



ENERGY INFRASTRUCTURE & ECONOMY SUMMIT

January 31, 2019

Dave Spigelmyer
President
Marcellus Shale Coalition



Recent Challenges

Activist agenda coming home to roost in New York

- “Blame Cuomo for New York’s coming natural-gas crisis” (1/19/19 NY Post Editorial Board)

“Con Ed has notified regulators that, on March 15, it won’t accept new gas customers in Westchester, thanks to supply shortages.”
- “National Grid Outage in Newport, Rhode Island Governor Declares Emergency” (1/22/19 Int’l Business Times)

Activist policies impacting New England states: outage occurred because of lack of gas transmission supply.

The Washington Post

*“Given the economic and environmental benefits of using domestically fracked natural gas, **the arguments for fracking bans continue to look very weak.** ...*

Well-regulated fracking shouldn't be taken off the table.”
(Editorial, 6/8/15)

NEW YORK POST

OPINION EDITORIAL

Blame Cuomo for New York's coming natural-gas crisis

By Post Editorial Board

January 19, 2019 | 9:54pm

If you think Gov. Cuomo's neglect of mass transit has caused headaches, just wait 'til you see what his reckless de facto ban on natural-gas pipelines is doing. ...

New York needs gas today, and pipelines to deliver it, to keep the economy healthy and growing. Cuomo has already socked New York with his ban on fracking and his Indian Point shutdown. Just how much more can its economy take?

Drilling Activity in PA

- 💧 2nd largest natural gas producer in U.S.
- 💧 Nearly 25% of total U.S. natural gas production
- 💧 33 of 67 counties with at least 1 producing well
- 💧 10,717 unconventional wells*
 - 541 inactive
 - 596 shut in
 - 729 drilling not completed
- 💧 8,801 unconventional wells producing natural gas
- 💧 3,790 unconventional well pads
- 💧 17+ billion cubic feet/day
 - 5.3 trillion+ cubic feet/year
 - 37% of total U.S. shale gas production



Benefiting PA Communities

Impact Fee Revenues to Date

Year Distributed	Amount
2012	\$204.2 M
2013	\$202.5 M
2014	\$225.8 M
2015	\$223.5 M
2016	\$187.7 M
2017	\$173.3 M
2018	\$209.6 M
2019 (est.)	\$247 M
TOTAL:	\$1.7 Billion (est.)

Economic, Environmental & Consumer Benefits From Natural Gas

U.S. Energy Security

- 💧 In 2006, prior to the shale revolution, US more than 60% dependent on foreign energy supply
- 💧 Natural gas costs 2008 – record highs
- 💧 Growing unconventional production to make U.S. net energy exporter by 2020, says EIA
- 💧 Affordable and abundant natural gas is an economic game changer today.

Everyday uses of natural gas

💧 **Cooking**

💧 **Water heating**

💧 **Transportation**

💧 **Drying clothes**

💧 **Steel**

💧 **Plastics**

💧 **Cosmetics**

💧 **Glass**

💧 **Powdered Metals**



Life sustaining uses of natural gas

- 💧 **Life-sustaining medications**
- 💧 **Plastics**
- 💧 **Heating**
- 💧 **Electricity 24/7**
- 💧 **Chemicals**
- 💧 **Fertilizing food supplies**



