

Are States Effective Regulating Oil and Gas Production Operations?*

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Abstract

Domestic oil and gas production in the United States has changed dramatically over the past decade and brought the U.S. back to being a global leader in crude oil and natural gas production. These changes have brought untold benefits to our economy, national security, energy security, and our standard of living. They have also brought a number of issues into the marketplace, which have stimulated much needed debate on matters of how oil and gas production should be conducted.

The debates have provided platforms from which a broad spectrum of interest groups may use to promote varied positions relating to, but not necessarily limited to: national energy policy; domestic oil and gas production on public lands; oil and gas production on private lands; zoning, land use, and the role of local government bodies; safety of the transportation of crude oil; gathering and transportation pipeline infrastructure; impacts on water supply; effects on surface and ground water quantity and quality; local community infrastructure impacts; importing and exporting of oil and natural gas; and even the potential for some oil and gas activities to cause earthquakes.

The debates surrounding expanded oil and gas production have stimulated federal, state, and local government bodies to enact new requirements intended to better manage some of the perceived impacts. Significant questions have arisen as to which level of government is the most appropriate to regulate oil and gas development such as:

- The proper role of local governments;
- The proper role of the federal government; and
- The proper role of state governments.

This presentation will briefly discuss those areas traditionally viewed as being within the authority of local governments and the traditional role of the federal government on matters relating to oil and gas drilling and production. The presenter's primary focus will be on the historic role of state oil and gas conservation agencies and how they are responding to the many issues associated with contemporary oil and gas development in view of the broader national debates. The presenter will also discuss current changes, which Indiana is proposing to its regulation of oil and gas production operations.

Are States Effectively Regulating Oil and Gas Production Operations?

They have been for a long time.

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Indiana Division of Oil and Gas

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Indianapolis, Indiana

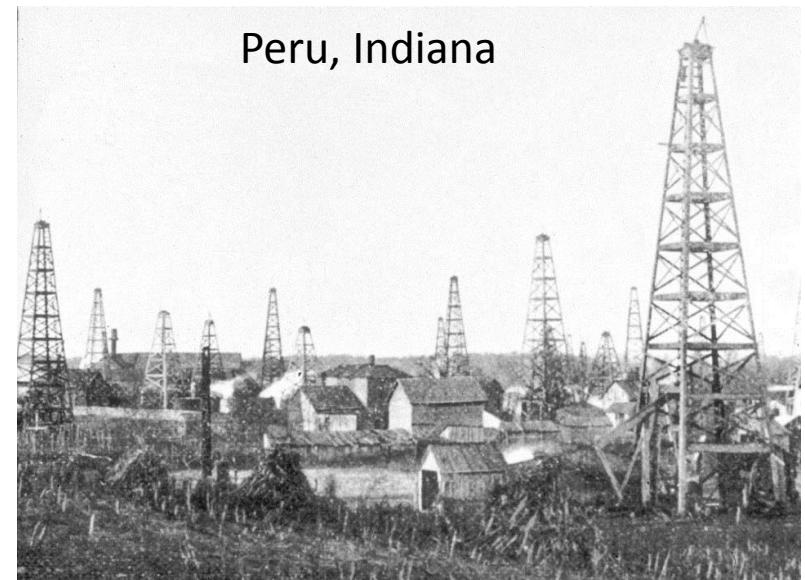
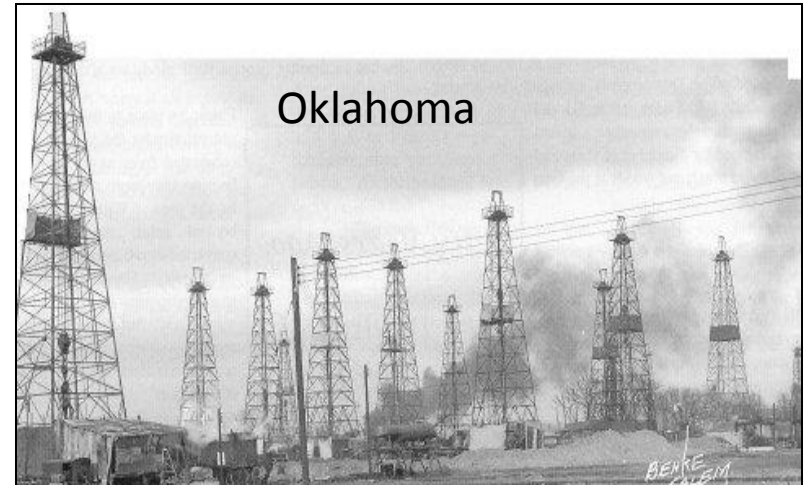
- Early development of oil and gas conservation law
 - Wasteful practices
 - Indiana case history
 - Conflicts over ownership of the oil and gas and state's rights to regulate its development
- States began implementing laws to protect the environment and prevent wasteful practices
- New challenges in the marketplace
- Importance of working together and sharing information and best practices

