

JULY 1999 NEWSLETTER

NUMBER OF OFFSHORE PLATFORMS TO DROP BY 28% BY THE YEAR 2023

The total number of oil and gas platforms located in the federal or Outer Continental Shelf (OCS) part of the U.S. Gulf of Mexico is predicted to begin a slow but steady decline over the first quarter of the next century according to a Center study.

A plateau of about 3,600 platforms reached during the 1990s will be a peak, according to the forecast, as well as the point of departure for the decline.

By the year 2023 the number of platforms in the Gulf is forecast to be roughly 2,600, a drop

of 1,000 platforms and about 28 percent below the current level.

The decline is the result of a forecasted increase in the annual number of platforms removed. The number of new platforms installed is predicted to increase, but only very slowly. This pattern is the reverse of the Gulf's history to date during which the number of platforms removed has usually been less than the number installed--producing a net increase in the number of platforms operating in the Gulf. Figure 1 shows the number of operating platforms on the federal OCS and the Center's forecast to the year 2023.

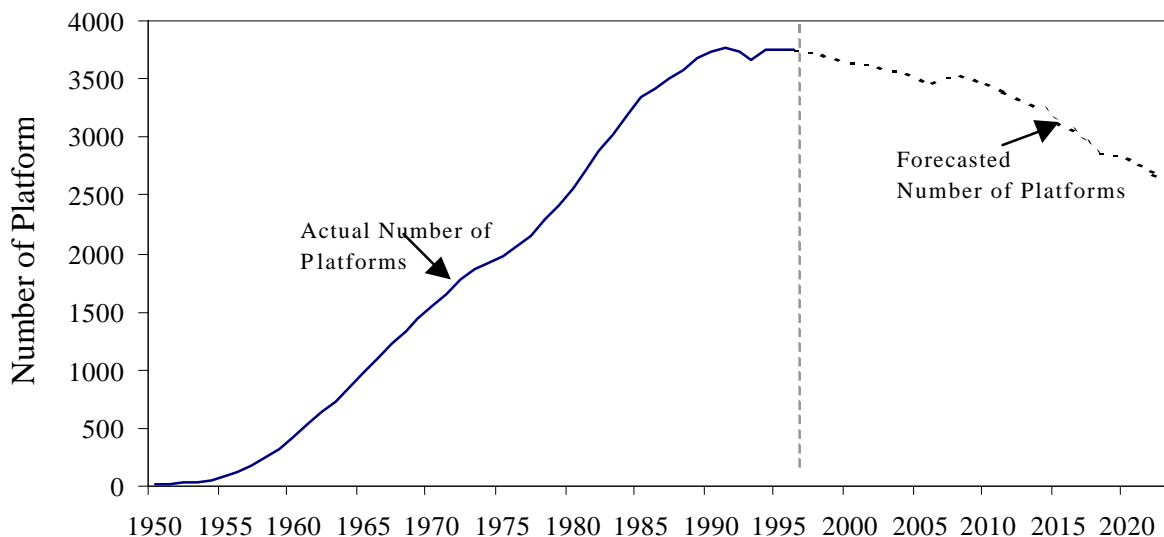


Figure 1: Actual and Forecasted Platforms Operating on the Gulf of Mexico OCS

Although the numerical forecast is based purely on econometric and statistical models, it is consistent with current industry opinion that as exploration and production moves into the deep (and deeper) Gulf, larger and more complex platforms will be installed which, when coupled with advanced seismic imaging and directional drilling, will allow a larger number of wells to be drilled from the same platform. On the other hand, these same factors also make more feasible the production of smaller fields in shallow and intermediate depth waters with smaller, simpler, and even re-cycled platforms. The net effect, however, will be negative according to the study.

Fewer platforms do not translate automatically into less oil and gas production. Although the Center's study did not include production forecasts, it is useful to note that from

1990 to 1997 the number of platforms on the federal offshore barely increased (by 1.8 percent). However, oil production increased by about 50 percent. Further, over the 1990-2000 decade (using the CES forecast value for 2000) we expect the number of platforms to have fallen by 4.6 percent. During the same period, according to the International Energy Agency's (IEA) forecast¹ platforms on the federal OCS will increase crude oil production by 156 percent. The figures for gas are not as surprising with output rising only about five percent over the 1990-1997 period.

