

Compatibility of Petroleum Activities in the Coastal Zone

J. R. JACKSON, JR.
Humble Oil & Refining Company
Houston, Texas 77001

INTRODUCTION

Many of us who are part of the petroleum industry have been hesitant to take part in programs such as this. I think the big reason is that your industry — fishing — is one in which we have no particular expertise. Now we are finding that we must know more and more about the fishing industry and that's because the waters adjacent to the continental United States hold great promise not only for the fishing industry, but also for the petroleum industry. Your work in the offshore helps feed the nation's people. My industry's work in the offshore helps fuel the nation's economy. Both are vital endeavors.

Which brings me to the reason I came today. Your Executive Secretary said it better than I could when he was kind enough to note that I have taken the initiative "to come to the fishing industry to open lines of communications." In trying to open lines of communications between these two highly important industries, I think we can benefit by knowing more about each other.

Let me begin by putting the oil business in perspective. When Colonel Drake discovered oil in 1859, the average man in this country worked from morning till night with the modest hope of gaining little more than shelter, food and clothing for his family. Drake's discovery made it possible for us to expand our per capita use of energy — and our standard of living increased proportionately.

Figure 1 titled "Energy consumption vs. per capita income" tells the story. The United States is the top per capita energy consumer, and our per capita income is also number one among the major countries of the world. India, on the other hand, has the lowest per capita use of energy — and their per capita income is also the lowest.

UNITED STATES ENERGY DEMAND

Petroleum—oil and natural gas—supplies 75% of our energy requirements, with coal supplying most of the rest. Without petroleum, life as we know it in the United States couldn't exist. And just to maintain our standard of living, we will use twice as much energy in 1985 as we are using now. Energy demand in the United States doubled from 1950 to 1970—20 years. The next doubling will take 5 years less. By the year 2000 our energy demand will probably have shown a sixfold increase in only half a century.

The scale on the left side of Figure 2 indicates this nation's demand for energy in quadrillion BTUs from 1950-1985. The trends are the important feature. Trends in energy consumption are not unlike population trends and Gross National Product trends—they're up. In the case of energy, this continued increase in consumption has forced us to look to the future, to plan ahead so that energy demands can be satisfied. It is imperative that we have adequate supplies of energy to keep the nation moving. If we run short, who gives up what? Let's look at how energy is used in the United States.

We use it at home for heating and air-conditioning, for cooking, for running

PER CAPITA NATIONAL INCOME COMPARED WITH PER CAPITA ENERGY CONSUMPTION

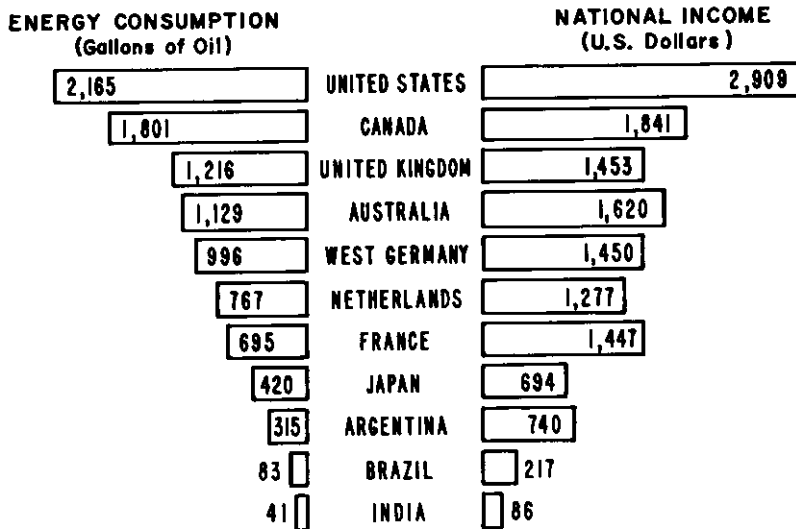


Fig. 1. Energy consumption vs. per capita income.

appliances. This is shown as Residential-Commercial, which also includes energy for schools, shopping centers, hospitals, this meeting room and similar establishments. About 23% of all energy used today and projected for 1985 goes to this sector.

Nearly the same is used in the Transportation area—cars, trucks, trains and aircraft.

By far the largest of the energy markets is the Industrial Sector. This covers energy required for process heat and equipment operation, as well as the raw materials for plastic, rubber, metallurgical coke and the myriad of other products turned out by the petrochemical industry.