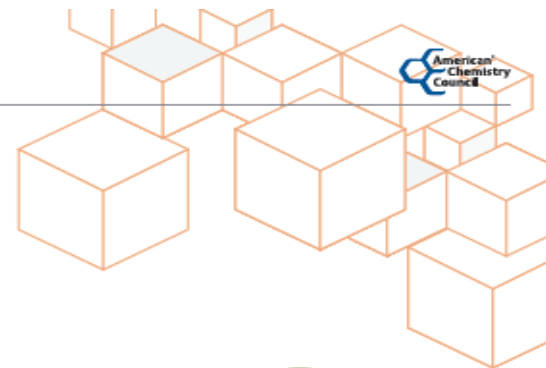
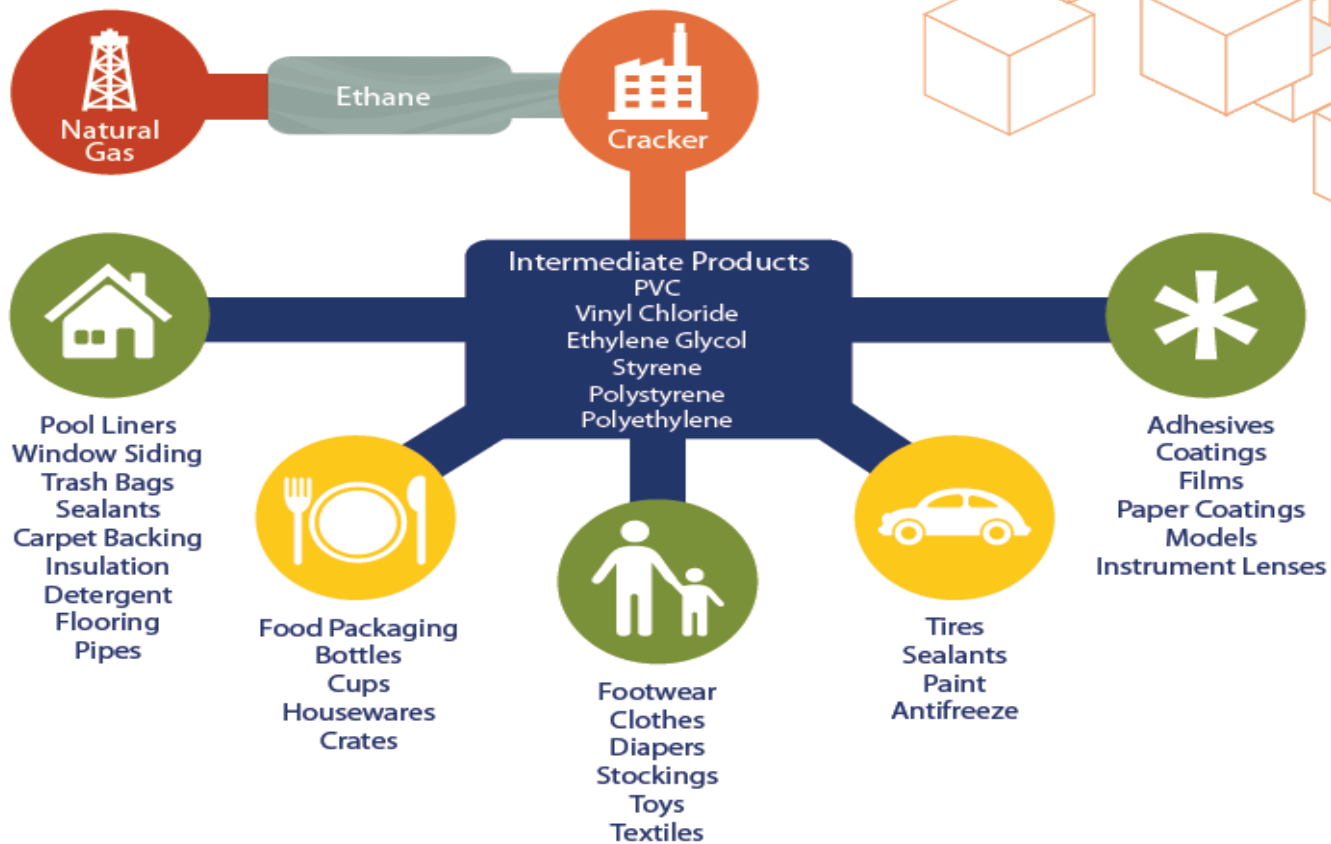
Life sustaining uses of natural gas

Medical Uses

- Syringes
- Tubing/IV bags
- Implants
- Artificial joints – synthetic versions lower risk of rejection
- Aspirin
- Petroleum jelly
- Skin care products
- Industrial gases – many of which are used in hospitals every single day

