



Local Governance and Public Finance Challenges of the Fracking Boom

Lessons for the US & Canada

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The Four Mismatches of Fracking

1. Expenditure Risks and Public Perception
2. Governmental Responsibilities
and Revenue Streams
3. Spatial Differentiation between
Industry and Expenditure Needs
4. Timing between Costs and Revenues

Presentation Topics

1. The Rise of Fracking in US & Canada
2. Boom-Bust Cycle Framework & the Fracking Curve
3. Governmental Responsibilities & Expenditure Risks
4. Revenue Streams & Regulatory Timelines
5. Policy Recommendations & Future Research

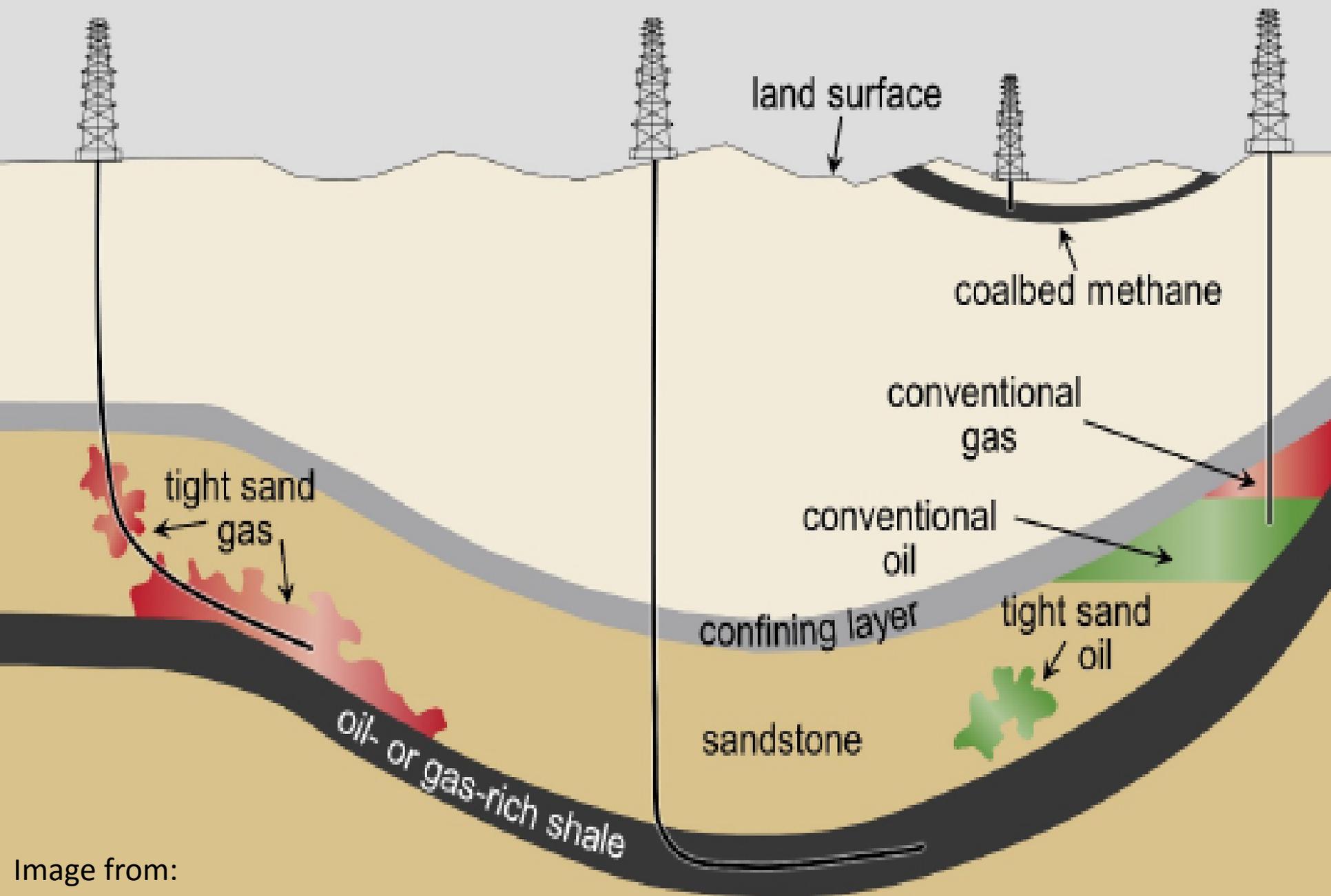
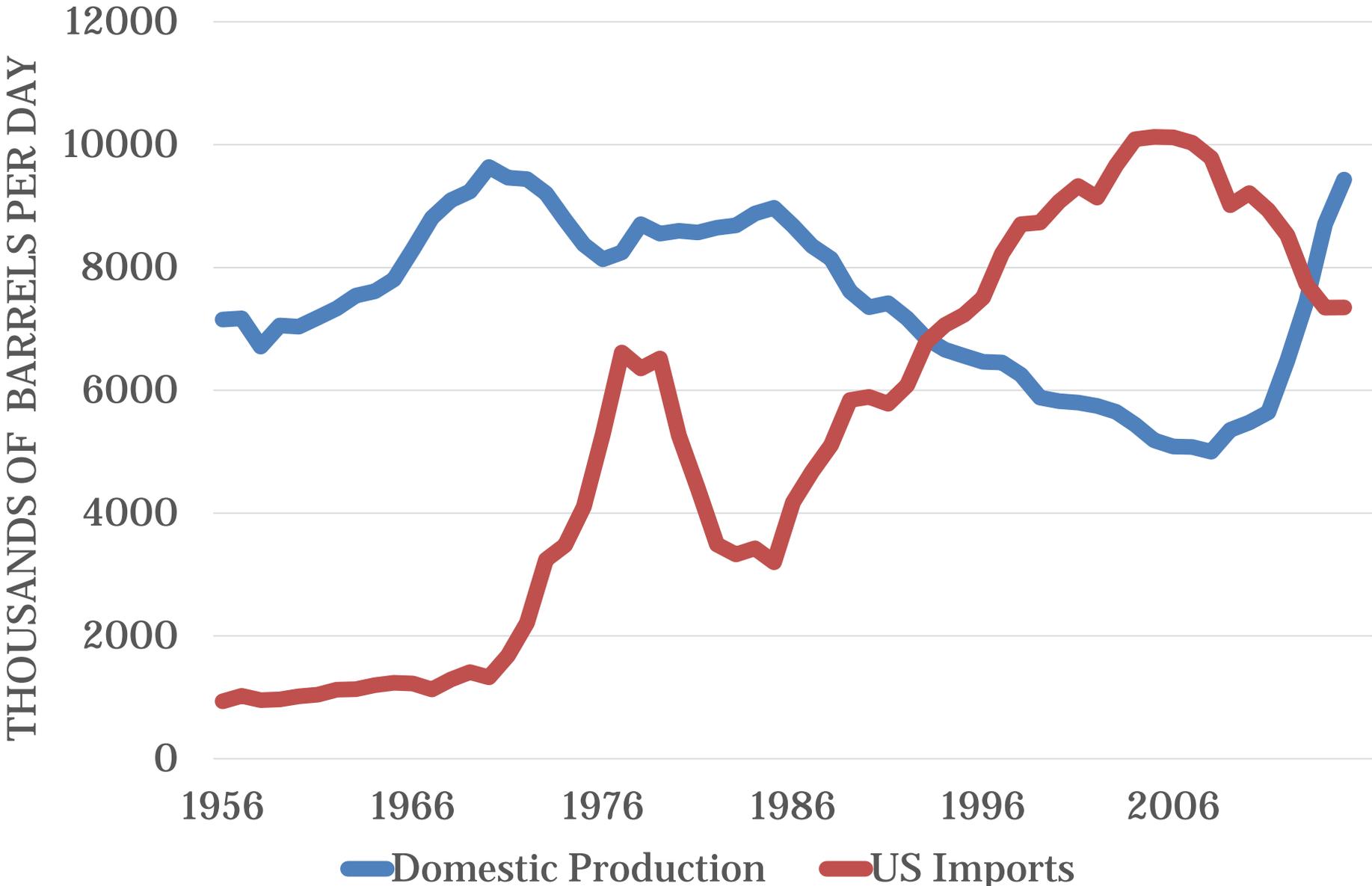
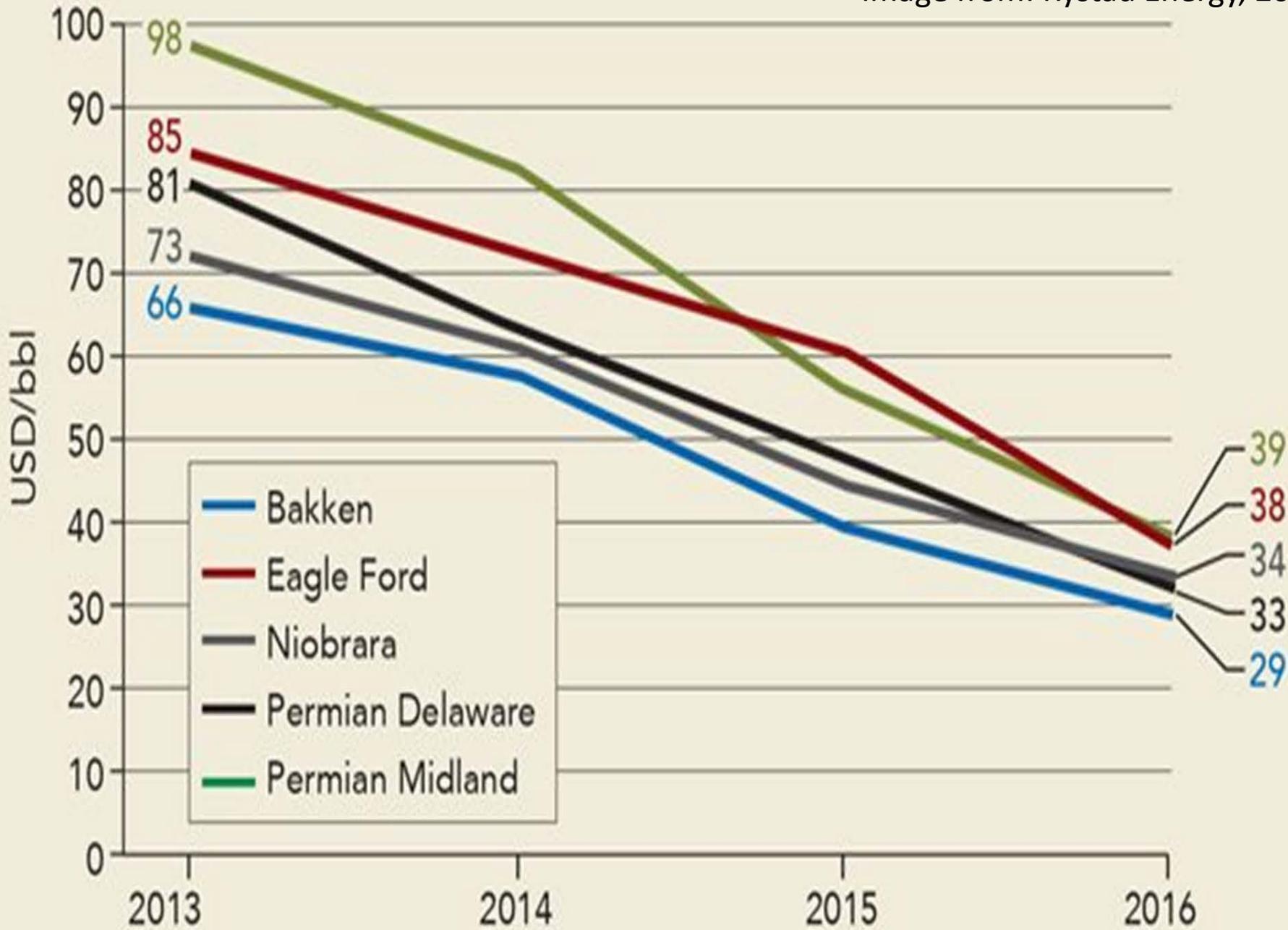


