

OCEAN ENTERPRISES: THE OCEAN AND THE ECONOMY IN THE 1990'S

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INTRODUCTION

In the late 1980's, less than 1% of the resources consumed annually in the United States came from the ocean. The US Exclusive Economic Zone (EEZ) proclaimed in 1983, however, gave our country exclusive jurisdiction over ocean resources out to 200 n. mi. This extensive new zone adds over 3.9 billion acres of resource potential, more than doubling the "territorial size" of the United States.

The EEZ offers many opportunities to improve our national economy. Nevertheless, the potential rewards from the development of ocean resources by the private sector have been greatly inhibited by the risks of candidate projects. Each opportunity or action is laden with different types of risk: technical, economic, environmental and political. Ocean Enterprises is a concept [1] to explore and develop these resources. Among the areas that show the most promise for development are: marine mining of coastal heavy minerals, ocean thermal energy conversion (OTEC), offshore waste treatment plants, mariculture (fish and shellfish) and platforms for air and space operations.

POTENTIAL FOR THE OCEAN ENTERPRISE CONCEPT

The Ocean Enterprise concept promotes forming a partnership of all ocean interests: private, public and government. Such a partnership assures that proposed development of a particular ocean opportunity will not pose unreasonable risk to other users' interests and that all users will share in the benefits of any successfully developed new enterprise.

The Ocean Enterprise concept can be an exciting and challenging mechanism for launching a new period of ocean awareness, development and utilization of marine resources in the 1990's. It will require a dynamic alliance of government, academia and industry so that significant new areas of marine economic interest can be developed or current ones strongly bolstered. The Stratton Report of 1969 [2] recognized the immense potential of the oceans and propounded many appropriate areas for scientific and economic development. An assessment on the 20th anniversary of that report produces some interesting observations:

- Considerable scientific understanding of the oceans has been made: for example, ocean rift zone geology, thermal vents and their implications for ocean chemistry and biology.
- Perhaps surprisingly, no new major economic areas have been developed in the ocean sector. The principal economic payoffs of 20 years ago are those of today: shipping, fisheries and offshore oil and gas.
- Heavy investment has been made in areas such as mineral deposits (manganese nodules) and OTEC, but no practical business of net economic value has developed.
- A strong, well recognized constituency is not in place for the oceans, although a lively basis for such a constituency appears to exist.

Large (1-2 km²) stable ocean platforms are one example of a potential ocean use. They might serve several purposes including military use as floating bases. For example, US air bases in Panama, Spain and the Philip-

platforms are becomingly extremely expensive, less useful, less available and could be replaced by floating platforms. Platforms could also be used to control narcotics trafficking, for weather stations, for enhanced weather prediction and global climate studies, for air traffic routing centers, for alternative energy generating plants (OTEC) and mariculture.

The structure of Ocean Enterprises would combine the financing capabilities of a "Fannie Mae" (instrument of the Federal National Mortgage Association) with something like a port authority (for activities, partnerships and legal authority to act). Under such a structure, Ocean Enterprises could coordinate the roles of government, finance, industry, academia and ocean users to achieve its objectives. Such an organization would serve as an incubator for new enterprises and support them through the high-risk period of public acceptance and operation.

Following the optimistic Stratton Report [2], it is surprising that no major new ocean economic area has developed. Broad technological and economic constraints are often faulted. Upon close examination, constraints on the use of ocean space to the development of individual resources include the lack of public/private venture infrastructure, legal/regulatory implementation strategies, guidelines for environmental, economic, social, and political actions, as well as technical and engineering problems that arise from taking land-based engineering concepts, technologies, structures and facilities into the ocean. The limiting factors center on lack of leadership, infrastructure and venture capital (because the scales of risk are perceived to be large). The infrastructure needs can be developed and supported by 1) a Federal in-house incubator, an oceangoing Fannie Mae--a "Finnie Mae"-- and 2) a quasi-governmental nonprofit corporation chartered by Federal legislation. This quasi-governmental corporation is needed to provide the limitation of liability normally accepted by the Federal government and to minimize the risk of intervenor legal action (similar to the Trans-Alaska Pipeline or COMSAT Corp.).

Ocean Enterprises could gain momentum from a succession of small scale projects developed for the shallow, near coastal waters, that provide local public service benefits. These projects could serve a duality in being initially started with public-private sector funds for civilian use, but engineered and evaluated with other applications in mind. One example of the latter could be a moored floating ocean platform designed and engineered for a NIMBY ("Not In My Backyard") public service project such as a coastal airport or waste treatment facility.

Airports are a prime example of the changing use of coastal space. The US has not built a single major airport since the early 1960's. By the year 2000, however, 80% of the US population will live within 60 mi. (96 km) of the coast. This combined with the present air space limitations suggests that new mechanisms will be needed to meet the demands for services in large US coastal cities. The costs of stable ocean platforms used for airports could be supported by public and private funding with repayment from user fees and capitalization of infrastructure.

Capital investment in oil/gas, the merchant marine and fisheries has generally been easy to obtain since these are perceived as predictable economic areas by the operators and investors. In new areas, however, ocean development has been almost nonexistent with the exception being manganese nodule exploration in the 1960's and '70's and projects receiving Federal funding (some OTEC work).

THE FUTURE OUTLOOK

Implementation of Ocean Enterprises will establish a total environment for the enhancement of ocean related activities and interests of all types. The principal measure of the effectiveness of the program will be the initiation of major new developments which can sustain growth. Without the total environment created by the program, such new initiatives would have

little chance of sustaining development and without realization of new initiatives, the program would be judged as a failure. The program must then have two objectives which are interrelated:

- 1) The creation of a heightened environment of ocean related awareness and actions.
- 2) The initiation of significant new developments with both technological and economic impact which will last (i.e., become an integral part of the national economic structure).

If these two objectives are met, then Ocean Enterprises may well be judged to have ushered in a new area of ocean utilization.

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