Figure 3 (U.S. energy demand by fuel source) has the same arrangement as the previous one—but it shows the other side of the coin. It shows where we get our energy. Primarily, it's from oil, gas and coal. By 1985, coal will increase to 20% of the supply, and synthetics will be entering the picture. However, it is primarily nuclear power which will be expanded to fill the gap which would otherwise result from the sharp decrease in share of the market for gas; and by 1985, nuclear power will supply 11% of the total. That decrease for gas will be solely because of lack of availability.

FLORIDA ENERGY DEMAND

The national energy picture is made up of many pieces and parts. Since we are here, let's look at Florida which is a good example. We all know that Florida has strong economic incentives to help assure dependable sources of energy

UNITED STATES ENERGY DEMAND BY CONSUMING SECTORS

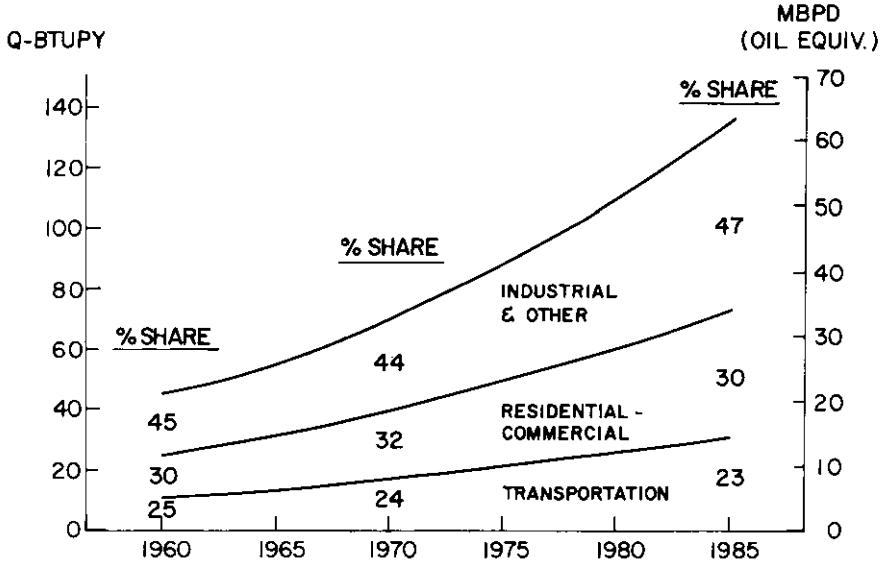


Fig. 2. United States energy demand by consuming sectors.

supplies. Consider, for example, that Florida is seventh among the 50 states in motor gasoline consumption and third among the 50 states in jet fuel consumption. No doubt the state's tourist trade helps push these rankings up in these two areas of energy consumption. Not only is the state dependent upon petroleum for gasoline and jet fuel, but also for 80% of Florida's rapidly growing demand for electricity.

On the supply side, Florida must get most of its energy from outside the state although there has been commercial production of crude oil at Sunniland Field in Collier County since 1943. Since then, about 300 exploratory wells have been drilled in Florida. Only recently, however, have the results been more than modest.

Last year (1970), the community of Jay in Santa Rosa County made headlines around the state (Fig. 4). An extremely significant oil find was made there in June. This discovery in the Florida Panhandle has sparked the hope of some—and the fear of some—that Florida can become an important source of energy production. By the spring of 1972, crude separation, sweetening and sulphur handling facilities will be capable of handling 26,000 barrels of oil, 26 million cubic feet of gas and 172 tons of sulphur per day.

The stakes are high. Florida already has a multi-billion dollar tourist industry. The petroleum industry could also be significant. Responding to a request of the Secretary of the Department of Interior, the National Petroleum Council has estimated that Florida and its adjacent continental shelves, not including the Florida Panhandle, may have future reserves of 7.8 billion barrels of crude oil

