

A bold, new educational concept to support an industry  
and serve a nation's needs, the University of Oklahoma launches

# The Energy Center

Dedicated to the New Frontier

By CAROL J. BURR

**W**hen its monumental new Energy Center is completed in 1985, the University of Oklahoma will have become the world center of education and research for the far-flung, many-faceted energy industry. The interdisciplinary concept of this \$65 million project is sound; the timing is perfect, and the location could not be more appropriate.

Within the approximately 300,000 square feet of the multi-storied Energy Center, the University will bring together the physical and human resources of the new College of Geosciences, comprised of geology and geophysics, meteorology and geography; the School of Petroleum Engineering; the Energy Resources Institute; the Oklahoma Geological Survey; a petroleum library, and a research computer facility.

Located just across the street will be the other six schools of the College of Engineering, all with ongoing energy-related training and research. Contributing to the strength of the Center's cooperative programs and benefiting from its endowments will be the petroleum land management program in the College of Business Administration, oil and gas law in the College of Law, and the basic sciences of chemistry, mathematics and physics.

Bringing all this expertise to bear on the present and future challenges of energy is so basic that it is amazing that such a Center has not already been established. With a comprehensive, integrated, centralized program, the new Center can plan and coordinate campus-wide teaching and research involved in the discovery, development, generation, transmission, investigation, utilization and conservation of energy and energy sources,

both from a scientific and from a commercial viewpoint.

Construction of the Center will cost \$45 million with \$30 million coming from the private sector and \$15 million from the state. An additional \$20 million is establishing private endowments to provide the margin of excellence in teaching and research.

The University already has received the largest private gift in the history of the state, \$30 million, for the Energy Center. The donors, Bill D. and Wylodean Saxon of Dallas, Texas, (story on Page 9) have designated one-half of their gift for the Center construction, to be matched by \$15 million each from other private donors and the state. The balance of the Saxon gift is for endowment, \$10 million for the Energy Center operation and \$5 million for chairs and professorships, also to be matched by \$5 million from other private sources.

Governor George Nigh immediately responded to the Saxon challenge in September by announcing that he will seek the state's \$15 million share from the 1981 surplus.

The matching private money is coming from the Energy Center Founders, chaired by Houston oilman Brian E. O'Brien. During the month of October, 62 Founders, each committing a minimum of \$100,000 and several pledging considerably more, added \$10,000,000 to the private drive. OU President William S. Banowsky expects the Founders roster to reach 100 by the end of the year.

