IHS CERA: Shale Gas can be a “Game Changer” for North America’s Energy Future

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Provides potential for near-term CO2 cuts, but presents long-term challenges, study says

CAMBRIDGE, Mass.--(BUSINESS WIRE)--CAMBRIDGE, Mass.--(BUSINESS WIRE)--The “shale gale” sweeping across North America the past few years has more than doubled the size of the discovered natural gas resource in North America—enough to satisfy more than 100 years of consumption at current rates, according to a major new analysis of the leading unconventional gas plays in North America by IHS Cambridge Energy Research Associates (IHS CERA).

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The study, *Fueling North America’s Energy Future: The Unconventional Natural Gas Revolution and the Carbon Agenda*, says that the shale gale, the recent expansion of natural gas resources, provides the potential to transform North America’s energy landscape.

“This is simply the most significant energy innovation so far this century,” said IHS CERA Chairman and author of the Pulitzer Prize-winning, *The Prize* Daniel Yergin. “As recently as 2007 it was widely thought that natural gas was in tight supply and the U.S. was going to become a growing importer of gas. But this outlook has been turned on its head by the shale gale.”

*Fueling North America’s Energy Future* says that the emergence of shale gas has the potential to be a “game changer,” dramatically augmenting natural gas supply and opening new opportunities for competition among different energy sources.

Growth in power demand over the coming two decades will likely lead natural gas demand for power generation to nearly double by 2030 from its current level of 19 billion cubic feet per day. Substitution of coal-fired generation with natural gas-fired power generation will result in short term greenhouse gas emission (GHG) reductions (a natural gas-fired plant has half the carbon emissions of coal-fired plants), but there is a limited pool of “spare” gas-fired capacity which prevents wholesale fuel switching, the study says.

Simply replacing coal-fired generation with natural gas-fired units will not, however, allow the often discussed target of 80 percent reduction in GHG emissions by 2050 to be met. This will require the deployment of non-carbon emitting technologies including nuclear and renewable power as well as significant advances in carbon capture and storage (CCS).

*Fueling North America’s Energy Future* draws on six months of research and dialogue with many stakeholders, including U.S. and Canadian government and regulatory agencies, consumers, oil and gas companies, gas and electric utilities, environmental and other non-governmental organizations (NGOs), and financial institutions to uncover the key opportunities and challenges presented by the unconventional natural gas revolution. More than 100 stakeholder organizations participated in this study.

“The shale gale has shifted natural gas from a constrained resource to an abundant one with wide-ranging implications for the energy future in North America,” says IHS CERA Chief Energy Strategist David Hobbs. “This new abundance of natural gas provides a crucial additional ‘shock absorber’ for supplies, providing greater flexibility to react to disruptions and market imbalances.”

However, water—both its use in hydraulic fracturing and the disposal and treatment of produced water—has emerged as the top environmental issue, particularly as the center of gravity of development moves from the traditional oil and gas producing areas to the more densely populated U.S. Northeast. While additional federal regulation is now being debated, the study points out that oil and gas drilling operations are tightly regulated or managed by states.

The stringency of any future carbon reduction legislation and the viability of CCS technology, which has yet to be demonstrated at scale, are two major uncertainties facing natural gas’ future place in the generation fuel mix, the report concludes.

“The power industry has a multiple-decade planning horizon,” said IHS CERA Vice Present and Senior Advisor Lawrence Makovich. “Because the uncertainty of the stringency of climate changes policy and the viability and cost competitiveness of CCS, there is the possibility that new gas-fired power plants may not run for their intended life spans. For the industry the
most prudent way to protect itself against future uncertainty remains through a resilient, diversified portfolio."

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Language:
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Contact:
IHS
Jeff Marn, 202-463-8213
or
IHS Press Desk
+1 303-305-8021