



# Shale Gas and Hydraulic Fracturing: CRS Experts

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The use of hydraulic fracturing—along with advanced drilling methods—has enabled the production of oil and gas from unconventional (low-permeability) reservoirs that were previously inaccessible. This technique is now used on more than 90% of new wells and has resulted in the marked expansion of estimated U.S. oil and natural gas reserves in recent years.<sup>1</sup> The rapidly expanding use of hydraulic fracturing has drawn congressional attention to a range of related issues including potential environmental impacts; state and federal regulatory requirements; implications for domestic oil and gas supplies and energy independence; pipeline capacity and development; and others. The following tables provide names and contact information for CRS experts on major issues associated with hydraulic fracturing and unconventional oil and gas resource development. (See also CRS Report R42667, *Oil, Natural Gas, and Coal: CRS Experts*, by Michael Ratner and Brent D. Yacobucci.)

Table I. Unconventional Oil and Gas Resources

Legislative Issues	Name/Title	Phone	E-mail
<b>Resource Assessment and Production</b>			
Shale gas and other unconventional natural gas resources	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov
	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov
Tight oil (shale oil and other unconventional oil resources)	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov
	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov
	<b>Carl E. Behrens</b> Specialist in Energy Policy	7-8303	cbehrens@crs.loc.gov
<b>Technical Issues</b>			
Geology (oil and gas formations, aquifers)	<b>Peter Folger</b> Specialist in Energy and Natural Resources Policy	7-1517	pfolger@crs.loc.gov
Hydraulic fracturing/well stimulation processes	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov
	<b>Peter Folger</b> Specialist in Energy and Natural Resources Policy	7-1517	pfolger@crs.loc.gov
Natural gas flaring	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov
Oil and gas drilling and production processes	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov

<sup>1</sup> Hydraulic fracturing is done after a well is drilled and involves injecting large volumes of water, sand (or other propping agent), and specialized chemicals under enough pressure to fracture the formations holding the oil or gas. The sand or other proppant holds the fractures open to allow the oil or gas to flow freely out of the formation and into a production well. See CRS Report R42333, *Marcellus Shale Gas: Development Potential and Water Management Issues and Laws*, by Mary Tiemann et al., and CRS Report R42032, *The Bakken Formation: Leading Unconventional Oil Development*, by Michael Ratner et al.

<b>Legislative Issues</b>	<b>Name/Title</b>	<b>Phone</b>	<b>E-mail</b>
	<b>Peter Folger</b> Specialist in Energy and Natural Resources Policy	7-1517	pfolger@crs.loc.gov
Pipelines and distribution	<b>Paul Parfomak</b> Specialist in Energy and Infrastructure Policy	7-0030	pparfomak@crs.loc.gov
Induced seismicity (earthquakes)	<b>Peter Folger</b> Specialist in Energy and Natural Resources Policy	7-1517	pfolger@crs.loc.gov
Well construction and operation	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov
	<b>Peter Folger</b> Specialist in Energy and Natural Resources Policy	7-1517	pfolger@crs.loc.gov
<b>Markets and Utilization</b>			
Consumption	<b>Robert Pirog</b> Specialist in Energy Economics	7-6847	rpirog@crs.loc.gov
	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov
Imports, Exports, and Trade	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov
International Issues	<b>Michael Ratner</b> Specialist in Energy Policy	7-9529	mratner@crs.loc.gov

**Source:** Prepared by Congressional Research Service.

**Table 2. Environmental Management and Regulation**

<b>Legislative Issues</b>	<b>Name/Title</b>	<b>Phone</b>	<b>E-mail</b>
<b>Air Quality</b>			
Clean Air Act (CAA): green completions, fugitive emissions, life cycle analysis	<b>Rick Lattanzio</b> Analyst in Environmental Policy	7-1754	rlattanzio@crs.loc.gov
	<b>Jim McCarthy</b> Specialist in Environmental Policy	7-7225	jmccarthy@lawdmc.com
<b>Chemical Disclosure (Hydraulic Fracturing Fluids)</b>			
Federal requirements	<b>Mary Tiemann</b> Specialist in Environmental Policy	7-5937	mtiemann@crs.loc.gov
Legal aspects, state laws	<b>Brandan Murrill</b> Legislative Attorney	7-8440	bmurrill@crs.loc.gov
Chemicals/toxicity	<b>Linda Schierow</b> Specialist in Environmental Policy	7-7279	lschierow@crs.loc.gov
<b>Regulation of Hydraulic Fracturing on Federal Lands</b>			
Bureau of Land Management (BLM) well construction requirements and proposals	<b>Anthony Andrews</b> Specialist in Energy and Defense Policy	7-6843	aandrews@crs.loc.gov

<b>Legislative Issues</b>	<b>Name/Title</b>	<b>Phone</b>	<b>E-mail</b>
BLM chemical disclosure proposals	<b>Brandon Murrill</b> Legislative Attorney	7-8440	bmurrill@crs.loc.gov
BLM water management proposals	<b>Mary Tiemann</b> Specialist in Environmental Policy	7-5937	mtiemann@crs.loc.gov
Oil and gas leases (general)	<b>Marc Humphries</b> Specialist in Energy Policy	7-7264	mhumphries@crs.loc.gov
Oil and gas leasing (legal aspects)	<b>Adam Vann</b> Legislative Attorney	7-6978	avann@crs.loc.gov
National Environmental Policy Act (NEPA)	<b>Linda Luther</b> Analyst in Environmental Policy	7-6852	lluther@crs.loc.gov
National Environmental Policy Act (NEPA) (legal aspects)	<b>Kristina Alexander</b> Legislative Attorney	7-8597	kalexander@crs.loc.gov
<b>Water Quality and Wastewater Management</b>			
Clean Water Act (CWA), surface water discharges, flowback and produced water treatment	<b>Claudia Copeland</b> Specialist in Resources and Environmental Policy	7-7227	ccopeland@crs.loc.gov
Safe Drinking Water Act (SDWA), protection of drinking water and ground water	<b>Mary Tiemann</b> Specialist in Environmental Policy	7-5937	mtiemann@crs.loc.gov
Underground Injection Control (UIC) program: wastewater disposal by injection wells, use of diesel fuels in fracturing fluid	<b>Mary Tiemann</b> Specialist in Environmental Policy	7-5937	mtiemann@crs.loc.gov
Legal aspects	<b>Robert Meltz</b> Legislative Attorney	7-7891	rmeltz@crs.loc.gov
<b>Water Resources</b>			
Water requirements	<b>Nicole Carter</b> Specialist in Natural Resources Policy	7-0854	ncarter@crs.loc.gov
Wastewater recycling (flowback and produced water)	<b>Nicole Carter</b> Specialist in Natural Resources Policy	7-0854	ncarter@crs.loc.gov
Water rights and allocation, water law	<b>Cynthia Brougher</b> Legislative Attorney	7-9121	cbrougher@crs.loc.gov
Interstate water compacts	<b>Cynthia Brougher</b> Legislative Attorney	7-9121	cbrougher@crs.loc.gov
<b>Hazardous Substance Releases</b>			
“Superfund” (Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA), release investigation and response	<b>David Bearden</b> Specialist in Environmental Policy	7-2390	dbearden@crs.loc.gov

**Source:** Prepared by Congressional Research Service.

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