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# Environmental Reviews and Case Studies: Addressing the Societal Costs of Unconventional Oil and Gas Exploration and Production: A Framework for Evaluating Short-Term, Future, and Cumulative Risks and Uncertainties of Hydrofracking

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## Abstract

This article proposes a framework for addressing societal costs—psychological, social, community, and human health risks and uncertainties—associated with natural gas extraction and production from tight shale, tight sand, or coal-bed methane formations that use hydraulic fracturing processes. The US Environmental Protection Agency's 2011–14 study of hydraulic fracturing and the risks posed to drinking-water resources is used as a case study of how such a framework could be applied. This report also discusses some of the current regulatory and institutional barriers that make

incorporation of societal costs into science-based and proactive decisions regarding unconventional oil and gas exploration and production in the United States more difficult and recommends some general steps for getting past those barriers.

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