

## **The Role of Geoscience in Sustainable Energy Development – “Recycling” Petroleum Basins**

**Denise M. Cox**  
**Storm Energy, Ltd., President AAPG**

In petroleum systems, sustainability can be viewed in terms of a petroleum basin's diverse resource and potential to be productive indefinitely dependent on the geology and application of technology. Technical teams provide the best understanding of the subsurface to reduce project risk, optimize appraisal and development, and investigate re-development options to maximize recovery of reserves. An understanding of the subsurface in mature basins provides options for development to take advantage of existing infrastructure, access to sources of water, and locations for water disposal to minimize both the surface and carbon footprint of projects. New play concepts and redevelopment projects also positively impact the economy and social programs of local communities through employment, support of local businesses, and improvements to community infrastructure. By understanding the environmental, economic, and social contributions of petroleum projects along with the technical aspects of development we can better communicate the role the petroleum industry plays in sustainable energy development.