Image from:
CleanTechnica, 2015



Data from:
Energy Information Administration, 2016



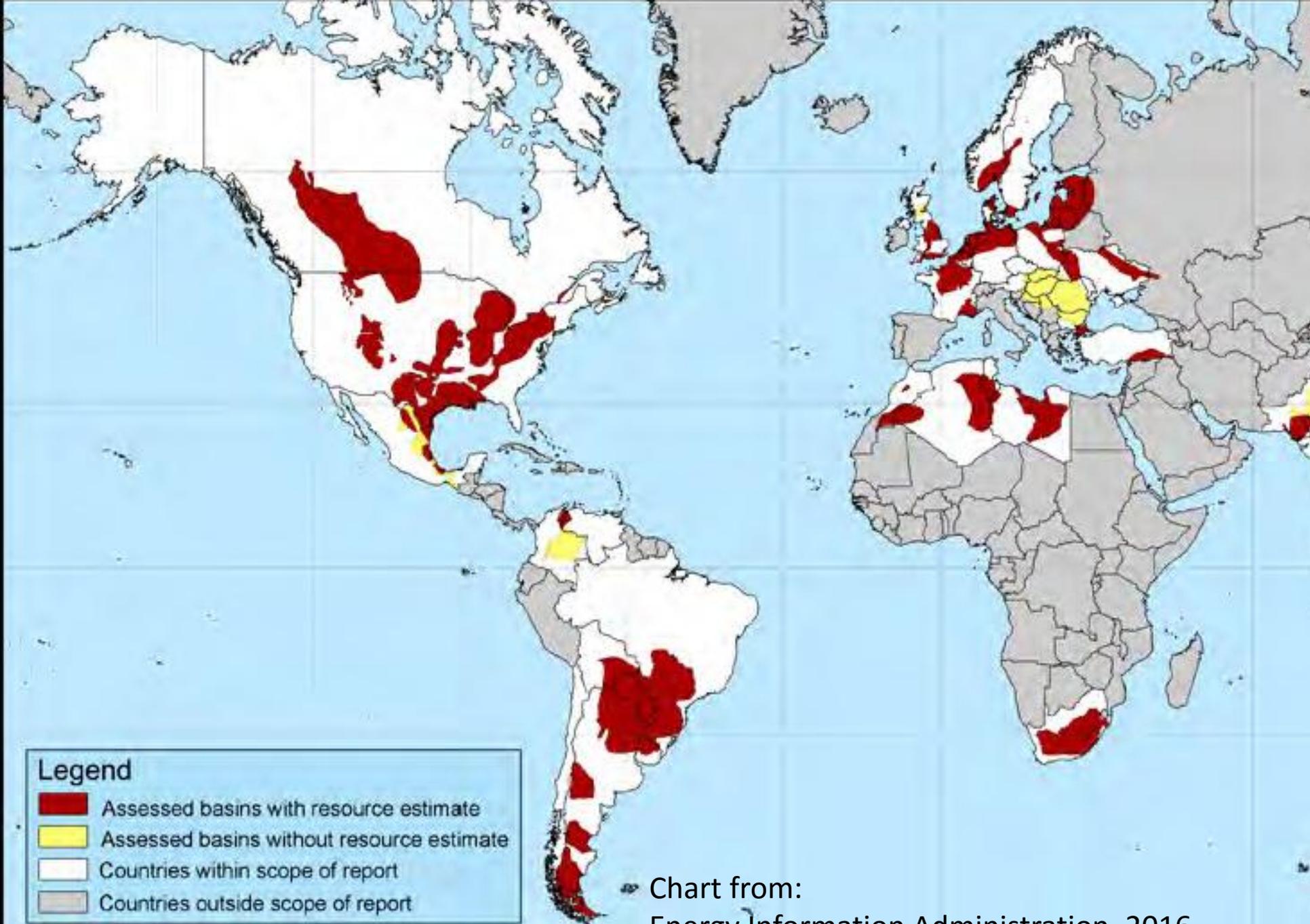


Chart from:
Energy Information Administration, 2016

Edmonton-area fracking boom brings new life, new issues to old oilfields

SHEILA PRATT

[More from Sheila Pratt](#)

Published on: October 15, 2015 | Last Updated: October 15, 2015 7:09 PM MDT



Study fortifies link between fracking and earthquakes in British Columbia

By SUNNY DHILLON

Globe and Mail Update

The study published this month found the earthquakes typically occurred above the area where fracking was taking place