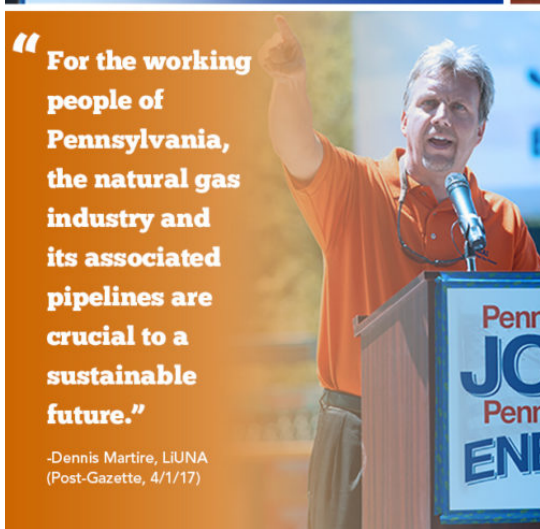
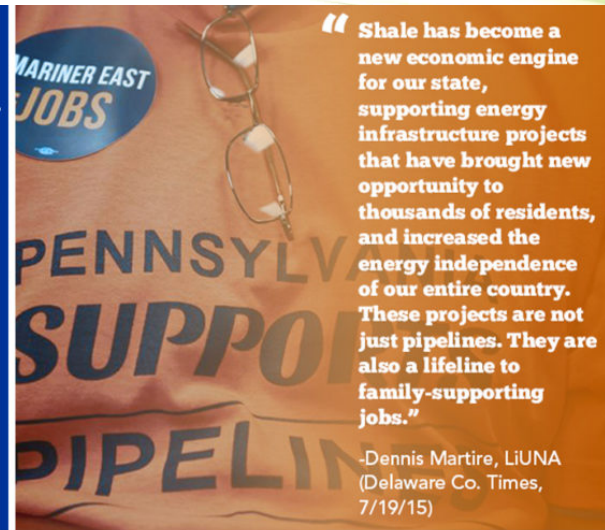
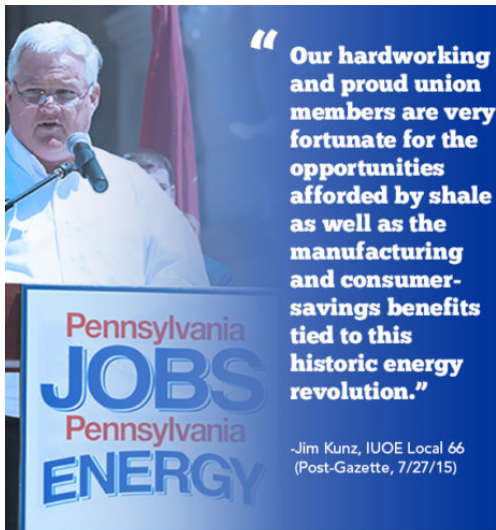
The Ethane Factor

ETHYLENE CHAIN



PA Economic Growth

- Pennsylvania's oil & natural gas industry supports 300k+ good-paying jobs across the supply chain.
- Manufacturing renaissance with Shell Petrochemical investment near Pittsburgh & rebirth of Marcus Hook Industrial Complex near Philadelphia.



Benefiting Consumers

Lower Prices = Pa. Customer Savings 2008 - 2017

Utility	PGC Rate / mcf		% Change	Customer Savings**
	2008*	2017*		
PECO	\$13.16	\$3.98	- 70%	\$1,652
NFG	\$10.86	\$4.58	- 58%	\$1,130
PGW	\$13.02	\$4.60	- 65%	\$1,516
Columbia	\$15.94	\$3.99	- 75%	\$2,151
UGI	\$13.26	\$6.50	- 51%	\$1,217
UGI Penn	\$11.68	\$4.25	- 64%	\$1,337
Peoples/Equitable	\$15.89	\$3.49	- 78%	\$2,232

* PUC Purchased Gas Cost (PGC) Rate in Effect Prior to Annual Review: 2008 & 2016

