collect if the field were under federal or private land. Also, several of the peak producing years of the field have corresponded with periods of very high oil prices. Much of the recoverable oil will have been pumped from this field by the late 1990s.

Alaska Resources Development (Westview Press, 1984, 212 pp.) was written by faculty and associates of the University of Alaska’s Institute of Social and Economic Research, with grant money provided by the Andrew W. Mellon Foundation. Thomas A. Morehouse, professor of political science at the institute, edited the book and wrote several chapters. The other authors are Richard A. Cooley, professor of geography and environmental studies at the University of California at Santa Cruz; Arlon R. Tussing, adjunct professor of economics with the institute; Matthew D. Berman, assistant professor of economics at the institute; Bradford H. Tuck, professor of economics and dean of the School of Business and Public Affairs at the University of Alaska at Anchorage; and Robert B. Weeden, professor of resource management at the University of Alaska at Fairbanks. The book will be available in March 1984 from the institute at 707 A Street, Suite 206, Anchorage, Alaska 99501 (278-4621).
These high costs limit resource and overall economic development in Alaska in crucial ways.

High costs mean that investors will finance resource development only when short supply and high demand drive the price of a given resource high enough to outweigh the costs and difficulties of doing business in Alaska. Another result of high costs is that only extremely large or very valuable deposits will be developed in Alaska; smaller or less valuable reserves that might be economic to develop elsewhere are often not economic to develop in Alaska. Finally, high costs mean that resources extracted in Alaska are generally not processed in the state, but are shipped elsewhere for processing.

The Prudhoe Bay oil field itself nicely illustrates the effects of Alaska's high production costs: despite its huge size and the tremendous effect it has had on Alaska's economy, Prudhoe might not have been economic to develop if the OPEC oil embargo of 1973-1974 had not sharply increased the price of oil. The unanticipated high costs of building the trans-Alaska pipeline and the additional costs of transporting the oil farther south by tanker might have pushed the costs of producing and delivering Prudhoe Bay oil above its market value, had actions of OPEC not driven up oil prices.

A second factor that can and has influenced resource development in Alaska is the world political climate. During the energy crisis of the 1970s, when foreign sources of oil became uncertain, Alaska had the political advantage of being a secure—if costly—source of a vital fuel. This world situation insured the development of the Prudhoe Bay field, and it is at least conceivable that in the future the international political climate will once again favor Alaska as a source of essential resources.

A third influence on resource development in Alaska is government; the federal government owns 60 percent of the land in Alaska, and the state government an additional 27 percent. Government can certainly prevent, delay, or encourage development projects on its land. It can, as the federal government has done in Alaska, close large areas to certain kinds of development. In the instance of the trans-Alaska pipeline, the federal government at first delayed the project by refusing to issue the pipeline builders right-of-way permits to cross federal lands—but when the OPEC oil embargo began in 1973, the U.S. Congress quickly passed special legislation to approve and speed pipeline construction. Government can also encourage projects through favorable tax policies, relaxation of environmental protection standards, or provision of subsidies. The state government in recent years has subsidized, among other things, agricultural and bottom-fisheries development projects.

But no government policies can create economic development—self-sustaining, long-term gains in regional income and productivity—without the economic prerequisites for development. In Alaska, chief among those prerequisites is that resources must be produced and delivered to market at competitive prices.

The book makes these specific findings about past and future resource development in Alaska:

Federal Land Policy

Government control and distribution of land has not been the determining factor in past resources development in the state. Until 1959, the federal government did own 99 percent of the land in Alaska, but it had retained this ownership mainly because the conventional land disposal programs, like the Homestead Act, could not operate in the cold, remote region of Alaska the way they had in other states. Also, the kinds of resource development that did occur in Alaska, mainly salmon fishing and gold mining, did not require private ownership of large areas of land. The carving up and distribution of Alaska's land since statehood has been much more closely related to issues of political development and change—the statehood movement itself, the Native land claims movement, the national environmental protection movement—than to issues of economic development and resource exploitation.