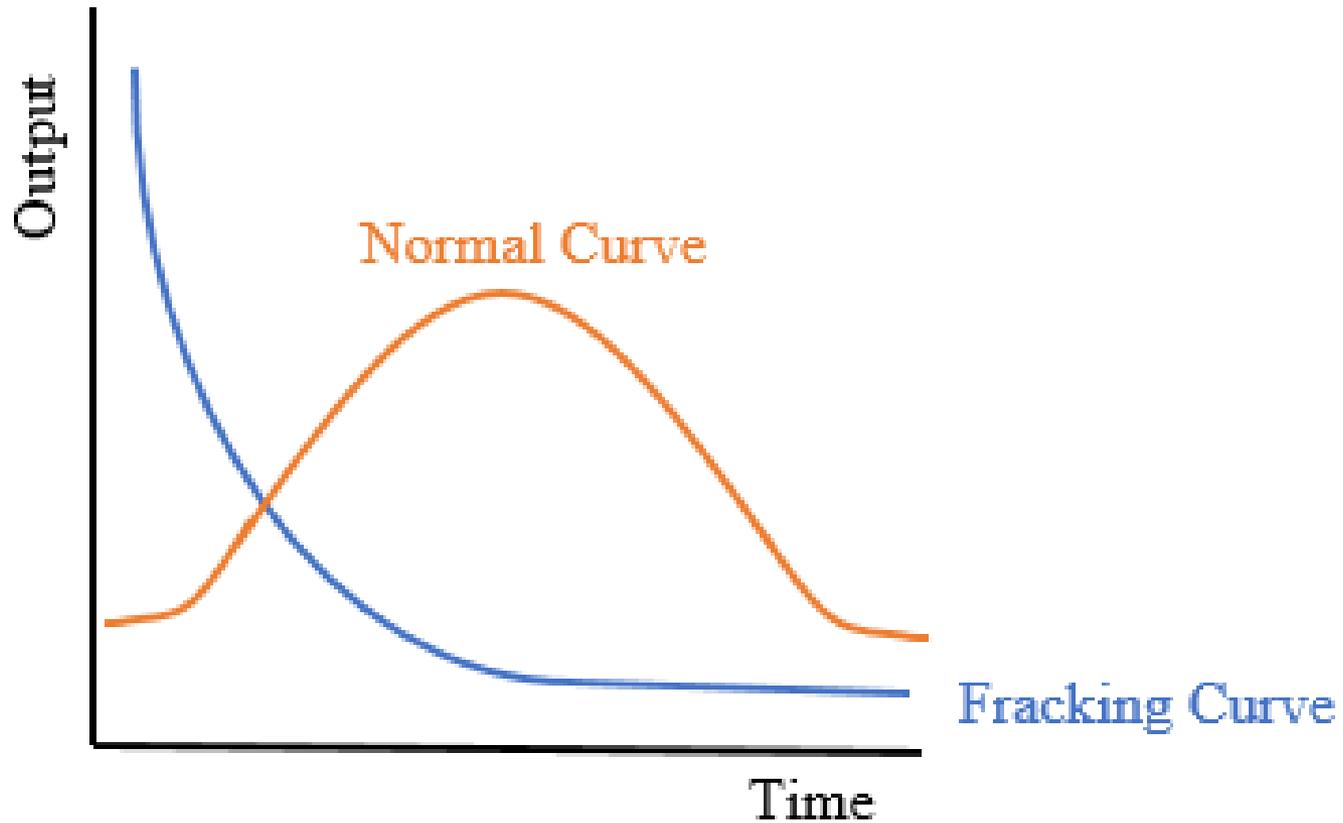
A new study examining earthquakes in northeastern British Columbia strengthens the link between hydraulic fracturing – or fracking – and increased seismic activity, a research scientist says.

The study, published in this month's Bulletin of the Seismological Society of America¹, analyzed 676 earthquakes that occurred between October, 2014, and December, 2015.

Boom-Bust Resource Cycles



“The Fracking Curve”



