

Energy supply: Revisiting the Michigan Climate Action Plan

- **Nuclear power's role in addressing climate change**
[Skiles Boyd](#), Vice President, Environmental Management and Resources, DTE Energy
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Alex Morese, Electric Reliability, Michigan Public Service Commission
- **Geological carbon storage in saline reservoir formations in Michigan; Regional assessment, site characterization, and feasibility**
[Dr. Dave Barnes](#), Geosciences, Western Michigan University

Moderated by [Maya Fischhoff](#), Environmental Science and Policy Program, MSU

PRESENTATION ABSTRACTS

Nuclear power's role in addressing climate change

After energy efficiency, one of the most cost effective approaches to addressing climate change, identified by the Michigan Climate Action Plan, was nuclear power. It was probably evaluated more thoroughly than any other option. Yet, it was one of the few options approved by the Council that did not receive unanimous endorsement. If we want to truly address climate change and maintain and improve our standard of living, nuclear power will have to play a significant role. The new nuclear plant designs address most of the concerns expressed over nuclear generation in the past. The remaining issue to resolve is waste storage and reprocessing. Even this issue has reasonable temporary steps that can be taken. Nuclear power can and should help minimize customer costs to addressing the climate change issue.

Renewable Portfolio Standards

Abstract to come.

Geological carbon storage in saline reservoir formations in Michigan; Regional assessment, site characterization, and feasibility

David A. Barnes

Geological carbon sequestration or storage (GCS) potential in Michigan has been investigated in several studies in recent years. State-wide GCS potential, possibly in excess of 40 billion tons of CO₂ compared to annual stationary source emissions in Michigan of about 90-95 million tons/year, confidently documents the feasibility of industrial scale geological sequestration for many decades into the future. The greatest volume of GCS in Michigan is identified in deep (>1 km) saline (salinity >10,000 ppm TDS) reservoir formations including: porous and permeable Lower Paleozoic sandstone and Middle Paleozoic dolomite and sandstone formations overlain by impermeable (to supercritical CO₂) shale and evaporite confining layers. Additional investigations have been undertaken recently to refine and reduce uncertainty in regional CO₂ storage capacity estimates with the additional objective of establishing site specific feasibility and security of GCS for large, industrial point source emissions in Michigan.

PRESENTER BIOSKETCHES

Skiles Boyd

Skiles Boyd, 54, is vice president of environmental management and resources at DTE Energy (NYSE:DTE), a Detroit-based diversified energy company involved in the development and management of energy-related businesses and services nationwide. Boyd is responsible for managing the company's environmental issues which include setting environmental policy, representing the company on environmental issues with the public and in environmental regulatory and legislative development, coordinating environmental studies and conducting environmental audits. He manages a department of approximately 72 people. Boyd has worked in DTE's environmental department for over 30 years. Boyd earned a bachelor of science degree in environmental resource management from Pennsylvania State University and a master of business administration degree from Wayne State University.

Alex Morese

Alex is an economist in the Renewable Energy section of the Michigan Public Service Commission (MPSC). Alex helps review renewable energy plans filed by Michigan utilities and helps other stakeholder groups in their efforts to enter the renewable energy field. Alex concentrates on hydroelectricity and off-shore wind and is assigned to provide technical and policy assistance to the Michigan Renewable Energy Certification System (MIRECS). Alex previously worked in the Energy, Data and Security section of the Commission and was responsible for the modeling and resulting projections used in the Michigan Energy Appraisal. Alex was also responsible for the agency's website and served as the liaison to the State IT department. Alex has a Bachelor's in Economics and International Affairs from Florida State University.

Dave Barnes

David Barnes is a Professor of Geosciences and a principle research scientist at the Michigan Geological Repository for Research and Education (MGRRE), a research facility at Western Michigan University. Dr. Barnes is a graduate of the University of California at Santa Barbara, and joined the WMU faculty in 1986 after several years of employment in the petroleum industry. His main area of expertise is sedimentary geology with an emphasis on the subsurface geology of Michigan, an important petroleum province and potential site for the Geological Storage of Carbon Dioxide. Dr. Barnes is currently project manager for several DOE funded Michigan Basin Geological Carbon Sequestration studies.