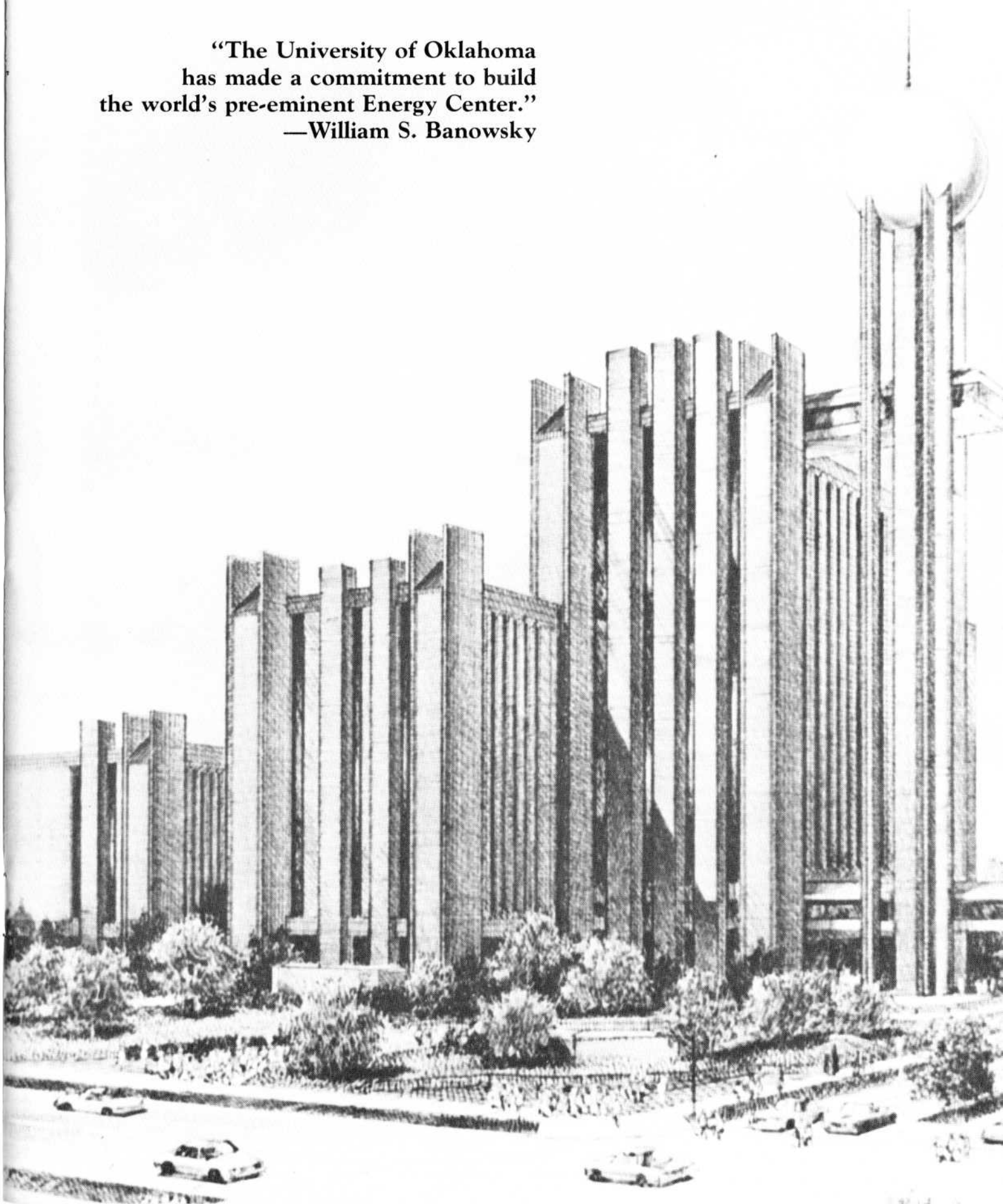
The Energy Center will be located on a seven-acre site east of the College of Engineering, bounded by Jenkins and Trout Avenues, Boyd Street and University Place. The location will enable the activities of the

Center itself to be in close proximity to the work of the College of Engineering. All the schools of the College of Engineering sponsor energy-related teaching and research projects. In fact, more than half of the University's energy research is conducted in engineering, involving more than half the engineering faculty. Also, the School of Petroleum Engineering, which will be housed in the Center, shares much of its curriculum with other engineering areas.

The design of the Energy Center will be reminiscent of the Gothic architecture of Bizzell Memorial Library and other campus structures, blending into the varied architectural landscape of the campus and providing a spectacular northeast gateway to the University. In addition to the Center proper, two separate facilities will be constructed on the south campus for the Oil Well Blowout Prevention School and the Geological Survey's Core Sample Library.

While the construction of the Center will provide the most visible evidence of the University's commitment to energy studies, the private endowment funds will make the difference between adequate and excellent for the Center's programs. The \$10 million Energy Center operation endowment will fund an academic scholarship program to put energy education within the reach of the best young minds in the country. Since research requires equipment, maintenance as well as purchase and installation, supplies, tools, chemicals, raw materials, the endowment will contribute to these needs as well as to provide grants for faculty and graduate researchers. Assistance also will be available for the Center's

**“The University of Oklahoma  
has made a commitment to build  
the world’s pre-eminent Energy Center.”  
—William S. Banowsky**



energy library — furnishings, equipment and materials.

