

Preface

This book was designed to meet a need, nationwide, for information about unconventional hydrocarbon development that lawyers, public officials, planners, and citizens can use as a reference and starting point for further research.

It grew out of a number of conferences, beginning with *Proactive Approaches to Mitigating Impacts of Marcellus Shale Development*, at the Finger Lakes Institute, Hobart and William Smith Colleges, Geneva, New York, in July 2011, where speakers offered perspectives on the rapid development of unconventional shale gas around the United States, and particularly in areas in the Northeast where this technology had not previously been applied. This conference was followed by in-person and online presentations hosted by the ABA and the American Planning Association. The ABA's Section of State and Local Government Law presented two CLE sessions, *When Fracking Comes to a Community Near You: An Ounce of Land Use Planning Is Worth a Pound of Cure*, in New Orleans, Louisiana, in February 2012; and *Beyond the Fracking Wars*, in Dallas, Texas, in February 2013. Three ABA Sections—Energy, Environment, and Resources; Public Contract Law; and Public Utility, Communications, and Transportation Law—hosted a CLE webinar, *The Natural Gas Boom: What Lawyers Should Know*, in May 2012. And the APA presented three continuing education programs and webinars: *Marcellus Shale Development: Planning for Environmental, Community and Economic Impacts* in New York City in October 2012; *Planning for Shale Development: Booms, Busts and Beyond*, also in October 2012; and *Fracking and Resource Extraction and Community Planning*, in February 2013.

A significant number of our authors were panelists, and we solicited their views. We seek to expand on the perspectives offered in these presentations while focusing on issues of primary concern to state and municipal governments. With respect to terminology, the “fracking wars” of the title was chosen to address several angles of the controversy around unconventional hydrocarbon exploration and development. It represents the polarized debate that has developed

between those in favor of this development and those opposed to or highly skeptical of it—irrespective of whether or not high-volume, long-lateral slick water hydraulic fracturing (“frac . . . ing,” “fracing,” “fraccing” or “fracking”) or some other technique, such as acidizing, is the completion process of choice.

Within the oil and gas industry, “frac . . . ing” has long been used as shorthand for the actual completion process of fracturing a geological formation, most often using high volumes of water, mixed with silica and chemicals, and pumped at high pressure into perforated pipe run through the target rock layer; however, a number of other techniques may be employed depending on the type of formation in which the hydrocarbons are found. Hydraulic fracturing has long been used to enhance recovery of hydrocarbons in vertical wells, and has also been used to enhance production from water wells. In the case of oil and gas wells, technologies substituting liquefied propane, liquid nitrogen, or cold compressed natural gas (which is pressurized, but not cooled to the extent of liquefied natural gas) for water have recently been introduced.

Recently, in the media and among opponents of the technology as applied, “fracking” has become shorthand for the entire process of unconventional hydrocarbon exploration and development, from site selection to final capping of the well, which may cover a period of forty years, and may impact community dynamics, land use and traffic patterns, and air and water quality, among other things.

Throughout the book, as editors we have attempted to use the term “fracturing” to refer to the technical process, unless there is a direct quote; and to use the term “unconventional shale (and/or oil and/or hydrocarbon) development” to refer to the long-term life-cycle impacts of resource development, which give rise to the issues that are the main focus of this book.

These impacts—both positive and negative—have fueled debate in many states over the last decade. However, with the onset of large-scale development of the Marcellus Shale, many of them became the subject of a national discourse for the first time. Starting in 2009, when the New York Department of Environmental Conservation (DEC) first issued its draft Supplemental Generic Environmental Impact Statement (dSGEIS) for Oil, Gas, and Solution Mining, we found ourselves in the midst of a public discourse that could aptly be described as “fracking wars,” a polarized and often acrimonious debate where partisans appeared to choose their facts—totally “pro”

or totally “con”—and argue past one another in public, in private, in the media, in signs on front lawns and by the roadside, in legislative hearings, in supermarket parking lots, and frequently, unfortunately, *ad hominem*.