Presentation Outline

Wasteful practices

- Drilling wells to close to each other
- Overproduction of wells and premature depletion of reservoir pressures
- Failure to properly plug and abandoned wells
- Spills and discharges to surface and into waterways
- Failure to control wells
- Improper well construction
- Extravagant use of natural gas

Growing need for tighter regulations by States.



Wasteful Practices, cont'd



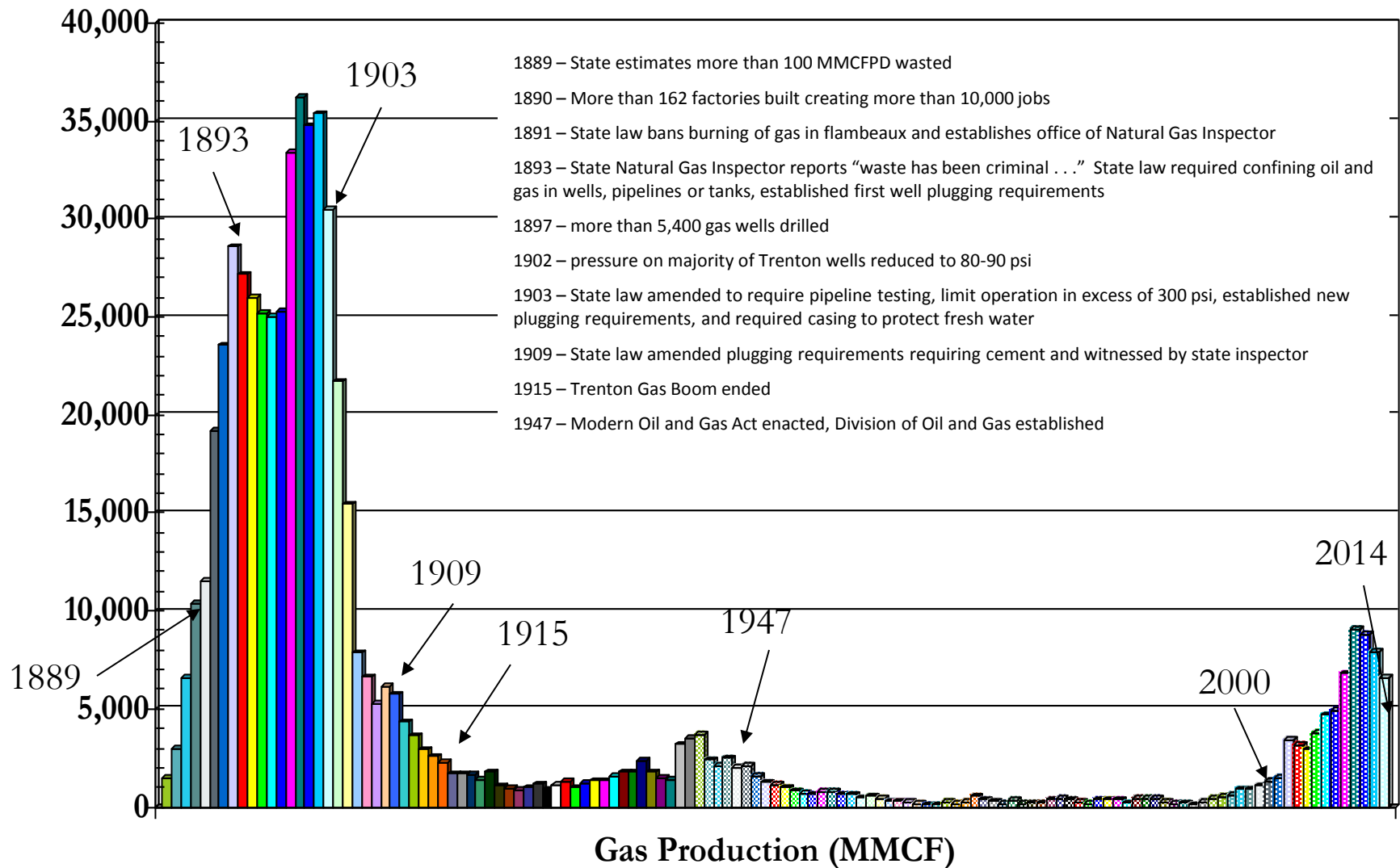
Early Indiana oil and gas development and regulation