¹International Energy Agency. *Global Offshore Oil Prospects to 2000*, 1996:88.

ECONOMIC CONSEQUENCES OF DEVELOPMENT OF THE DEEP OFFSHORE FOR THE GULF COAST'S ECONOMY

How will the exploration, development, and production of the oil and gas resources of the Deep Gulf influence economic activity of the adjoining coastal areas in Texas, Louisiana, Mississippi, and Alabama? The Minerals Management Service wants to know and has organized several studies to help them answer this question. The Center is participating in this effort with two funded projects directed by David Dismukes. Allan Pulsipher is a member of the advisory committee monitoring a third.

The first of the Center's projects examines specific economic impacts on coastal Louisiana that result from offshore oil and gas activities. The second examines broader methodological issues. A common methodology used to estimate economic impacts is Input-Output (IO) modeling. The problem with most IO analyses used for regional analysis is that the impact drivers (or multipliers) in the model are typically taken from national trends and then used to drive estimated regional economic impacts. One primary driver in these models is known as the production function (or

cost function) matrix. This matrix shows where an industry spends its input dollars, and in what proportions, to generate each dollar of output. The production function matrix can be thought of as a type of multiplier matrix since it estimates the allocation of each dollar of direct spending in any particular industry.

When used for regional economic analysis or forecasting, such an approach assumes that industries in any given area will use inputs in the same proportion as the national average. For oil and gas firms operating on the Gulf OCS, this assumes that input expenditures are made in the same proportion as the national oil and gas industry average--both onshore and offshore and lumping together such disparate regions as arctic Alaska and Oklahoma's stripper wells. CES will attempt to test, and if required, correct this assumption in a project with essentially three steps or phases. The first is to estimate average costs and cost distributions (ranges) associated with each phase of development and water depth

for oil and gas activities in the Gulf OCS. The second will be to estimate cost functions allocated to each industry sector for each phase of development, water depth, and major engineering/technology considerations combination.

The third is to allocate any industry-specific expenditures to relevant OCS onshore regions identified by MMS.

PTTC SEMINARS

The Central Gulf Region of the Petroleum Technology Transfer Council (CGR PTTC) has held several oil and gas producer workshops around Louisiana in the last six months. The CGR PTTC sponsored workshops were on *Electrical Power Cost Reduction Methods*, *Gas Optimization in Gas Well Completions*, and *Enhanced Production Methods*.

The workshops on *Electrical Power Cost Reduction Methods* were conducted in Shreveport and Lafayette, Louisiana. These workshops addressed issues relating to power consumption on the lease.

The *Gas Optimization in Gas Well Completions* workshops were held jointly with the local chapters of the Society of Petroleum Engineers. One session was in New Orleans and a second session was in Lafayette. A reservoir

simulation study was presented to illustrate how maximum recovery may be achieved from water drive gas wells.

The CGR PTTC held its second annual day-long workshop on *Enhanced Production Methods* for Louisiana oil and gas professionals on June 23rd in New Orleans. The seminar introduced Gulf Coast producers to new developments and technologies in production applications.

On July 20th the Westport Technology Center and CGR PTTC will cosponsor a workshop on *Coiled Tubing Operations and Safety Practices* at the Petroleum Club in Lafayette. For more information or to register call **Keith Long at 225-388-4538**.

NEW PROJECTS AND INITIATIVES

Distributed Energy Resources (DER)--Advances in engineering and materials have reduced the cost of small scale electricity generation systems sufficiently to make them competitive with traditional, large, centralized generation, when the costs of transmission and distribution are included in the comparison. Industrial facilities have self-generated electricity in Louisiana for decades. However, systems and technologies available today go well beyond this and are capable of complementing as well as avoiding centralized electricity generation.

