

Meeting the Energy Challenges

Energy is essential to life. Low cost and abundant supplies of energy contribute to a country's standard of living and economic well being. The history of energy use in any country is one of diversity and transformation. The progression in the United States has seen various energy sources replaced or supplemented by other more efficient energy sources over time. Muscle power, fuelwood, wind and waterpower were the primary sources in our independence year, 1776. Fuel shortages, economic forces and westward expansion encouraged and led to finding other sources of energy such as coals. Petroleum got its start as an illuminant and became a premier fuel with the advent of gas and diesel engines. Nationwide electrification created demand for coal and petroleum-fired generation.

Demand for natural gas increased as it replaced coal in household ranges and furnaces. Environmental issues surrounding power plants have put natural gas into a prominent role today. Most the energy in the United States today still comes from coal, natural gas, and crude oil (the fossil fuels). The demand for energy in the future coupled with environmental forces will continue the evolution in energy sources. Diversity and transformation will without a doubt continue.

Energy is consumed in four broad sectors: residential, commercial, industrial and transportation. Demand is increasing from all these sectors. Many energy sources, including petroleum, nuclear energy, coal, hydroelectricity and renewable supplies such as wind and solar energy will contribute to future supplies. The natural gas industry will likely meet a large part of this demand. A few of the challenges facing the industry include the following: surviving in an evolving and volatile marketplace,

sustaining science and technology progress, solving the "permission to do business" issues (e.g., surface land use conflicts, increasing legal and regulatory requirements, land access, etc.), environmentally responsible development, and human resource shortages. Meeting these challenges will require human ingenuity and cooperation amongst competing forces in a dynamic marketplace. ■

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Biographical Sketch

DR. STEPHEN A. SONNENBERG specializes in sequence stratigraphy, tectonic influence on sedimentation and petroleum geology. A native of Billings, Montana, Sonnenberg received BS and MS degrees in geology from Texas A&M University and a PhD degree in geology from the Colorado School of Mines. He has over 20 years'

experience and is the Exploitation Manager, Northern Division for Westport Resources in Denver, CO.

Steve is currently the President of AAPG and has served as president of several organizations including the Rocky Mountain Association of Geologists and Colorado Scientific Society. He also served on the Colorado Oil and Gas Conservation Commission from 1997 to 2003 and was the Chair of the Commission from 1999 to 2003.

He is the recipient of the Young Alumnus Award, Outstanding Alumnus Award and Mines Medal from the Colorado School of Mines; Distinguished Achievement Medal from Texas A&M University; distinguished service awards from AAPG and RMAG; and honorary membership awards from RMAG and the Colorado Scientific Society.