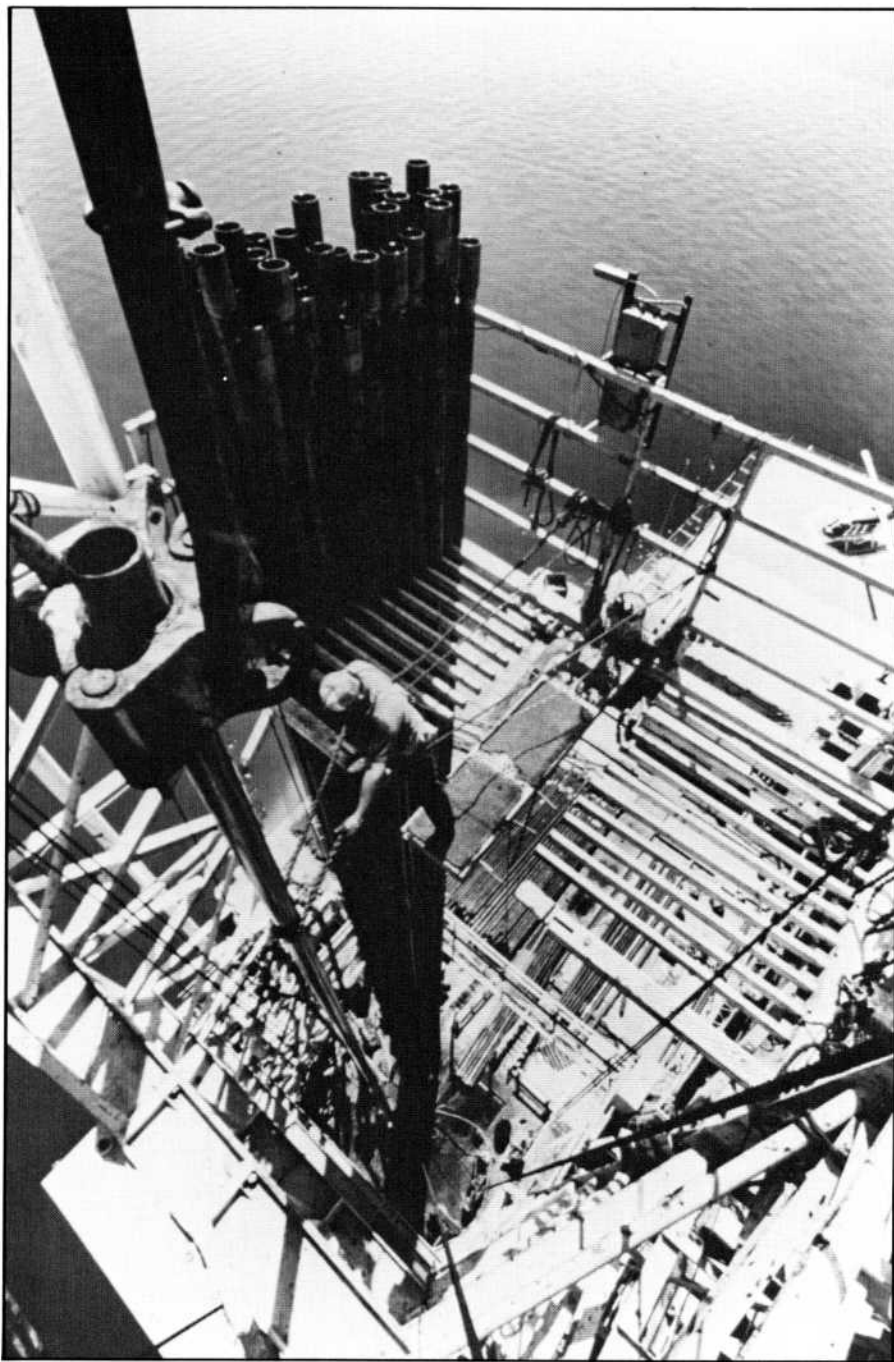
With the \$10 million teaching endowment, the University will establish 25 academic chairs and professorships and provide additional faculty salary supplements. (Chairs are supported by \$750,000 endowments each; professorships, \$300,000 each.) The areas to be benefited include geology, geophysics, geochemistry, meteorology, geography, petroleum engineering, geological engineering, civil engineering (hydrology), chemical engineering, mechanical engineering, industrial engineering, chemistry, mathematics, physics, petroleum land management, oil and gas law and energy economics.

That \$55 million in public and private support should be committed to the Energy Center in less than two months after the announcement of the project is sufficient testimony to the soundness of the idea and the need for such an effort. That it should happen in Oklahoma is not surprising.