- 1859 -Drake Well is drilled in Pennsylvania.
- (West Virginia argues that oil from wells in that state was already being used as a light source and lubricant in 1820's.)
- 1867 – First natural gas well near Francesville (Pulaski County).
- 1886 – First commercial gas well near Eaton (Delaware County) - beginning of Trenton Gas Boom.
- 1887 – Oil discovered while drilling for gas in Jay County.
- 1889 – First commercial oil production well drilled by Northern Indiana Oil Company near Keystone (Wells County).
- 1889 - State Geologist S.S. Gorby reported than an average of 100 million cubic feet of gas was wasted each day through uncapped wells and burning flambeaux.
- 1890 – More than 162 factories built creating over 10,000 jobs.
- 1891 – State law bans the burning of gas in flambeaux and creates office of Natural Gas Inspector.
- 1893 – State Natural Gas Inspector reports “the waste has been criminal and the day of repentance is fast approaching”. State law enacted requirements for confining oil and gas into wells, pipelines and tanks, and established requirements for well plugging.
- By 1897 more than 5,400 gas wells had been drilled.

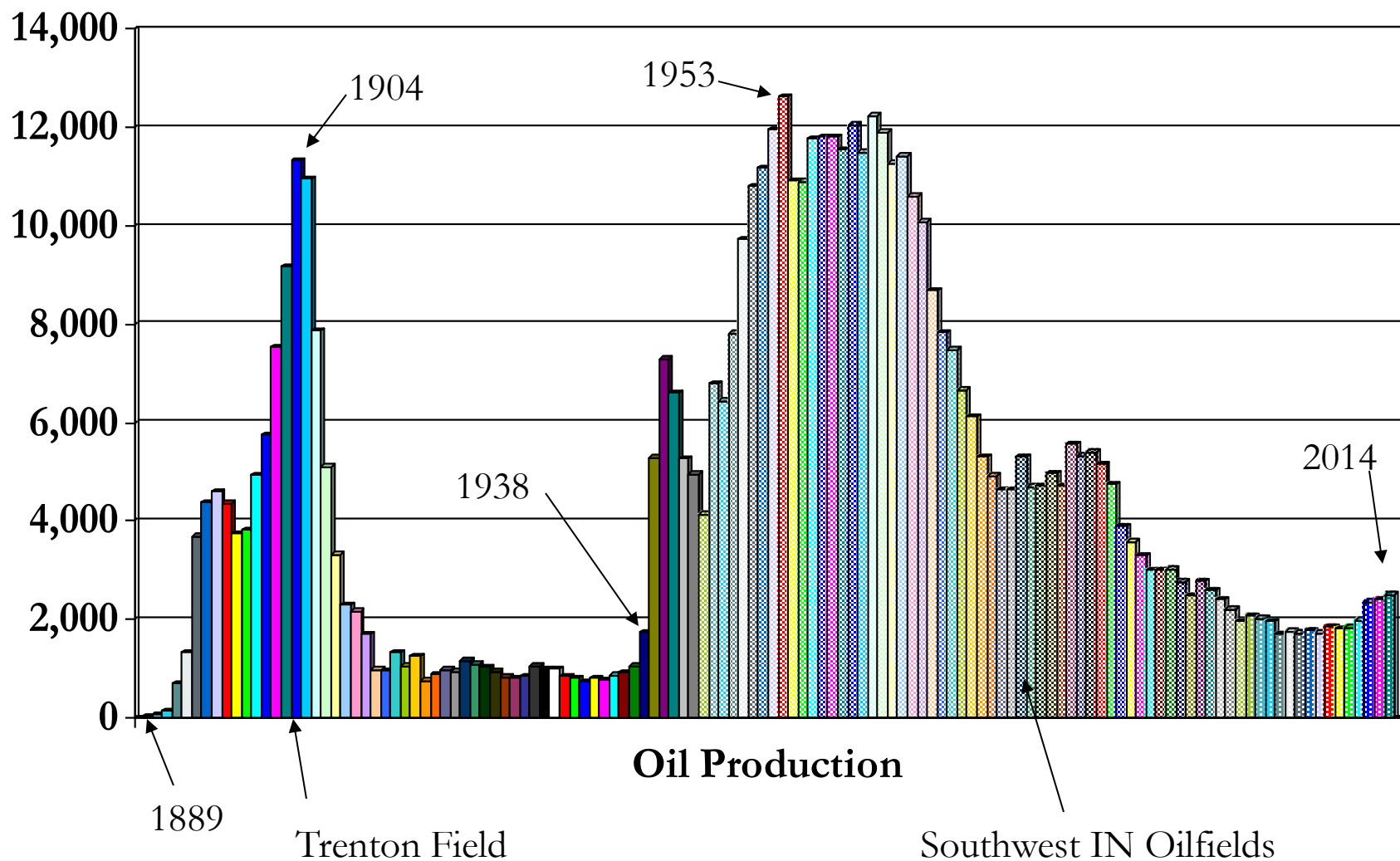
Early Indiana oil and gas development and regulation, cont'd