Overlapping Governmental Responsibilities

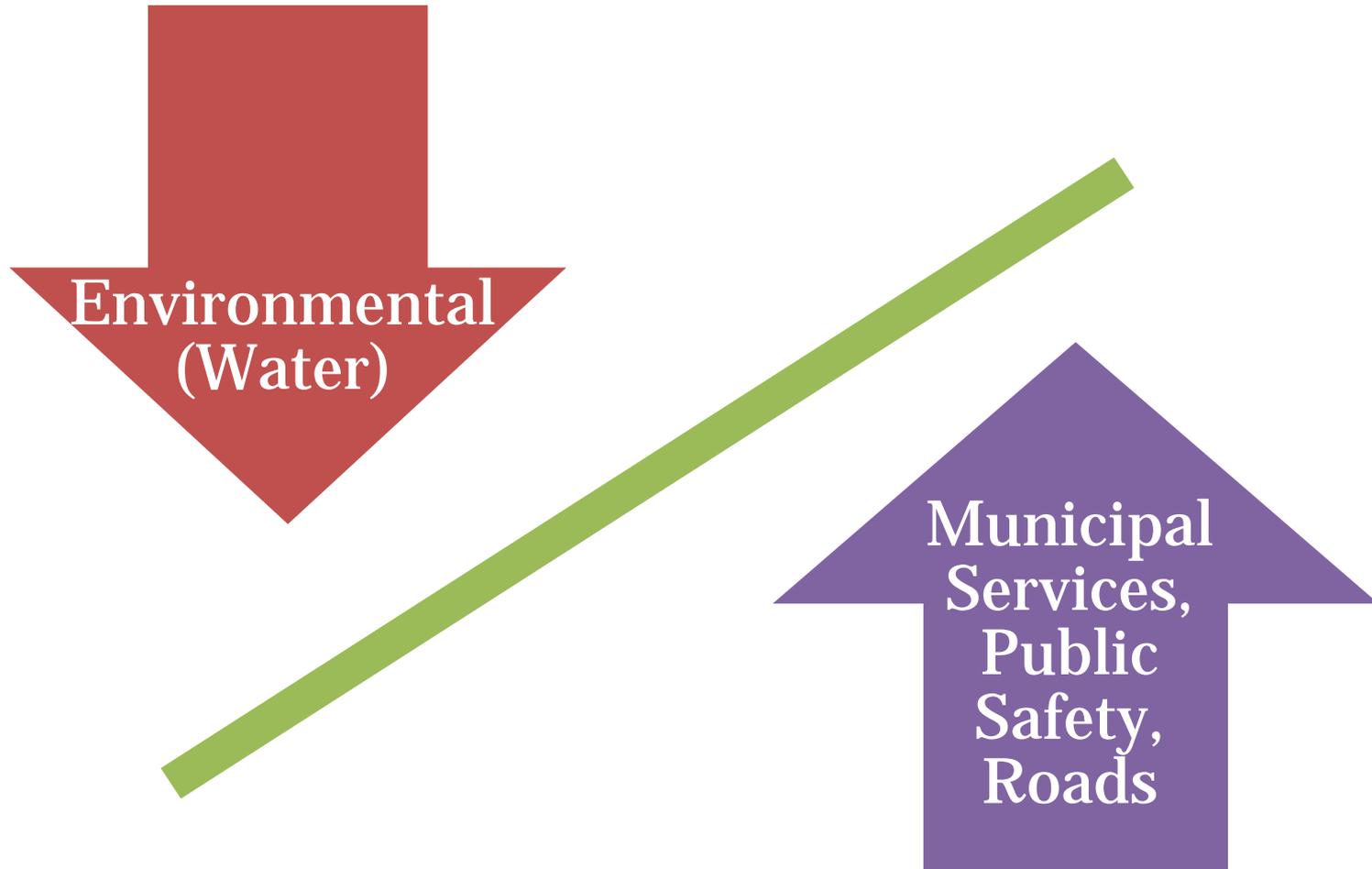
	Federal	State	Local
Environmental Protection	X	X	
Oil and Gas Administration	X	X	
Economic Development	X	X	X
Infrastructure		X	X
Socio-economic Impacts			X

PADEP Sues Townships Over Fracking Bans: Pennsylvania Department of Environmental Protection

Monday, April 10, 2017

On the same day it issued permits authorizing two energy companies to dispose of oil and gas wastewater in underground injection wells, the *Pennsylvania Department of Environmental Protection (PADEP)* filed a petition for review in Commonwealth Court challenging two townships for attempting to restrict unconventional gas operations. In asking the court to enjoin the townships from enforcing their home rule charters and seeking declaratory relief, PADEP asserts that **state law preempts townships** from regulating oil and gas well activities that are within PADEP's regulatory province.

Perception vs. Expenditure Risks





Picture of 6-month difference of SR3020 in Bradford County, PA

"Right now there's not a dedicated revenue source," said John Barton, the Texas Department of Transportation deputy executive director. "We need \$2 billion dollars.... and the shortfall is \$2 billion dollars."

Picture from:
NaturalGasWatch.com, 2011

Who got what from a litre of oil in 2015, (\$/litre)

