

Department of Energy Advance Methane Hydrates Science and Technology Projects

Dollars awarded will go to research the advance understanding of the nature and occurrence of Deepwater and Arctic gas hydrates, and their implications for future resources, geohazards, and the environment

Characterizing the Affect of Environmental Change on Gas-Hydrate-Bearing Deposits

The University of California at San Diego (San Diego, Calif.) — Researchers at the University of California at San Diego will design, build, and test an electromagnetic (EM) system designed for very shallow water use and will apply the system to determine the extent of offshore permafrost on the U.S. Beaufort inner shelf.

Energy Department Investment: \$507,000

Duration: 36 months

The University of Mississippi (Oxford, Miss.) — Using electronic measurements, the researchers will investigate variations in hydrate system dynamics beneath hydrate-bearing mounds on the continental slope of the northern Gulf of Mexico in response to changes in local environmental conditions.

Energy Department Investment: \$420,000

Duration: 12 months

University of New Hampshire (Durham, N.H.) — The University of New Hampshire will study the dynamic response of gas hydrate systems and their potential impact on sea-floor stability, ocean ecology, and global climate by reconstructing the paleo-positions of certain parameters related to the release of methane at three sites on the [Cascadia margin](#).

Energy Department Investment: \$118,000

Duration: 12 months

Oregon State University (Corvallis, Ore.) — Oregon State University will generate computer models that will enable researchers to interpret modern-day releases of methane into the atmosphere – or methane fluxes - and reconstruct past episodes of methane flux in gas hydrate-bearing regions from shallow geochemical data.

Energy Department Investment: \$89,000

Duration: 12 months

Southern Methodist University (Dallas, Texas) — Researchers at Southern Methodist University will conduct numerical modeling, field data collection, and extensive laboratory analyses to characterize the state of the upper boundary of pressures and temperatures where gas hydrates are in a stable form on the Alaskan Beaufort continental slope.

Energy Department Investment: \$1,118,000

Duration: 36 months

The University of Texas at Austin (Austin, Texas) — The project at the University of Texas at Austin will develop conceptual and numerical models to analyze conditions under which gas will be expelled from existing marine accumulations of gas hydrate into the ocean, which could potentially have a damaging effect to the ecosystem

Energy Department Investment: \$1,176,000

Duration: 36 months

Fundamental Properties of Gas Hydrate-bearing Sediments

Colorado School of Mines (Golden, Colo.) —The School of Mines will conduct a series of laboratory experiments to determine how methane hydrate can be detected using seismic methods with the goal of increasing the reliability and accuracy of seismic readings in methane hydrates.

Energy Department Investment: \$225,000

Duration: 12 months

Georgia Tech Research Corporation (Atlanta, Ga.) — The research to be conducted by Georgia Tech will advance the understanding of the behavior of gas hydrates hosted in fine-grained sediments such as clay or silt, and will evaluate extraction methods relevant to the potential to produce gas from such sediments.

Energy Department Investment: \$626,000

Duration: 36 months

Wayne State University (Detroit, Mich.) — Wayne State's proposed research will advance scientific understanding of parameters used to represent capillary pressure and relative permeability in the numerical simulation of hydrate dissociation and gas production.

Energy Department Investment: \$178,000

Duration: 24 months

Marine Gas Hydrate Characterization

Consortium for Ocean Leadership (Washington, D.C.) — The consortium will coordinate scientific input and develop plans for future marine hydrate expeditions to conduct research drilling, recovering samples of the formation, logging and analytical activities to assess the geologic occurrence, regional context, and characteristics of methane hydrate deposits along the continental margins of the United States, likely focusing on the Gulf of Mexico and the Atlantic margin.

Energy Department Investment: \$160,000

Duration: 12 months

Fugro GeoConsulting, Inc. (Houston, Texas) — Fugro GeoConsulting has been selected for two projects for a total of \$591,000 to develop plans for a pressure coring program at locations in the Walker Ridge 313 and Green Canyon 955 areas of the Gulf of Mexico and to develop analytical techniques that help better identify the existence of methane hydrate accumulations. The first project will focus on preparing detailed scientific and operational plans and recommendations for all aspects of a future offshore drilling, determining the hydrate deposit characteristics through electronic measurement, and recovering samples of hydrate under pressure so its characteristics may be more closely studied. The second project, which will receive \$147,000, will develop techniques to generate more robust and reliable information on methane hydrate accumulations, including analyzing seismic data to determine how they interact with free gas accumulations.

Energy Department Investment: \$591,000

Duration: 12 months

The Ohio State University (Columbus, Ohio) — Ohio State University will conduct research in collaboration with the Bureau of Ocean Energy Management to increase our understanding of the occurrence, volume and distribution of natural gas hydrates in the northern Gulf of Mexico using more than 1,700 petroleum industry well logs that penetrate the gas hydrate stability zone, or the offshore depths and locations where gas hydrates flourish.

Energy Department Investment: \$286,000

Duration: 36 months

Oklahoma State University (Stillwater, Okla.) — The research proposed by Oklahoma State will help to further develop an understanding of the structural and geologic controls on hydrate occurrence and distribution in Walker Ridge 313 and Green Canyon 955 using new techniques to interpret gas hydrate occurrences in existing seismic data, along with well data collected during prior Energy Department research efforts at those sites.

Energy Department Investment: \$96,000

Duration: 12 months