ESTIMATES OF UNDISCOVERED RECOVERABLE CONVENTIONAL OIL AND GAS RESOURCES OF THE UNITED STATES

RICHARD F. MAST U. S. GEOLOGICAL SURVEY, U. S. A.

In 1987, the U. S. Geological Survey and Minerals Management Service completed the assessment of the undiscovered conventional resources of crude oil and natural gas in the United States. The assessed resources were defined as (1) those considered recoverable under current technology, and (2) those that could be recovered economically under specified price-cost relationships. Not included in the study were resources from TAR deposits, heavy oil deposits, oil shales, gas in low-permeability 'tight' reservoirs, coal bed methane, gas in geopressured shales and brines, and gas in natural gas hydrates.

The assessments were based upon the analysis of oil and gas plays and prospects supported by studies and analysis of the petroleum geology, exploration history, finding-rates, and field size distributions. Probability procedures were used in their derivation.

The estimates of undiscovered recoverable conventional oil resources for the United States range from 33 to 70 billion barrels, with a mean estimate of 49 billion barrels and the estimates of undiscovered gas range from 307 to 507 trillion cubic feet, with a mean of 399 trillion cubic feet.

The undiscovered economically recoverable oil and gas resources for the United States are estimated to range from 21 to 54 billion barrels of oil and 208 to 326 trillion cubic feet of gas. The mean value for oil is 35 billion barrels and for gas 263 trillion cubic feet.