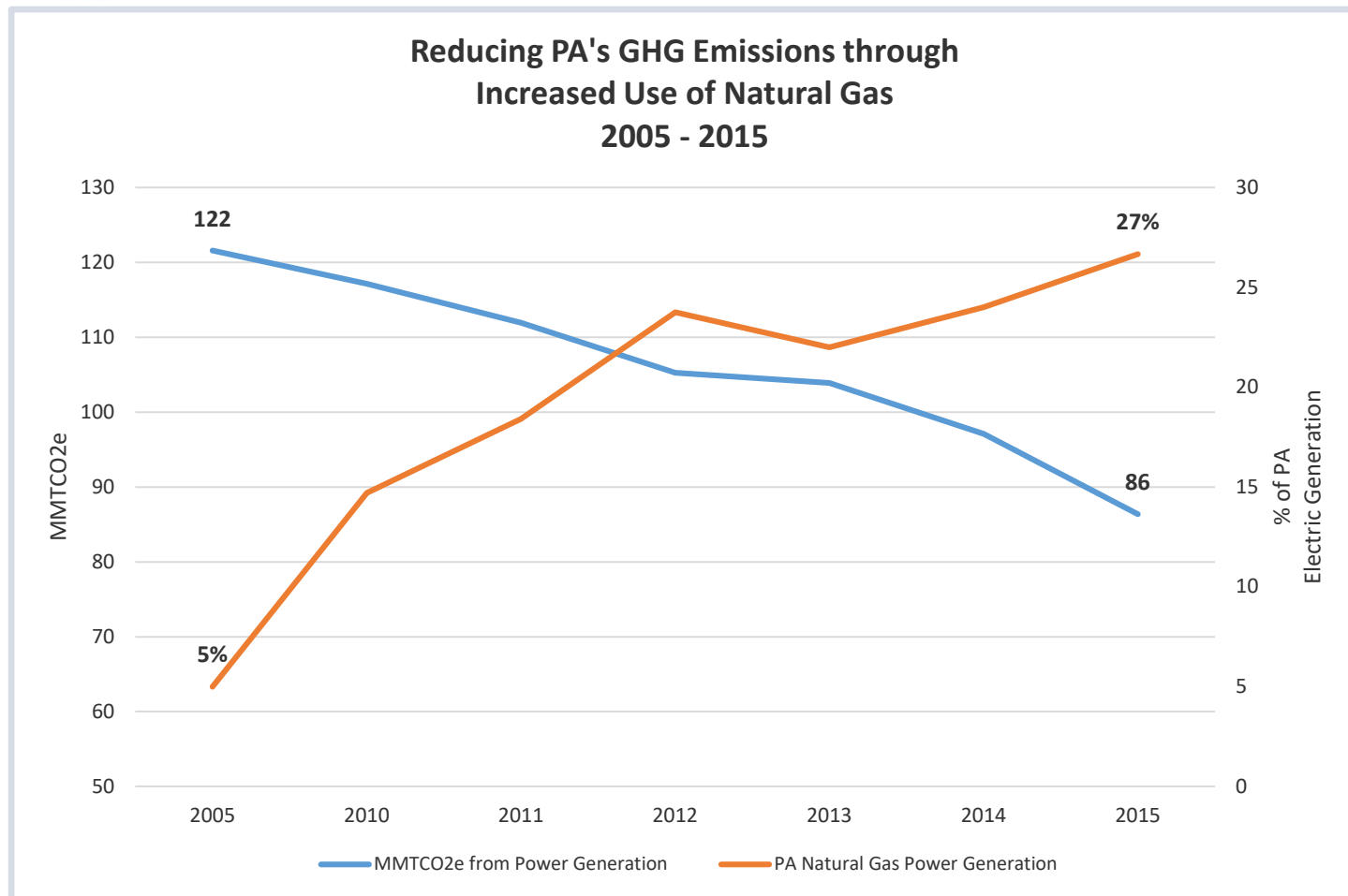
** Residential heating customer using 15 MCF/month