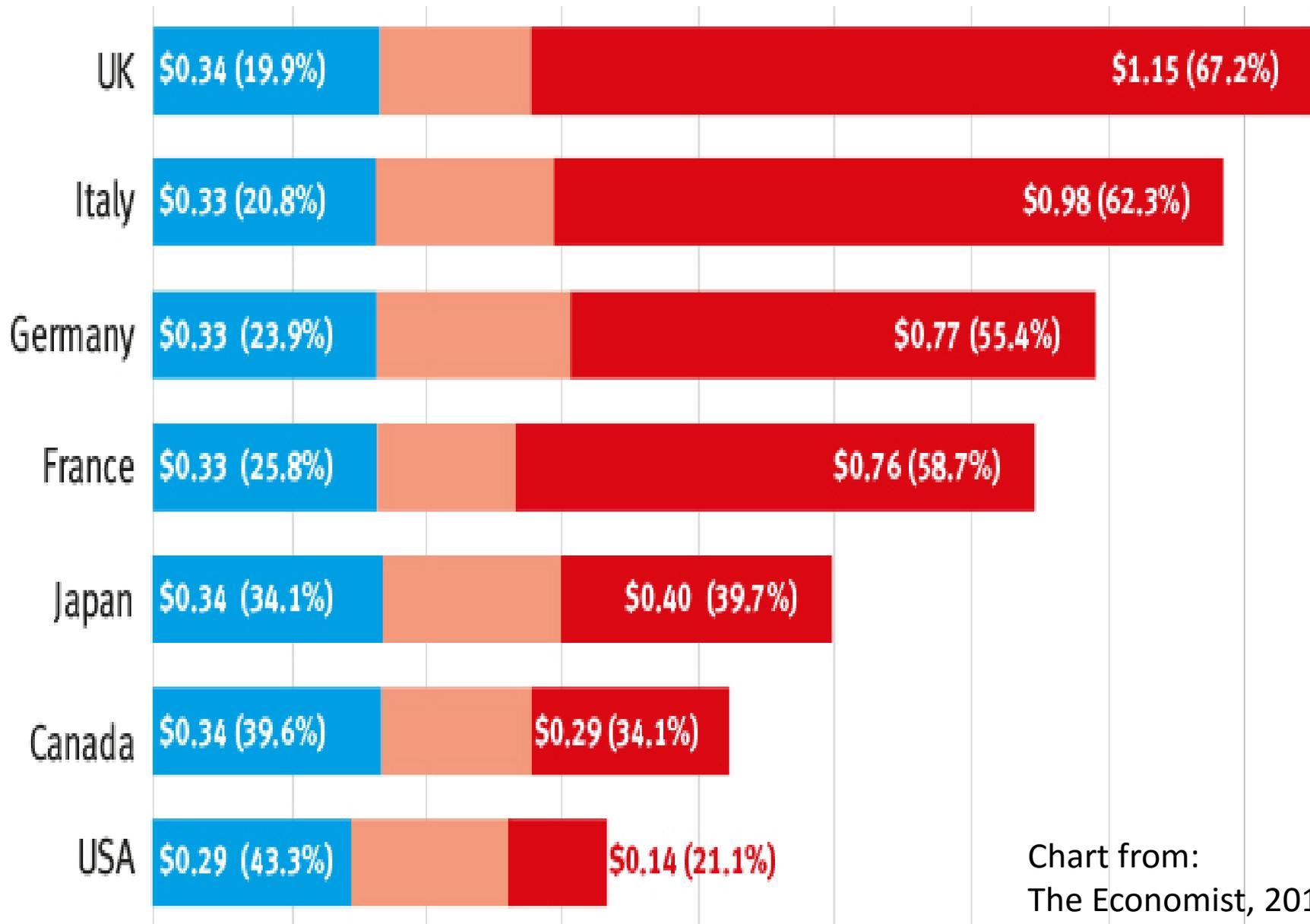


Chart from:
The Economist, 2016

Revenue Streams

	Federal	State / Province	Local
USA	Income: <ul style="list-style-type: none"> • Corporate • Individual 	Income, Extraction (Severance)	Property, Retail Sales, Impact Fees
CANADA	Income, GST, Royalties	Carbon Tax, HST, Royalties	Property, Impact Fees*

* Impact Fees are called Development Charges in Canada

Local Authority to Regulate Fracking

	C A N A D A	UNITED STATES							
		ND	CO	TX	Indian Res.	OH	PA	NY	WV
"home rule"	No	Yes	Yes	mixed	Yes	Yes	Yes	Yes	No
local ability to ban fracking	No	No	No	No	Yes	No	Yes	Yes	No
local authority for zoning, setbacks, and location permits	Yes	No	Yes	mixed	Yes	Yes	Yes	Yes	No
mineral rights assessment	mixed	mixed	Yes	Yes	Yes	Yes	No	Yes	Yes

