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Chapter 11

Conflict and Cooperation: Real Property Issues Arising from the Interplay of Production and Storage Interests in a Post-Shale World

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Synopsis

§ 11.01. Introduction.

Recent technological advances have unlocked massive amounts of shale gas for production. In response, the production of shale gas in the United States has skyrocketed. Some analysts predict that shale gas will fundamentally alter U.S. energy strategy, raising energy independence from the realm of the unthinkable in decades past to an actual, feasible possibility.[1] Meanwhile, weather phenomena like the now-famous 2013 "polar vortex" are stretching natural gas demand to record levels. With rapidly increasing production and demand, underground storage infrastructure is now one of the most important issues facing industry leaders. This chapter reviews the

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1 Edward L. Morse, "Why Shale Is the Next Shale," *Foreign Affairs* (June 2014), https://www.foreignaffairs.com/articles/2014-04-17/welcome-revolution.

basics of underground storage, discusses legal developments spurned by the recent growth in shale production, and analyzes common (and emerging) legal issues involving underground storage.

§ 11.02. Natural Gas Storage Basics.

[1] — History.

For nearly a century, the industry has been storing natural gas underground. The first natural gas storage facility was developed in 1916 in New York and located in the depleted Zoar production field south of Buffalo.[2] In 1930, gas storage facilities could be found in nine fields in six states. By the end of the 1930s, natural gas storage was a mainstream and integral part of the industry.

The core purpose of underground storage is to prepare for the seasonal fluctuations in natural gas demand. Surplus production is stored in a variety of underground facilities and structures so that it can be made available for supplemental distribution during severe cold weather.

Seasonal demand fluctuations can be quite severe. Recently, for example, repeated polar vortexes plunged massive volumes of frigid artic air southward deep into the United States. The air masses were unusual both in temperature and duration. Chicago hit a record low of minus sixteen degrees Fahrenheit.[3] Energy demand skyrocketed in affected areas. PJM Interconnection, the largest grid operator in the United States, set a new winter peak record during the polar vortex of 139,069 megawatts.[4] Weather phenomena like the 2013 polar vortex highlight the importance of underground storage. Ensuring the availability of adequate underground storage is critical to preparing for such events. Without adequate storage, providers will be severely compromised and unable to meet the needs of residential and commercial customers.

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2 Federal Energy Regulatory Commission, Natural Gas Storage – Background (2013), https://www.ferc.gov/industries/gas/indus-act/storage/background.asp.

3 Smith and Levs, *It's Too Darn Cold: Historic Freeze Brings Rare Danger Warning*, CNN (January 2014), http://www.cnn.com/2014/01/uswinter-weather.

4 Katherine Tweed, "Polar Vortex Drives Record Energy Use in PJM," Green Tech Media (January 2014), http://www.greentechmedia.com/articles/read/polar-vortex-drives-record-winter-energy-use-in-pjm.