The reality is likely somewhere between two extremes: rosy visions of economic benefit and national energy independence without any health or environmental impacts on the one hand, versus the dark specter of total environmental and public health disasters on the other. As lawyers and professors, we were concerned. Many of our colleagues in the public sector, the nonprofit sector, the private bar, and the land use planning community were being asked to take positions on the issue of unconventional hydrocarbon development, primarily through hydraulic fracturing, and were grappling with conflicting sources of rapidly changing information.

While unconventional oil and gas development is an industrial activity with a potentially large footprint, and as such has the capacity to have significant environmental, health, and social consequences, the equation has more than one variable. The questions of “how,” “when,” “where,” “by whom,” “using what technology,” and “under what regulatory supervision and public scrutiny does this development take place” all have the power to influence the extent to which the positives of this development outweigh the negatives, or vice versa. The existence—or lack thereof—of sound scientific data and the ability of industry and regulators alike to incorporate scientific knowledge into their practices may also have profound consequences for the impact of shale gas and oil development on the economy, environment, and community character.

Beyond the Fracking Wars as a whole does not take a “pro-” or “anti-” position. It provides case studies pulled from various parts of the United States where unconventional oil and gas development is occurring. (As illustrated on the inside cover of this book, shale plays—productive or prospective—underlie large areas of the United States.) Additional case studies provide an international perspective on the impact this technology will likely have on relationships among nation states. *Beyond the Fracking Wars* offers a window into the basics of the technology, regulatory framework, and potential hurdles and pitfalls of unconventional oil and gas exploration and development that will be useful to a reader unfamiliar with the topic. It then discusses these topics in detail. Finally, the chapter endnotes enable a reader to pursue further information and education on any of the subjects

presented. Our goal is to create an accessible and credible reference useful to seasoned legal practitioners, land owners, public officials, land use planners, and concerned citizens—and even managers and engineers in the oil and gas industry.

Unconventional oil and gas exploration and development is here. Many, if not most, of the authors point out in great detail the potential drawbacks of being unprepared for these activities. But all of them offer extensive coverage of the approaches that state and local governments have used in various situations, often in collaboration with industry, to mitigate or avoid the negative aspects of rapid development of this resource. The case studies in this volume offer particularly important insights, given that the lion's share of regulation of impacts of oil and gas development is within the purview of state and local governments.

The book is organized into four parts. Part 1 provides a detailed yet accessible overview of the technology of shale oil and gas development over the life cycle of a well and the multifaceted structure of the industry engaged in this exploration and development in the United States, and its relationships with regulators, including a discussion of best practices.

Part 2 provides the legal foundations of the oil and gas lease and the impact of forced pooling statutes, the federal regime governing pipeline infrastructure, and local approaches to mitigate inevitable impacts on road infrastructure. In addition, this part provides coverage of the federal and state legal frameworks applicable to impacts that can be more readily classified as “environmental,” such as air pollution, water sourcing, and water pollution.

Part 3 offers a series of case studies, documenting real challenges faced by municipalities where unconventional shale gas development is occurring. The combination should provide the reader with a basic understanding of the regulatory backdrop and a view of how real people in real places have navigated the challenges that this type of intensive industrial development brings.

Part 4 focuses on some of the less frequently addressed issues in this debate: those of long-range planning, stakeholder participation, shareholder involvement, and the need for international standards. These chapters challenge the reader to think more broadly and deeply about the implications of the current legal relationships and common practices that govern the oil and gas industry.

Beyond the Fracking Wars is not exhaustive. In fact, due to the rapidly changing technology and regulatory environment, it is not possible to keep up with the current status of the many applicable statutes and regulations across the United States. Rather, our intention is for this book to serve as a useful resource on common issues associated with unconventional oil and gas exploration and development, and to open up progressive topics of discussion for all stakeholders dealing with the high level of uncertainty associated with the intensive development of this resource.