Benefiting Consumers

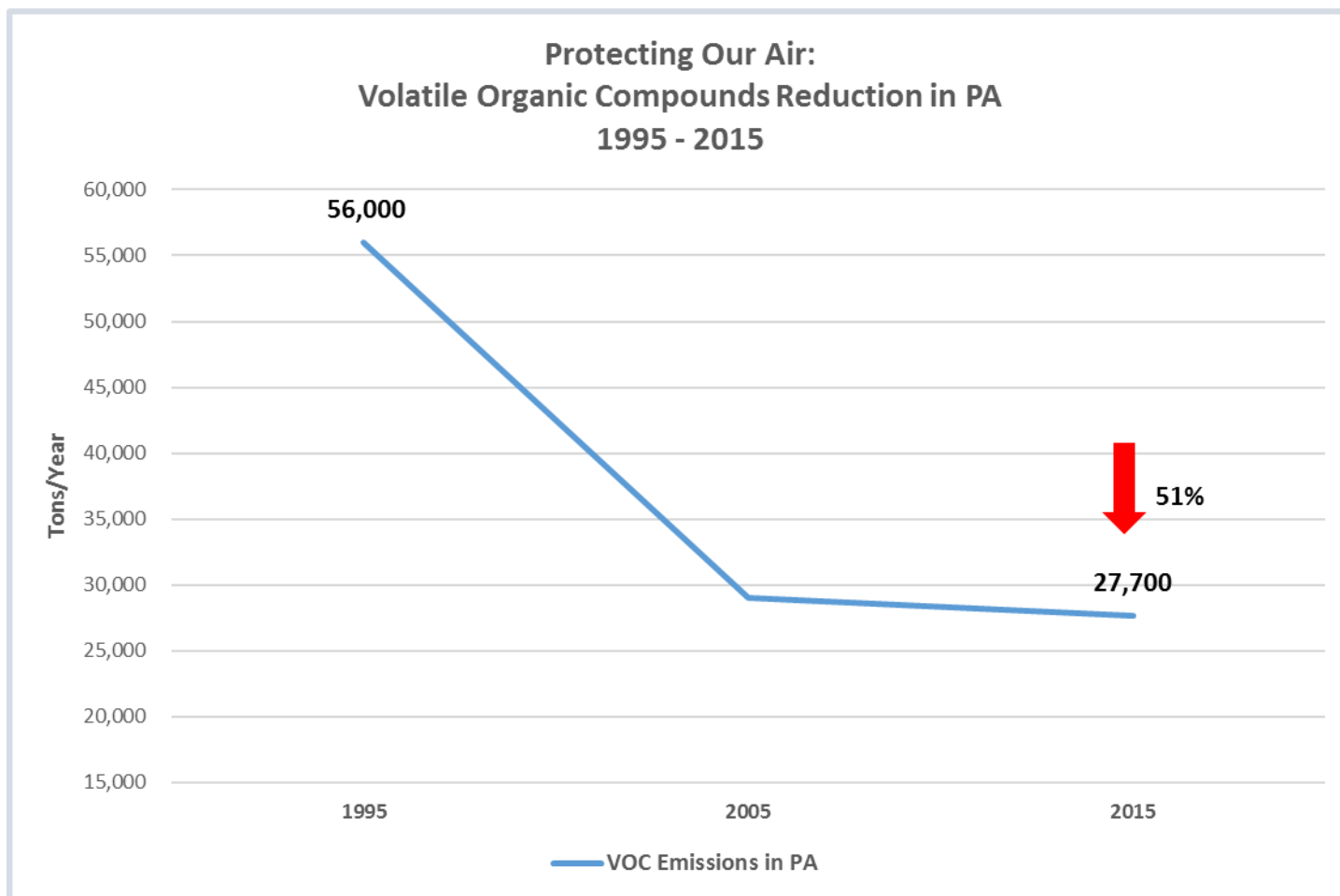
Lower Prices = Pa. Customer Savings

- Wholesale electric prices down 41% since 2008
- Natural gas prices for end-use customers down 51% - 78% since 2008
- Average annual savings > \$1,100 - \$2,200 per household

