



the **ENERGY** lab

## PROGRAM FACTS

Strategic Center for  
Natural Gas & Oil

# Natural Gas & Oil Systems Analysis Program

## Background

In support of its mission, to advance the efficient recovery of our nation's oil and natural gas resources in an environmentally safe manner, the Strategic Center for Natural Gas and Oil (SCNGO) carries out a variety of analyses. These generally fall into four categories:

1. **Technology Analysis** – Evaluation of the state of current technology, the potential benefits of technology advancements, and the research needed to overcome barriers to those advancements.
2. **Economic Analysis** – Estimation of the economic impacts of various oil or natural gas resource development scenarios, including the development of supporting resource assessments and production projections.
3. **Impact Analysis** – A detailed analysis of the impact of the government financial spending from the portfolio of natural gas and oil R&D projects managed under the SCNGO program.
4. **Topical Analysis Reports** – Comprehensive, researched reports focused on a specific oil and natural gas related topic, prepared as background for SCNGO research program planning or for the benefit of an NETL stakeholder.

Such studies are done to support NETL research program planning or in support of national energy policy analysis objectives. Systems analysis projects may be launched based on a need identified internally by NETL or SCNGO management, or may be the result of a request from the management of the DOE Office of Fossil Energy.

## Results

Examples of current and past studies include:

- Economic assessments of the impact of shale gas development in specific states or regional areas
- Technical and economic feasibility studies of the use of carbon dioxide as an alternative to water for large volume hydraulic fracturing of shale formations
- IMPLAN impact analysis of the SCNGO project portfolio
- Estimation of the macro-economic impacts of increased domestic exports of liquefied natural gas (LNG)

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## NATIONAL ENERGY TECHNOLOGY LABORATORY

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U.S. DEPARTMENT OF  
**ENERGY**

- Assessment of technology state-of-the-art for methane emissions detection, quantification and mitigation, as well as the potential research needed to accelerate development of associated technologies
- CO<sub>2</sub>-EOR pipeline infrastructure review
- Mid-term natural gas supply and demand projections
- Report to Congress on unconventional fossil energy resources and development technologies
- Unconventional fossil energy conversion assessment

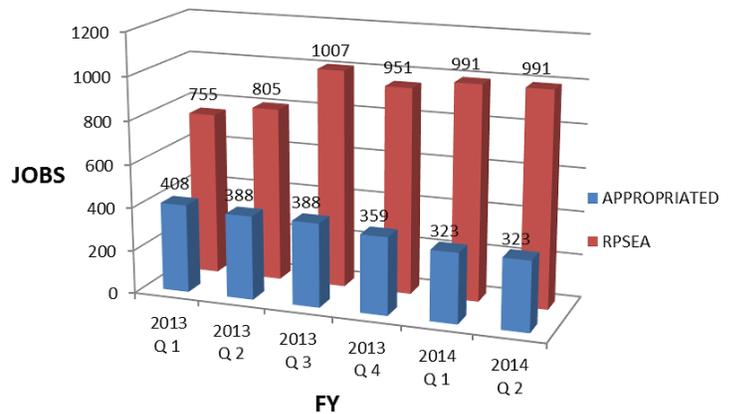
A number of tools and data sets are used to accomplish these analyses, including:

- IMPLAN economic models
- Commercial and proprietary economic models and data sets provided by contractors
- Oil and gas production models, including enhanced oil recovery models
- Commercial domestic well databases (Drilling info)
- DOE and NETL internal data sets, including those used to develop Energy Information Administration data products and analyses
- Commercial data sets and projections (IHS-CERA)

These analyses are often produced for internal purposes and are not published. In some cases the work products are considered to be of value to a larger audience and are published externally. Some examples of past products include:

- Domestic Unconventional Fossil Energy Resources Opportunities and Technology Applications Report to Congress – September 2011
- IMPLAN SCNGO Program Impact Analysis
- CO<sub>2</sub>-EOR Infrastructure Report
- IMPLAN Impact Analysis of CO<sub>2</sub>-EOR and Natural Gas Liquids Production

**JOB IMPACTS FROM SCNGO PROJECT\$**  
(ESTIMATED JOBS VS FY QUARTER)



**POWER PLANT PIPELINE BUILD-OUT BY 2040**