Oil and Gas Development

Petroleum exploration and development will continue to be important to Alaska's economy in the coming decades. A number of known or suspected oil fields on- and offshore will probably still be economic to develop, even at today's reduced oil prices. Another sharp rise in the price of oil, which now seems unlikely, would make more fields economic to develop, while a further decline in prices would probably mean that smaller fields, particularly those far from the existing pipeline, would not be tapped, and exploration would be curtailed.

The areas with the highest potential for additional large petroleum finds are along the outer continental shelf, particularly in the Beaufort Sea. The outer continental shelf is controlled by the federal government, which means that state government income from such discoveries would be slight compared with its current income from the state-owned Prudhoe Bay field. Anticipated oil production from any fields that go into production in the next decade is very unlikely to match the current production from Prudhoe Bay. So, although the petroleum industry will continue to be important for Alaska, state oil revenues will be much smaller than they are now.
Reduced oil prices probably mean that the pipeline proposed to carry North Slope natural gas to national or international markets will not be economic to build in the foreseeable future. Likewise, various proposals to refine oil or produce petrochemicals in Alaska will not be economic; several of these projects were judged to be uneconomic in Alaska even when oil prices were at their peak. This means that oil prices would have to rise above their historic highs before such processing ventures would be profitable in Alaska.

Minerals and Coal

World prices of most metallic and industrial minerals found in Alaska will probably not rise significantly over the next 20 years. Contrary to popular belief, the world is not running out of most minerals; in fact, because of enhanced recovery techniques, substitutions, discovery of new reserves, and other factors, many minerals are less scarce now than they were several decades ago. Real prices—prices adjusted for inflation—of some minerals have fallen over the long term. These conditions augur poorly for development of Alaska’s minerals.

As many as five of Alaska’s known major mineral deposits could be developed by the 1990s, but today’s depressed mineral prices and Alaska’s high production costs make all mineral development somewhat uncertain. Deposits close to tidewater or near existing transportation systems have the best chance of going into production in the next decade. The likeliest to be in production by the 1990s are the Quartz Hill molybdenum deposit near Ketchikan; the Greens Creek lead-zinc-silver deposit on Admiralty Island in southeast Alaska; and the Red Dog lead-zinc deposit at the western end of the Brooks Range. Less certain to be developed during the 1990s are the Lik lead-zinc deposit in the western Brooks Range and the large asbestos deposit near the town of Eagle, close to the Alaska-Canada border.

Mineral deposits that might go into production by the year 2000 would create between 750 and 1,600 jobs in Alaska. Such jobs would benefit the communities near the mines, mainly in southeast and northwest Alaska, but would have little effect on the statewide economy and would produce little revenue for the state government.

Alaska’s very large coal reserves will remain mostly in the ground in the upcoming years because that coal would be expensive to produce and the reduced price of oil has made coal less attractive as an energy source. Despite much recent talk about large-scale exports (in the neighborhood of 5 to 10 million tons annually) of Alaska coal to Far East nations, those nations have not yet offered coal producers any long-term contracts. The one coal mine now in operation in Alaska, the Usibelli mine near Healy, could double its current annual production of about three quarters of a million tons when it begins planned exports to Korea.

Renewable Resources

Renewable resource industries, particularly commercial fishing and logging, will continue to hold an important place in Alaska’s economy in this century and beyond. But most of these industries are already as fully developed as market and biological conditions allow; they cannot be significantly expanded. Unless there are major, unexpected shifts in world market conditions over the next two decades, growth in renewable resource industries, such as agriculture, will occur only through government subsidies that cannot be sustained over the long term. The exception to this general rule is tourism. The number of jobs in tourism-related services could double by the year 2010.

