
ECONOMIC & ECOLOGICAL IMPLICATIONS of HYDRAULIC FRACTURING

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ABSTRACT

The Energy Information Administration (EIA) reports that the United States has abundant shale gas deposits and estimates it to be more than 1,744 trillion cubic feet (tcf) of technically recoverable shale gas, including 211 tcf of proved reserves. Technically recoverable unconventional gas (shale gas, tight sands, and coalbed methane) accounts for 60% of the onshore recoverable resource. At the U.S. production rates for 2007, about 19.3 tcf, the current recoverable resource estimates provide enough natural gas to supply the U.S. for the next 90 years. Separate estimates of the shale gas resource extend this supply to 116 years. The EIA says that shale gas production has increased 17-fold since 2000 to reach nearly 30% of dry gas production in 2011 in the United States. IPCC (2001), Intergovernmental Panel on Climate Change, reported that most of global warming in recent decades could be attributed to human activities causing significant increases in the amount of greenhouse gasses' concentration in the atmosphere. IPCC also projected that the average global surface temperatures will continue to increase between 1.4 centigrade degrees and 5.8 centigrade degrees above 1990 levels, by the year 2100. Scott Kell, President of the Ground Water Protection Council (GWPC), said that "water and energy are two of the most basic needs of society. Our use of each vital resource is reliant on and affects the availability of the other. Water is needed to produce energy and energy is necessary to make water available for use. As our population grows, the demands for both resources will only increase."

Keywords: Hydraulic fracturing, shale gas, global warming, economic & environmental impact

JEL Classification Code: O13, Q30, Q34, Q40, Q43, Q50, Q54

INTRODUCTION

The development of shale gas in the United States in many ways is considered a unique transformation of the energy industry. Already billions have been spent to further expand development of these shale gas plays which strongly suggest generation of billions in local, state and federal tax revenue and creating thousands of new jobs that will help stimulate economic activity worth hundreds of billions of dollars. However, it is uncertain at this point how the development of this massive energy source is going to benefit consumers in terms of utility prices, but most experts anticipate that the impact on natural gas prices will be positive.

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