With oil rigs once again dotting the Oklahoma landscape, bringing an unparalleled economic boom to the region, the reality of the energy crisis is not in question for Oklahomans. Oklahomans understand energy, and the University Oklahoma has been deeply involved in energy education from its earliest days.

The world's first school of petroleum geology was established at OU in 1900. The first state legislature created the Oklahoma Geological Survey in 1908 and linked it to the University. Over the succeeding years the University has produced more graduates in geology, geophysics and petroleum engineering than any other university. In the beginning they were the pioneers in the search for oil. Today they occupy leadership positions in the major oil companies and are among the nation's most dynamic independent operators.

When the petroleum industry declined in the 1950s and 1960s, and the state's economy hampered University development, OU lost its hold as the recognized leader in energy education. But the condition of the state and the University have been reversed in the 1980s, and the University has seized on energy as one area where international leadership is not only possible but inevitable.



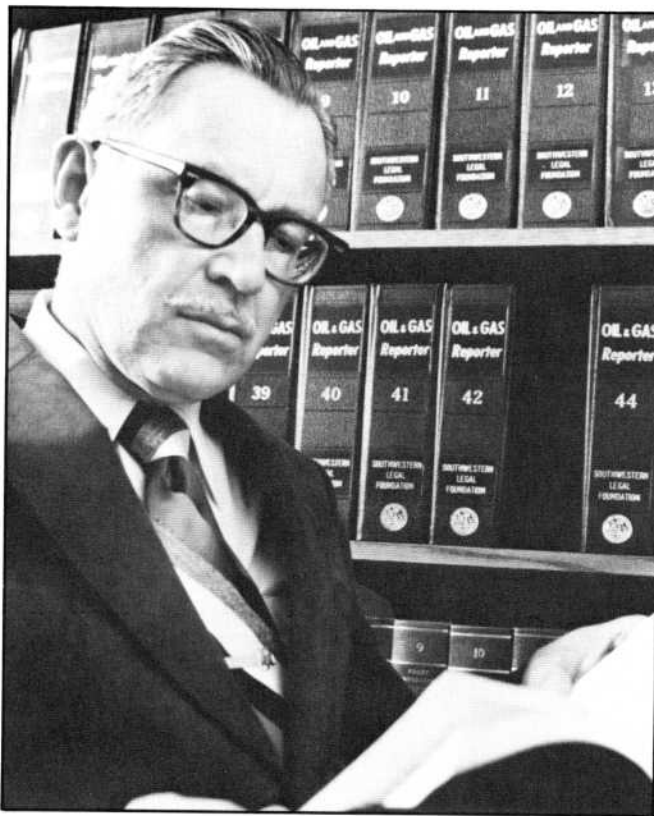
*The wealth of technological and scientific knowledge involved in off-shore drilling includes meteorology to determine the effects of severe weather and waves.*

The problems facing the energy industry today are the natural outgrowth of early success. OU taught Sooners how to find oil. Early graduates like Everett Lee DeGolyer and J. Clarence Karcher revolutionized the search with the application of geophysics and the development of reflection seismography. Now the easy oil is gone, and the modern oilman must penetrate farther and farther into the earth where friction, heat and pressure are necessitating a whole new technology.

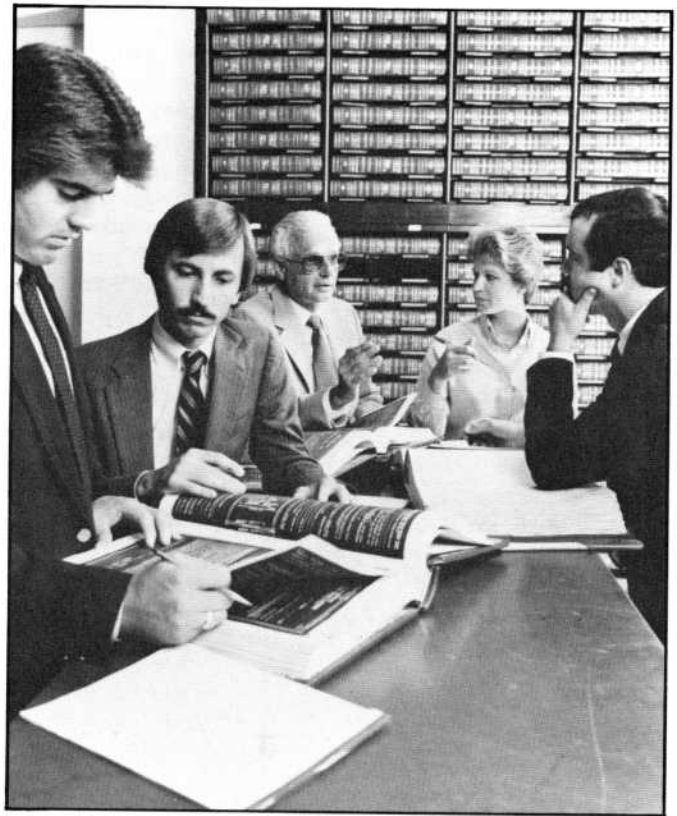
Devising such techniques will be the task of new energy prospectors and producers, many of whom are sitting today in OU classrooms and working in laboratories beside some of the pre-eminent experts in energy research.