The Center is exploring the feasibility of an initiative to create a pilot program to spread DER technologies to Louisiana's businesses, public institutions, and energy consumers through information, analysis, and evaluation. Faculty and

students from throughout the University would be involved—not just CES staff.

The impetus for the effort comes from two of the Center's more successful efforts—the Petroleum Technology Transfer Council (PTTC) and its Electricity Restructuring Seminars. The PTTC program has given CES experience and a track record in how such information and technology can be transferred to others. The Center's efforts to understand the implications of electricity restructuring for Louisianans has persuaded us that as the electricity industry becomes more competitive and market-driven, there will be more and better opportunities to enjoy economic as well as environmental benefits through the use of DER technologies and resources.

Promising DER opportunities exist on the consumption side in dispersed industries with significant energy demands such as oil/gas exploration and production and agriculture. There may also be opportunities on the supply side to encourage economic growth and diversification. Following the PTTC method, both Louisiana consumers and suppliers of DER technologies would be involved as decision-makers in the design, planning, and management of the program. The Center is scouting for both state and federal funds to provide a financial platform strong enough to get an effective program off the ground, but private sector support and advice is welcome.

Since many DER technologies are especially applicable in developing countries without an extensive transmission and distribution system, the program has the potential for strengthening LSU's international activities and research funding.

Mergers, acquisitions, changing terms of access, and the Minerals Management Service's lease sales in the Gulf of Mexico--Do recent mergers of major oil companies, most of who are very important participants in the exploration, development, and production of petroleum resources in the Gulf of Mexico, have implications for the MMS' lease sales of potential petroleum producing properties? Will competition for leases intensify, lessen, or be unaffected? Can useful quantitative measures of industry structure and

competitiveness be developed to chart changes in industry structure and market behavior in resource as well as product markets?

The Center offered to try to answer these questions for the Minerals Management Service. They responded affirmatively and financially, and the project will start at the end of the calendar year. The project is a part of the joint MMS/LSU Coastal Marine Institute program.

National Energy Policy--During the last big go around on national energy policy, then Louisiana's Senator Bennett Johnston gave an admirably succinct description of the United States' energy policy--"import oil," to which the implicit corollary might be added, "make sure the military is able to ensure that you can continue to do so."

The Energy Council, an organization of legislators from energy-producing states and countries, is going to reconsider and update their national energy policy beliefs, aspirations, principles, and recommendations which they formulated in the late 1980s. Energy Council Executive Director (and valued member of CES' Advisory Board), Lori Cameron, will direct the effort and the Center has agreed to provide technical support and analysis. Drafts of the update will be presented to Energy Council members in a series of meetings with the final report due in the Fall of the year 2000.

STAFF ACTIVITIES, ACCOMPLISHMENTS AND CHANGES

David Dismukes and Mike Maloney (economics, Clemson University) published a paper on non-utility generation and stranded costs in the widely read *Electricity Journal*. David also completed a paper on electric restructuring trends in the Deep South for this October's issue of the *Oil, Gas, and Energy Quarterly*, with Skip Hughes (accounting, LSU). David will be chairperson for a seminar on electric restructuring research at the Southern Economic Association meetings and has completed a chapter on electric

generation trends for publication in the *MacMillan Encyclopedia of Energy*. With Dmitry Mesyanzhinov and Rachele Cope (management, Southeastern Louisiana University) he recently completed "Asymmetrical Choice and Customer Benefits: Lessons from the Natural Gas Industry," which will be published in the proceedings of the International Association of Energy Economics. David served as a roundtable speaker at a conference on Electric Restructuring and the Environment sponsored by PUR

Reports. David also oversees three grants. The first is related to the implications of electric restructuring for energy conservation in Louisiana. The other two grants are related to the onshore economic implications of offshore oil and gas activities. Finally, David with Wumi Iledare, is starting a Louisiana chapter to the International Association of Energy Economics. If you are interested in joining, please call David at 388-4343.