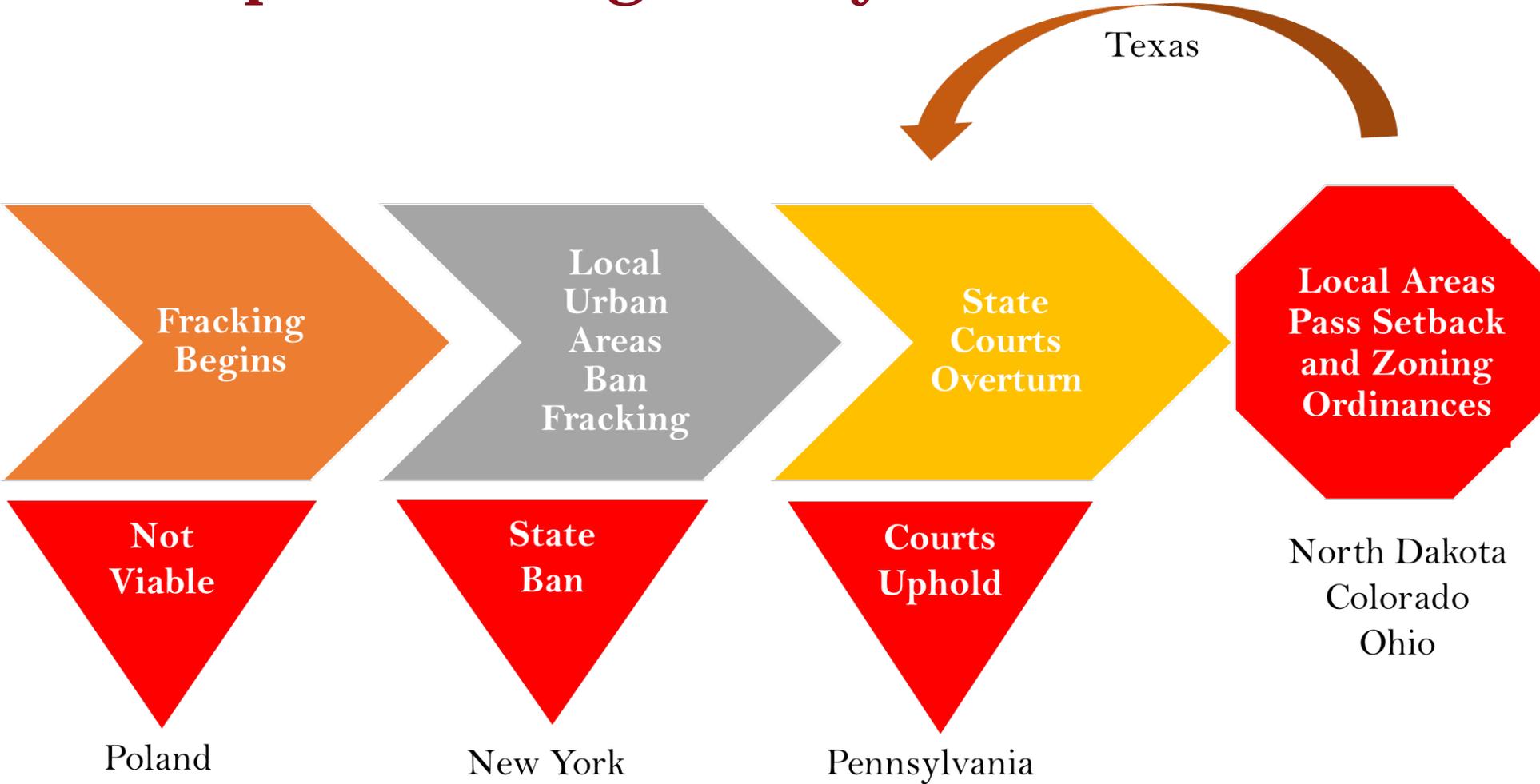


Image by
Faces of Fracking via Flickr (<http://bit.ly/2njhJCG>)

Typical Regulatory Timeline



Expanded Regulatory Timeline





FRACKING MORATORIA



CANADA 2017



- NO MORATORIUM
- MORATORIUM IN PLACE



Chart from:
DeSmog Canada, 2017

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Policy Recommendations

- (1) Slow down fracking to mitigate the boom & bust cycle
 - Extended mineral rights leases
 - Limit the number of well permits per month per area
- (2) Allow lower-tier municipalities the power to regulate/ban fracking
 - Zoning, setbacks, and impact fees
 - Mechanisms to ban fracking
- (3) Regional governance structures
 - Revenue and cost sharing across multiple jurisdictions
 - Focus social and housing infrastructure into a limited geographic area (e.g. Fort McMurray)
- (4) Negotiate intergovernmental revenue-sharing & build a reserve fund

Future Research

(1) Property Assessment & Taxation Comparison (USA)

How well are municipalities capturing value from fracking?

- Data: Property Assessment Data purchased from CoreLogic
- Counties in Ohio vs. Pennsylvania

(2) Impacts on Fiscal Health Indicators (USA & CA)

How is fracking affecting the fiscal health of cities?

- Data: Budgetary Line Item Data from FiSC database & Census of Governments, FIR data from Ontario & Alberta
- Develop set of indicators grounded in previous literature
- Compare cities by well count within 30 miles
- Develop regression model



Questions? Comments?

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