Leading on Climate Change

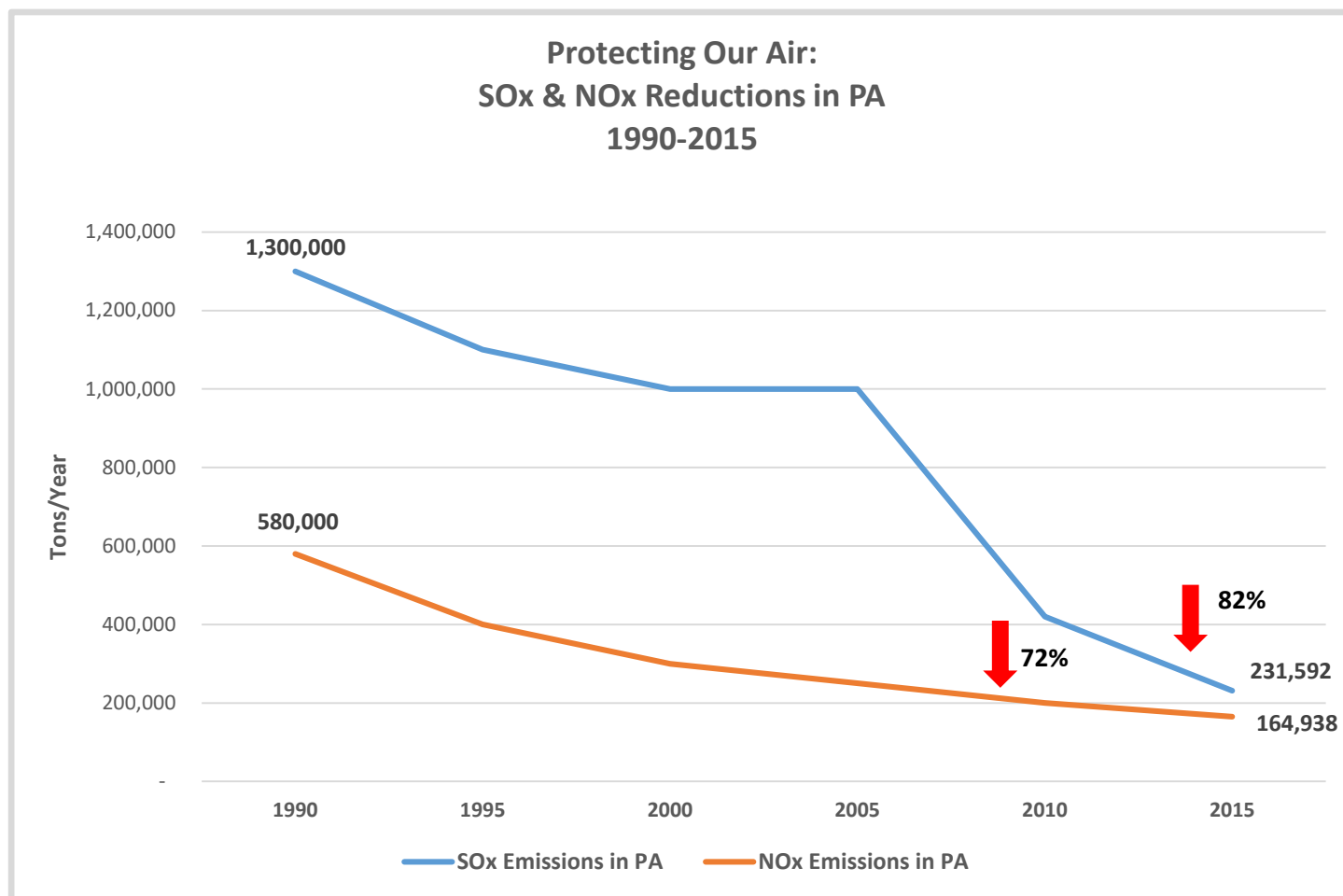


Enhancing Air Quality



Source: PA Department of Environmental Protection – Stationary
Source Emission Inventory 2012-2015

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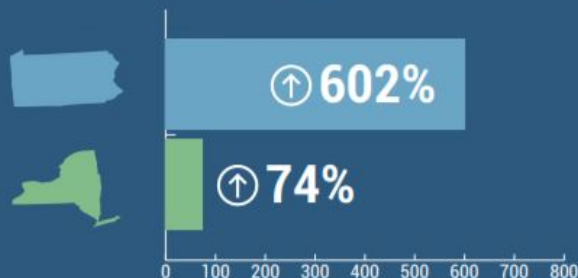
New York Challenges