- 1902 – Pressure on the majority of Trenton gas wells had reduced to 80-90 psi.
- 1903 – State law was amended to require pipeline testing and limit operation of wells in excess of 300 psi, established new plugging requirements, and required use of casing to protect fresh groundwater.
- 1904 – Trenton Field oil production peaked.
- 1909 – State law amended requiring use of Portland Cement to plug wells instead of cast iron and wooden plugs, required that plugging operations be witnessed by State Inspector, established penalties for failure to comply.
- 1913 – Indiana was importing gas from West Virginia to meet demand.
- 1915 – Trenton Gas Boom ended.
- 1919 – Department of Conservation created. Natural Gas Supervisor duties were transferred to the new Division of Geology.
- 1938 – Griffin discovery well drilled (Posey County).
- 1941 – 120 wells were producing oil in Griffin area.
- 1947 – Modern Oil and Gas Act adopted, the Division of Oil and Gas was established within the Department of Natural Resources and Indiana joined the Interstate Oil Compact Commission, Petroleum Severance Tax established.
- 1950 – Widespread use of waterflooding begins in Illinois Basin fields.

Indiana Natural Gas Production (1,000 mcf)



Historic Indiana Crude Oil Production (1,000 bbls)



State's rights to regulate oil and gas production

Indiana cases

- The judicial history of oil and gas conservation in Indiana began and ended within three years – 1897 to 1900. . . first real controversy between the policy of conservation and the policy of production began through attempts to enforce Indiana Conservation statutes . . .
 - The opponents of conservation claimed legal privileges to produce oil and gas from their lands, limited only by duties not to commit surface nuisances. In other words, they relied upon the so-call law of capture.
 - The proponents of conservation insisted that such legal privileges to produce were further limited by duties to the public not to waste these natural resources.
- The statutes were attacked as unconstitutional on many grounds, principally that their enforcement resulted in the taking of private property without due process or just compensation.
 - In *Townsend vs. State*, a statute forbidding the burning of gas in flambeau lights was held constitutional as a proper exercise of the police power of the state to prevent injury to the public through waste.
 - In *State vs. Ohio Oil Company*, a statute for the prevention of waste through the escape of gas from an oil well was also held constitutional . . . Appealed to the US Supreme Court as *Ohio Oil Company v. Indiana* 1889. Chief Justice White . . .all land owners in a common source of supply of oil and gas are equally privileged to take oil and gas, but that an unlimited exercise of such privileges by one '*may result in an undue proportion being attributed to one of the possessors of the right, to the detriment of others, or by waste by one or more, to the annihilation of the rights of the remainder.*'
- Later, in the case of *Manufacturers' Gas and Oil Company v. Indiana Gas and Oil Company*, the Indiana Supreme Court adopted the theory of protection of correlative rights in a common source of supply as a basis for the exercise of the state's police power and cited the United States Supreme Court as authority for its decision.