UNITED STATES ENERGY DEMAND BY FUEL SOURCE

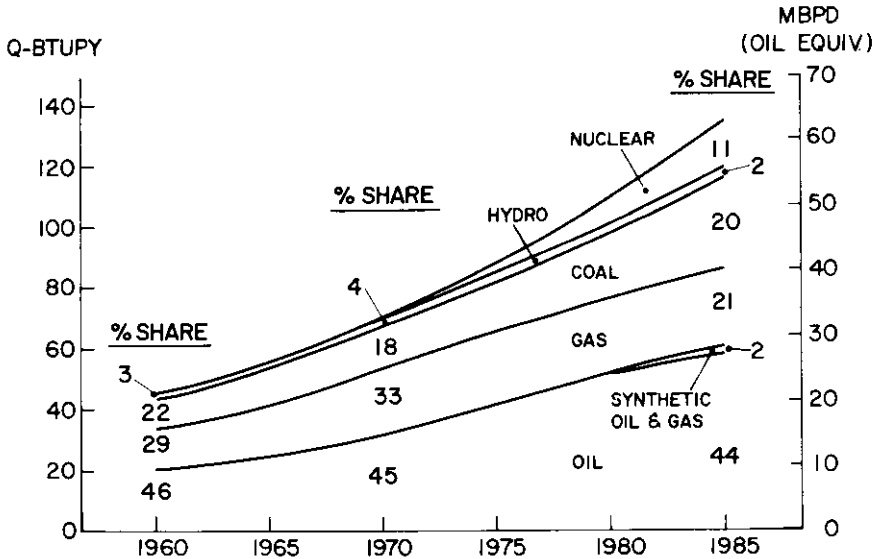


Fig. 3. United States energy demand by fuel source.

and 13.0 trillion cubic feet of natural gas. Although the Council provided no comparable estimate for the Florida Panhandle and its adjacent continental shelf, the Jay Field discovery may indicate that this area is equally attractive. However, it must be noted that estimates of this nature are made without regard to critical factors of timing, technology and economics.

COMPATIBLE USE

That brings us to the crucial question. Can coastal states have tourism and fishing and oil? Or will one drive out another? I submit strongly that there is no need for either/or decisions. Our decisions must be based on this simple premise: Land areas and coastal zones—whether in Florida or any other state—are natural resources in and of themselves. We must plan wisely for their use. And this planning must recognize that with very few exceptions, several diverse activities can coexist in harmony if the concept of compatible use is applied to their management.

Compatible use is a flexible framework of use priorities designed to achieve the greatest long-term social and economic benefits. Compatible use means that if one use is paramount, other uses should be permitted to the extent that they do not unreasonably interfere with the dominant use.

For example, let's assume that fishing is the paramount use in offshore areas. Should oil exploration and production be permitted? Yes—provided, of course, that the oil activities do not unreasonably interfere with fishing. In Louisiana,



Fig. 4. Jay Field discovery well and plant.

where the picture in Figure 5 was made, there has been a long history of compatible use between fishing interests and oil operations. At times there have been disagreements, but these have been family-type arguments—similar to those we might have with our own families. But we can also point to many, many examples of giving each other support. At the recent environmental hearings in New Orleans, the fishing industry furnished strong support for offshore leasing off eastern Louisiana.

I fail to see how we can disagree on this concept of compatible use—up to now. The conflict comes when we discuss “unreasonable” interference. Are

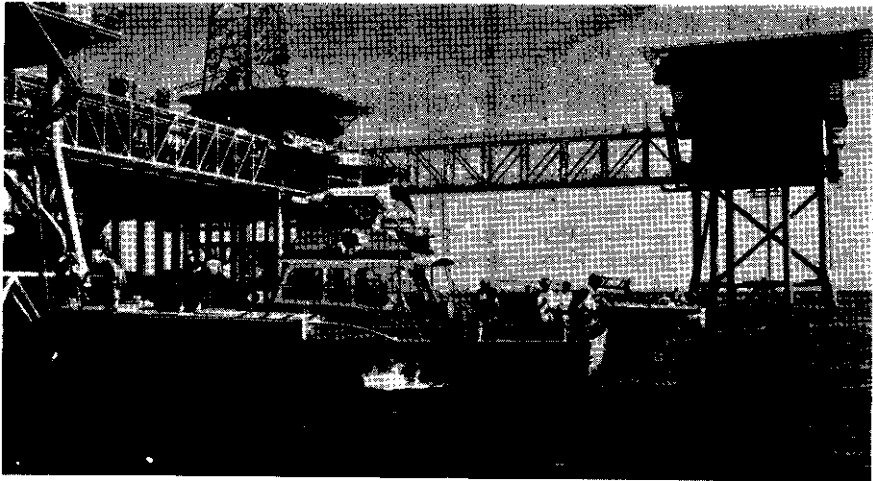


Fig. 5. Fishing boat at platform in offshore Louisiana.