Anchoring the new Energy Center will be the College of Geosciences, established this fall to bring together three of the University's strongest disciplines: the School of Geology and Geophysics, the Department of Geography and the School of Meteorology,





*Richard Hemingway is perpetuating the Kulp/Merrill/Kuntz tradition of OU's pre-eminence in oil and gas law.*



*The University's 600 petroleum land management majors are directed by Burt Scanlan in the nation's best program.*

all with international reputations in their respective fields. When the college is fully implemented, the 53-member faculty (27 in geology and geophysics, 15 in geography and 11 in meteorology) will be in charge of an initial enrollment of 1,000 undergraduates and 250 graduate students.

David W. Sterns is the interim dean of geosciences during a national search for a permanent dean. Sterns became the University's first Victor E. Monnett Professor of Energy Resources two years ago, leaving a prestigious post as head of the Texas A. & M. department of geology.

Teaching and research are nearly interchangeable in geology and geophysics, which has produced more working geologists than any other school in the nation. The faculty, under the leadership of John Wickham, is 100 per cent engaged directly or indirectly in research important to the exploration for and production of oil, gas and coal. New areas, such as hydrogeology, coal geology and mineral economics, are receiving added emphasis.

The formulation of the Energy Center funding concept was greatly influenced by alumni efforts several years ago to establish three distin-

guished endowed professorships in geology and geophysics — the Monnett Chair, the Joe and Robert Klabzuba Professorship and the Frank A. and Betty Schultz Professorship.

In meteorology the University of Oklahoma is building a reputation second to none, based on the strength of its already nationally prominent program, its unique Oklahoma weather as a natural laboratory and the added support which the Energy Center will lend to this area.

The National Severe Storms Laboratory, the Cooperative Institute for Mesoscale Meteorological Studies and the Oklahoma Climate Survey already are located on the campus in association with the Department of Meteorology. Dr. James F. Kimpel chairs the department, the only one in the six-state area of Louisiana, New Mexico, Arkansas, Kansas, Nebraska and Oklahoma.

Nearly \$1 million in federal research grants were received by the meteorology faculty in 1980-81. Meteorological research influences the energy industry in the determination of the effects of severe weather and waves on off-shore drilling operations, climatological information important to construction sites, pollu-

tion and energy conservation, alternative energy resources such as solar and wind power, and the large computer models which currently yield the nation's daily weather forecasts, storm warnings and long-range weather outlooks.

Nationally recognized as one of the nation's best in research, the OU Department of Geography, under its new umbrella of the Energy Center, will focus its considerable talents on projects related to energy and natural resources. The Landsat Training Program, for example, has become an important preliminary tool in oil and gas exploration by using satellite photographs to collect earth resources data. Neil Salisbury chairs the department.

Although remaining administratively a part of the College of Engineering, the School of Petroleum and Geological Engineering stands to gain enormously from its move into the Energy Center with the College of Geosciences. One of the top four in the nation in both undergraduate and graduate education, the school presently is bursting at the seams. Its more than 700 undergraduate and graduate students and prestigious faculty, directed by Roy Knapp, are



**The new Energy Center  
will focus the attention  
of the world on Oklahoma.  
—Gov. George Nigh**

housed in facilities allocated for the 1972 enrollment of 134 students.