The issue Alaska must deal with in the coming years is not how to expand resource industries that are already fully developed, but rather how better to manage those renewable resources. A large government bureaucracy and a complex system of regulation has evolved in Alaska to allocate resources among competing users. To more efficiently and equitably allocate resources among users, while at the same time reducing the role of the costly and ever-expanding bureaucracy, is the challenge of the next decades.

Environmental Protection

Environmental protection standards have generally accommodated development in Alaska rather than impeded it; the exceptions to this generalization have been a few highly visible and controversial cases. The most notable of these was construction of the trans-Alaska oil pipeline. Other exceptions have occurred where major constituencies have felt threatened by a proposed development—for instance, Alaska fishermen’s opposition to offshore petroleum exploration in valuable fisheries. Future environmental protection issues in Alaska will depend on the kinds and pace of development that occur.

Revenue Management

Overall, Alaska’s high costs will severely limit development of the state’s resources in the coming years, and there is little government can do to change that reality. However, the state government does have at its disposal one tool that some Alaskans believe it could use to make Alaska more attractive to resource developers: its temporary but large oil revenues. These Alaskans, mainly business and civic leaders, argue that the chief obstacles to development of
Alaska's resources are the difficulties and costs of getting to them, extracting them, and delivering them to market. They say if the state used its current oil wealth to build roads, extend the railroad system, construct docks, build more hydropower plants, and in general improve the state's transportation and service systems, such spending would have two effects: it would sustain the economic momentum that previous state spending has created and lay the foundation for continuing and expanding resource development.

Other Alaskans, led by economists and advisory groups to state government, believe the state would benefit more from saving as much as possible of its current oil revenues and investing the money in securities that would yield a steady future rate of return. Such a policy, these Alaskans say, would at least insure the state of a predictable—if much reduced—stream of income in a period when other sources of income will be unpredictable. These groups acknowledge that state spending for infrastructure projects would, in the short run, create jobs and income for some Alaskans, but maintain that in the long run the state as a whole would not receive an adequate return for spending its money this way. They also argue that large-scale state spending for construction projects could have the unintended effect of drawing thousands of transient workers to the state, increasing competition for jobs and increasing the need for public services without compensatory increases in state and local tax revenues.

The authors of Alaska Resources Development believe that in any case state revenues will not be adequate to pay for the massive infrastructure projects some Alaskans envision. They believe that even if the state could provide cheaper access to resources, this access alone would not insure development of the resources; high construction and other production costs might still make development uneconomic in many cases. They feel that saving more of the state's current oil wealth would at least soften the blow that the state government and the state's economy will suffer when Prudhoe Bay oil is gone.

Conclusions

Alaska's economy will probably see a downturn in the next decade, particularly in those elements that depend most on Prudhoe Bay oil revenues, but the authors of the book believe the economy is very unlikely to collapse. They do advise Alaskans and their state leaders, however, to begin thinking differently about resource development in Alaska—to stop pinning their economic hopes on large-scale development projects that now appear questionable and to make realistic assessments of Alaska's economic development prospects.

They urge state leaders to prepare detailed case studies of how much petroleum income the state could expect from various levels of petroleum development in the coming years; such case studies would clearly show to what extent the state relies on petroleum production and offer insights into how the state can best use the oil income it will probably have. They advise the state to inventory all the resources it owns or controls and make a realistic assessment of their development potential, in the light of market conditions; aside from the valuable salmon fisheries, surface land values may be the most valuable resource the state owns in coming years.

The book does not advise the state government against subsidizing any kind of development projects, but instead says that before spending its money on subsidies, the state should carefully weigh the overall social, economic, and political benefits and costs of any given subsidy. The authors believe comparisons of Alaska's economy with economies of other states and nations that rely heavily on oil income would be useful, particularly comparisons that consider the implications of declining oil revenues for areas that have few other development options.

Overall, the authors ask Alaskans to understand that it is world demand for and prices of the state's resources that will determine future development, and that Alaskans should not hope or expect that government can change that economic reality.