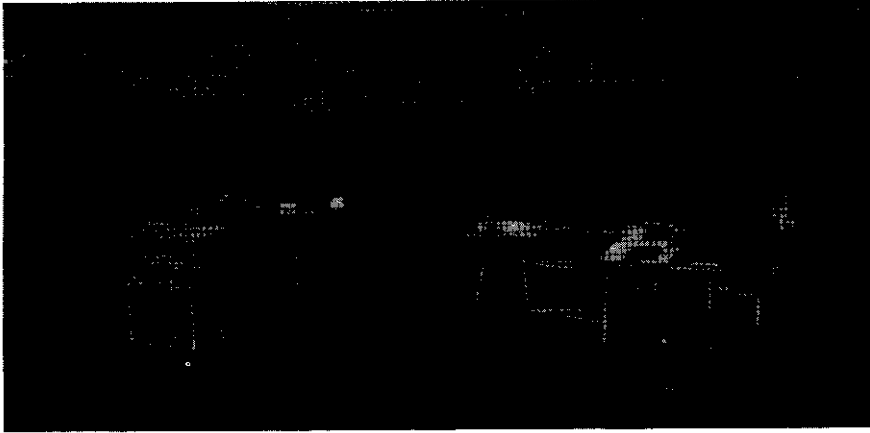


Fig. 6. Offshore platform.

platforms (Fig. 6) in your traditional trawling lanes an unreasonable interference? What about oil spills?

Let's examine this. If an offshore platform is in your way—it's in your way. There can be no question about that. But is this unreasonable interference with fishing—or is it an inconvenience? In the Gulf of Mexico offshore Louisiana, there are more than 17 million acres of surface area out to the 600-foot water depth. All of the oil production platforms offshore Louisiana take up 378 acres of surface area. In other words, for every acre our platforms occupy, there are some 45,000 acres to fish in. Only you can judge if that is an unreasonable interference with your operations. There are others who have opinions about offshore platforms. Some people don't like their looks. Sports fishermen sing their praises. Platforms also serve as navigation aids and provide a haven in times of distress.

Let's consider oil spills. If oil is spilled in sufficient quantities to drive fish from your fishing areas, then that is certainly an unreasonable interference. Those who get beyond the news headlines know that the oil industry has not harmed fishing. More than 14,000 oil and gas wells have been drilled on the marine margins. We have had six blowouts involving oil, only three of which were reported to cause severe pollution.

And none of these were the environmental disasters many thought they would be. The fishing industry is still going strong off the coast of California and in the Gulf offshore Louisiana. Many scientific studies of Santa Barbara, Louisiana, England and other locations have shown any damage from oil spills to the marine environment to be temporary and the affected areas have recovered well.

Fish and shrimp catches are at record levels in the Gulf (Fig. 7), and commercial fishing has increased substantially in the years since 1947 that oil operations have been carried out offshore Louisiana. The waters off Louisiana are attracting fishermen from other states—including Florida—and from other nations. Obviously, we can't claim to have aided commercial fishing and we do not intend such an inference, but we see no indication that we have done anything to harm it.

COMMERCIAL FISH CATCH

PRINCIPAL SPECIES OF GULF STATES

(STATISTICAL ABSTRACT OF THE U.S.-1970)

