move forward toward a new, reasonable policy and the action already taken can only be considered as courageous progress in the face of much vocal opposition.

In early May of 1967, the Secretary released proposed regulations for leasing oil shale lands as an implementation of "Point 3" of his five-point program. The department is now receiving suggestions for possible changes in these regulations before they are formalized. From the beginning, it has been stated that some aspects of the regulations would be negotiable; however, there is still doubt as to what specific features will be held directly to the wording of the regulations.

The Department of Interior is aware of the interest of the Colorado School of Mines Research Foundation in a research lease once the regulations are firmed. The Foundation seeks to interest industry in the financial support of important research in developing the technology of extracting oil from oil shale. Financed by a consortium of companies, this is planned to be a major research effort with an anticipated budget of $5 million per year over a 5-year period. Economics incentives will be mandatory if this budget is to be realized from private capital. Our interest is primarily in the research effort antecedent to commercial development; it is anticipated that we would withdraw from the effort once commercial production begins. Only production-problem solutions would be referred to us as we visualize the on-going production effort. However, in our early planning, we have been reminded again that research does not terminate at the beginning of production. This is a continuing activity that begins with development of efficient skills, solution of basic problems of understanding, and carries into the daily problems, that emerge with commercial production.

Economic feasibility is of particular importance in attracting major financial support for the research effort. Participation in this research effort must provide attractive prospects for gaining vital knowledge about the entire technology of extracting oil from oil shale. If this program is to be truly attractive and meaningful in the inception of a new industry, there must be a government policy that will recognize and assure that the research performed will lead to an opportunity for commercial production with reasonable profit expectancy. Only then will the expenditure of approximately $125 million to set up commercial operation be a reasonable step for any company.

Much has been said about the magnitude of oil-reserve estimates attributed to the oil shale deposits of the west. Let us look at the magnitude of investment involved when we look beyond research at our best estimate of what it will cost to establish production. To establish mines, retorting mills, and other facilities necessary to develop oil from oil shale ready for the refinery, we believe the cost will range near $125 million for production of 50,000 barrels per day. In the next 10 years, as indicated earlier in this treatise, our excess producing capacity of approximately 3 million barrels per day will be essentially depleted. Oil shale can best serve as a supplement—rather than a substitute—for natural crude oil and if in the next 10 years oil from shale is to replace only our present excess capacity to produce, production investment of $6,500,000,000 will be needed. Remembering also that domestic supply will fall behind expected demand by 4 million barrels in the next 10 years, it is clear that this expenditure is a minimum estimate.

Recently, at a hearing in New Orleans conducted by the Public Land Law Review Commission, it was estimated that total investment required for getting production from our Outer Continental Shelf was $6.5 billion. At the hearing, none of the distinguished members of Congress seemed inclined to believe that Congress would have been amenable to appropriating $6.5 billion for opening offshore oil reserve when the exploration and production first began there.

Overloaded government budgets today will not find room for such investments in oil shale. This is a time for the full play of the research ingenuity of private enterprise; it is not a time for the restrictions of governmental straightjackets. The production skill of private industry will best serve the public interest by creating new resource wealth which povides the tax base for government. It does not seem reasonable to many of us that government should contemplate heavy expenditure of production investment, when the encouragement of private industry would shift the risk from government operation to the private sector and would further enrich the tax base.