The space vacated by the petroleum and geological engineers will be utilized fully by the other engineering schools which have been undergoing similar enrollment surges. All these schools serve and are served by the energy industry. Dean Martin Jischke estimates energy research in OU engineering at more than \$2.5 million. The energy industry funds two-thirds of all engineering scholarships and recruits graduates college-wide with particular attention to mechanical, chemical and electrical engineers.

Three of the most eminent experts on the engineering faculty are C. M. Sliepcevic, who began the liquified natural gas industry; Kenneth Starling, national authority in the thermodynamics of hydrocarbon liquids and gases, and Tom J. Love, pioneer in the field of geothermal energy.

The list of energy research ongoing in engineering is lengthy. Chemical engineers Starling and Lloyd Lee are studying thermodynamics and the

transport processes in dealing with liquified coal chemicals, essential elements in the quest for alternate energy programs. Petroleum engineers Donald Menzie and Roy Knapp are working with the microbiology faculty on the use of microorganisms to recover oil from so-called "exhausted" fields. Industrial engineer Richard Krenek deals with the safety of oil field drilling practices to increase productivity and reduce the injury rate, complicated now by burgeoning groups of new employees on the rigs.

In electrical engineering and computer science, John Fagan seeks to reduce the cost of constructing high voltage transmission towers by studying the effects of hurricane winds. In aerospace, mechanical and nuclear engineering, where students are trained on Oklahoma's only nuclear reactor, research is being conducted on analyzation of toxic materials present in coal and synthetic fuels.

Energy expertise is not confined to geology and engineering, however. Chemistry, for example, has a dozen major research projects under way, including John Burr's widely noted studies on coal characterization.

In the College of Business Administration, Burt Scanlan directs the studies of 600 prospective petroleum landmen in the nation's best petroleum land management program, the first ever accredited.

Three of the most distinguished names in the history of the OU College of Law have been authorities in oil and gas law. The late Eugene Kulp, and professors-emeritus Maurice Merrill and Eugene Kuntz now have been followed on the faculty by Richard Hemingway, who is continuing this tradition of pre-eminence in oil and gas law.

The Oil Well Blowout Prevention School is an arm of continuing education and petroleum and geological engineering, and was the second such program in the country. Thousands of oil company employees have been trained at this school in well control to avoid the disasters which annually cost money, time, resources and lives.

The two agencies which will move into the Energy Center with the College of Geosciences and the School of Petroleum and Geological Engineering already have creditable records of service to the energy industry — the Energy Resources Institute on the na-

tional and international level, and the Oklahoma Geological Survey on the state level.

In 1978 \$300,000 in seed money from private donors enabled the University to explore the possibility of establishing a major energy agency at OU. The establishment of the three-division Institute was aided by an additional \$350,000 from the state; its budget now is nearly \$4 million.

The Institute's Research Development Programs division has channeled nearly \$2 million in research funds to University faculty and is developing a foreign exchange program in energy teaching and research. The Information Systems Programs division (ISP) develops and markets energy-related information. Its petroleum data system, for instance, offers information on 80,000 fields and reservoirs in North America and Canada and soon will include the North Sea drilling area through a cooperative project with the British Ministry of Energy.

The third division is the Oklahoma Mining and Mineral Resources Research Institute, one of 31 being funded at American universities by the Department of the Interior to support energy-related research with special emphasis on coal characterization and utilization, heavy oil and tar sand deposits.

The Oklahoma Geological Survey, historically a vital source of state oil and natural gas resource information, is now extending its attention to coal, geothermal energy and geochemical research. The Survey also is investigating the earthquake and tectonic history of the state in relation to the design and sites of power plants.

The University of Oklahoma's energy emphasis initially will be on the fossil fuel industry; here is where the University's major expertise lies. For the foreseeable future, the energy needs of America will come from the earth in the form of oil and gas, and Sooner graduates will continue to lead the petroleum industry.

But eventually alternate sources of energy must be developed to ease the burden on oil and gas — wind, solar, hydro, geothermal, nuclear, or some source yet to be suggested. The search for the energy solution is this country's most exciting new frontier. The University of Oklahoma Energy Center is dedicated to producing the new pioneers. 