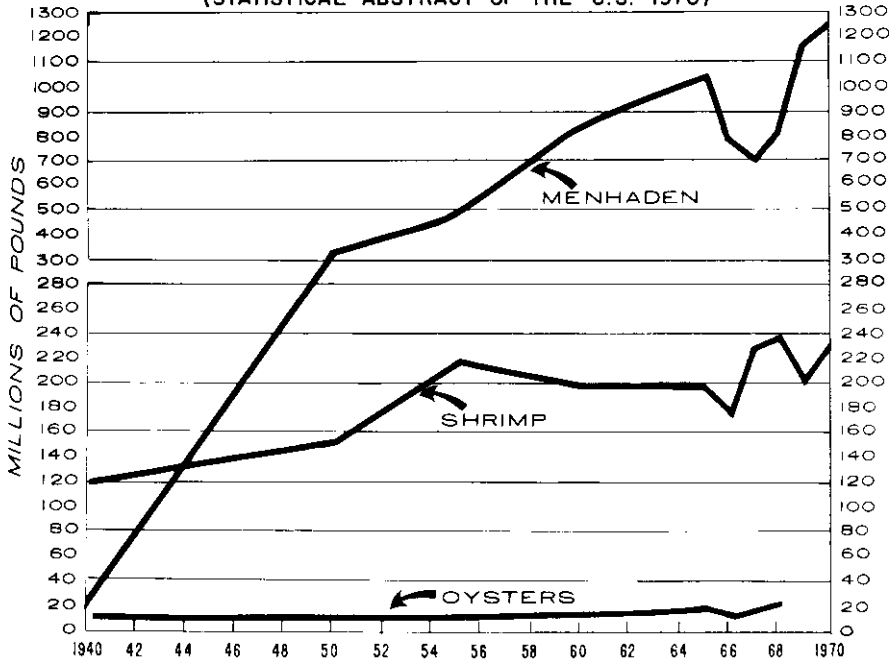


Fig. 7. Commercial fish catch—principal species of Gulf states.

Actually, our platforms have the same attraction for fish as do natural reefs. Such marine life become attached to the structures and they attract larger fish. It is more than coincidence that Louisiana's sport fishing industry has grown almost in direct relationship to the increase in offshore petroleum activities.

Two concerns fishermen have had will not be problems in new areas of operation. One is the use of dynamite for seismic work. We no longer use dynamite. The tools we use today have impulse-type sound sources which provide equally good or better results. The resulting sound signal neither harms nor frightens fish.

Another concern has been underwater obstructions on which shrimp nets could be snagged. The law which required our leaving exposed structures on abandoned wells in the offshore has been changed. Off Louisiana, significant progress is being made in removing, buoying or covering with a platform these remaining stubs. This work is expected to be completed by the summer of 1972.

SUMMARY

Now, let me summarize the points I think are important to all of us:

(1) We are in a time of transition in energy—from an historic surplus of domestic energy to a current situation in which domestic supplies will not be

adequate to meet our needs.

(2) This "gap" between domestic supply and domestic demand, which must be filled by imports, presents serious problems of security—not just military security, but economic security. Foreign wars not involving this country, political disruptions abroad and breakdown of distribution systems overseas are a few examples of events that could cause interruptions of supplies to this country. Even short-term interruptions of supply could result in severe limitations on our supplies of fuels for transportation, heating and manufacturing. Economic disruptions in this country would follow.

(3) When we look at the current situation with respect to each type of fuel, we find that with coal, nuclear, hydro and natural gas producing at maximum capacity during the next 15 years, oil and natural gas still must supply two-thirds to three-fourths of the total demand. Since domestic oil production is virtually at capacity now, we will have to rely more and more on imported oil—and there will be accompanying security problems since most of the growth in imports will be filled from Middle East sources.

(4) Even so, the domestic energy supply picture can be improved—we can reduce to acceptable levels our dependency on foreign energy sources. This is a vital point: We can maintain reasonable self-sufficiency of energy supply if we all work together. One of the first things we need to do is find more oil and gas here at home. We in the industry find it of great concern that some states are taking the attitude that "you can explore and produce oil elsewhere, but don't explore and produce it in our state. We want you to supply us with the products, provide us with the energy, but we do not want the activities taking place here." On the other hand, we find a trend among other states to the effect that "if you want energy, if you want natural gas, if you want petroleum products, then move to our state and we will supply it here for your industries, but we do not wish to ship our energy out of state." We've come to the point in time that neither of these approaches will serve the nation's interest.

(5) It is in the offshore areas where significantly large reserves of oil and gas are to be found in the United States. This can put the fishing industry and the oil industry on a collision course—or, it can make us co-users of the land and the sea for the good of all.

(6) Results to date and geologic evidence indicate substantial undiscovered petroleum potential in Florida—both onshore and offshore—and other states have undeveloped offshore petroleum potential. We believe the national interest—and the interests of these states—requires that these potential petroleum reserves be explored and, if found, developed.

(7) Our industry is well aware that we deal in a commodity that can pollute at any time if it is accidentally spilled by us, by a shipper, or by any user of petroleum products; and we cannot now or is it likely that we will ever be able to give a 100% guarantee that we will never have an oil spill; however, we do believe that we have a high level of the required technology to discover and develop these resources in a compatible manner that will properly protect the environment and be acceptable to other private interests and the public.

The real challenge, I believe, is to keep the lines of communications open for frank and honest discussion of mutual interests.

That's what I have tried to work toward today—and I would welcome further visits with you to provide additional details where that would be useful to you. And, we want to know more about the fishing industry so that we conduct our operations in harmony with yours.