New York vs. Pennsylvania

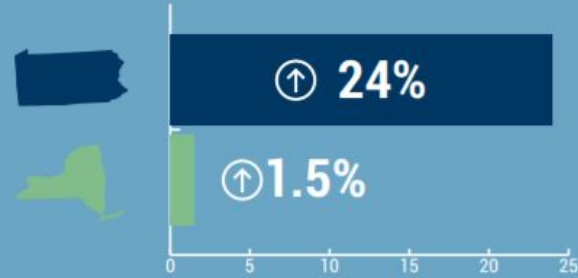
Thanks to New York's Fracking Ban,
"Twin Tiers" Now Look More
Like Distant Cousins



MINING, QUARRYING AND OIL AND GAS GDP 2005-2017



MANUFACTURING GDP 2010-2017



AGRICULTURE

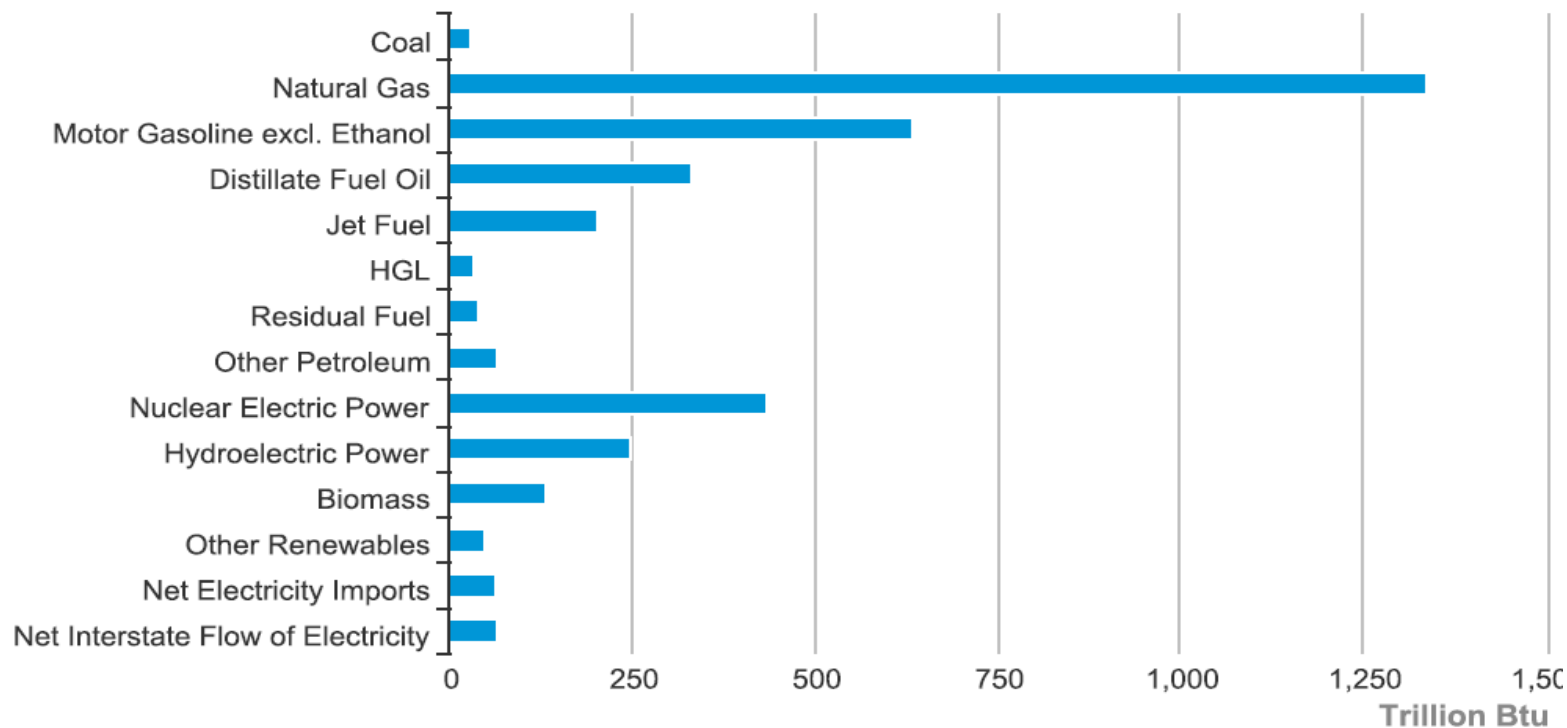
BRADFORD COUNTY, PA 2005-2012

- 1,106** Shale wells
- ↑ **11.8%** Farms
- ↑ **15.5%** Farm acreage