- In 1935, States began joining together to form the Interstate Compact to Conserve Oil and Gas Compact, known now as the Interstate Oil and Gas Compact Commission. This compact was ratified by member states and granted a charter by consent of the U.S. Congress. Article II of the IOGCC charter states that the purpose of the IOGCC is to “conserve oil and gas by the prevention of physical waste thereof from any cause”. Article III states that “each state bound hereby agrees that within a reasonable time it will enact laws, or if the laws have been enacted, then it agrees to continue the same in force, to accomplish within reasonable limits the prevention of ”

<http://www.iogcc.publishpath.com/charter>

- By the end of the 1940’s most states, including Indiana, had adopted comprehensive legislation governing oil and gas development incorporating important principles of oil and gas conservation.
 - State Oil and Gas Conservation Commission
 - Oil and Gas Board
 - Department of Natural Resources
 - Department of Geology
 - Railroad Commission
 - Corporation Commission
 - Industrial Commission
 - Department of Environmental Management
 - Department of Environmental Quality
 - Department of Oil, Gas, and Mining

Primary Tenents of Oil and Gas Conservation

- Develop the resource in the most efficient and economical manner
- Well Density
- Proximity of Wells to Adjacent Properties
- Assigning acreage to a well
- Equitable sharing of oil and gas
- Ability to pool or communitize acreage (voluntarily and involuntarily)
- Protection of the resource from wasteful or harmful practices
- Prevention of adverse environmental impacts

New challenges in the marketplace

A. *Those clearly in play and directly connected to oil and gas production operations:*

- Proliferation of shale play developments
 - Horizontal well drilling
 - High volume hydraulic fracturing
- Water availability impacts
- Treatment and disposal of Increased volumes of well stimulation flowback fluids
- Disclosure of chemical additives in hydraulic fracture treatments
- Alleged contamination of surface water and ground water (Gasland, etc.)
- Allegations of induced seismicity resulting from hydraulic fracturing
- Substantial increases in produced water necessitating the use of more underground injection wells for disposal.
- Increased instances of induced seismicity associated with underground disposal wells

▪ *B. Those clearly in play, however but are not necessarily connected to production operations or traditional oil and gas conservation principles:*

- State moratoriums on shale gas development
- County and municipal ordinances and moratoriums
- Pipeline and rail transportation safety concerns
- Proliferation of natural gas pipeline construction
- Impacts on public roads, other infrastructure, education, etc.
- Crude oil export ban
- Exporting of compressed natural gas
- Increased methane emissions and concerns over climate change
- Health affects of XXX?

Important considerations:

- One-size-fits-all approaches are not appropriate – solutions can and should, where appropriate, vary by state and region.
- While frequently overlooked, proper care must be taken to ensure that private property rights are not unreasonably infringed. Laws governing ownership, possession, and use of real property are almost exclusively granted to the states.
- Solutions should be based on sound, scientific study. Data sharing and collaboration are vital to effective solutions.

Collaboration among state stakeholders and sharing information

- Interstate Oil and Gas Compact (IOGCC)
- Groundwater Protection Council (GWPC)
- FracFocus
- States First, An Initiative of the IOGCC and GWPC: Collaboration, Regulatory Leadership, Solutions
 - States are best suited as primary regulators of oil and gas production
 - State oil and gas inspector training and certification program
 - UIC Program peer reviews
 - Technology development and sharing of innovative solutions
 - State regulatory exchange and emerging regulatory challenges
 - Induced Seismicity Work Group

For More Information

- Indiana Division of Oil and Gas:
<http://www.in.gov/dnr/dnroil/>
- Interstate Oil and Gas Compact Commission:
<http://iogcc.ok.gov/>
- Groundwater Protection Council (GWPC):
<http://www.gwpc.org/>
- Fracfocus (GWPC/IOGCC) HF Chemical Registry Database:
<http://fracfocus.org/>
- States First Initiative:
<http://www.statesfirstinitiative.org/>

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