Wumi Iledare published two articles recently. One in a leading trade journal is titled "Trends in U.S. Oil Exploration, Reserves Warn of Trouble" and published in *World Oil*, 220 (2):108-111. The other, in an academic journal, is "Productivity of Petroleum Exploration and Development in Onshore Louisiana," *Energy Economics* 21 (3): 261-271. Allan Pulsipher was co-author on both. Wumi will present his paper, "Forecasting Recoverable Oil Reserves and Oil Extraction Rate in Mature Petroleum Basins: a Case Study of the Niger Delta Basin in Nigeria," at the *1999 SPE Annual International Technical Conference & Exhibition*, Abuja, Nigeria, where he will also present a short seminar on issues and strategies of global oil production to engineers and managers at a one-day workshop organized by the Nigerian Council of the Society of Petroleum Engineers, Inc. In October, Wumi will present a paper titled, "The State of the Global E&P Industry: Is the World Running Out of Oil?" at the *1999 SPE Annual Technical Conference & Exhibition*, Houston, Texas, October 2-6, 1999, SPE Paper # 56456. Wumi serves on the program committee of the 20th Annual North American Conference of the USAEE/IAEE on "The Structure of the Energy Industry: the Only Constant is Change," Orlando, Florida, August 29-September 3, 1999. He is also organizing a session on Contemporary Issues on Offshore Oil and Gas Development on the Gulf of Mexico OCS at the Southern Economics Association Annual Conference, New Orleans, November 22-26, 1999.

Allan Pulsipher has been invited to participate in a Minerals Management Service strategic planning seminar on socioeconomic research to be convened in Park City Utah, in August. Along with Deborah Tootle of LSU's Sociology Department and Ric Pincomb of the Center, he completed the study on the *Social and Economic Consequences of the Oil Spill in Lake Barre*. The study was jointly funded by MMS and the

Louisiana Oil Spill Applied Research and Development Program and will be published by both organizations.

Dmitry Mesyanzhinov attended the 1999 Annual Meeting of the Association of American Geographers in Honolulu, HI, March 23-27, where he presented a paper entitled "Economic Impact of Offshore Oil and Gas Activities on Coastal Louisiana" that was co-authored with David Dismukes. He is also teaching a course on geographic information systems (GIS) for LSU's Geography and Anthropology Department.

Principal computer coddler, **Mike Surman**, returned full time to the Center's staff in June after spending four days a week during March, April, and May taking care of the Surman's new daughter, Victoria Marie. **Stacy Retherford** admirably defended the computer system from staff attacks when Mike was absent.

Serving in the Louisiana House of Representatives, quarter backing the "deep pool units" bill through the House, buying a new business, and the birth of a fifth child on the first of July, has proven too much for **William Daniel**. He has resigned his long-standing research position with the Center. However, he will remain a part of the Center as an LSU Energy Center Fellow. We expect to tap his oil and gas expertise even more frequently, now that it will be on a no-cost basis.

Bobby Cope, Assistant Professor at Southeastern Louisiana University, is working at the Center this summer developing modeling systems to use with the Greenhouse Gas Inventory being developed for the Louisiana Department of Natural Resources. Bobby previously worked at the Center while completing his Ph.D. in Information Systems and Decision Sciences.

Williams Olatubi has joined the Center's staff to work on modeling the economic consequences for the Gulf Coast economy of oil and gas developments in the "Deep Gulf." He was recently graduated from LSU with a Ph.D. in Agricultural Economics and a Master's degree in Environmental Planning and Management—degrees which he completed simultaneously.

Graduate Research Assistant **Amy Konopacky** is spending the summer with the U.S. Environmental Protection Administration in Washington D.C. She will be back in the fall.

After receiving her M.S. in Economics at the end of July, **Lucy Zhu** is leaving the Center to accompany her husband to Bradley University in Peoria, Illinois, where he will become a member of the Marketing Department. Lucy has been a real contributor to the Center's research program.

Also leaving the Center was **Doug Ranney**, who finished his MBA and accepted a position as an

auditor with Schering-Plough, a pharmaceutical company headquartered in New Jersey.

Vera Tabakova, a Ph.D. student in economics, joined the staff for the summer. She is working on the "Deep Gulf" projects.

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