- ↑ **25.3%** Land & buildings market value

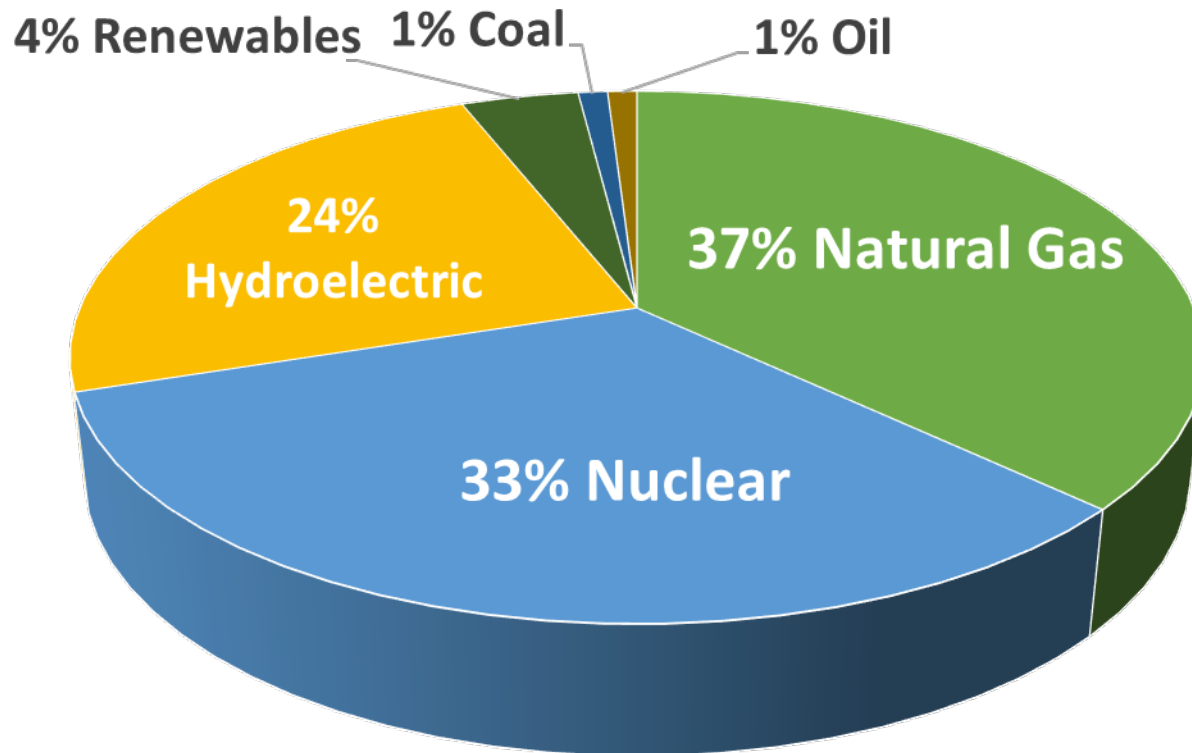
“[New York] lost over 1,300 dairy farms from 2007 to 2017. New York dairy farmers see friends in Pennsylvania who, in the same market conditions, are pulling through with the help of shale.”
- E&E News, July 2018

New York Consumption

New York Energy Consumption Estimates, 2016



2017 New York Electricity Generation



■ Natural Gas ■ Nuclear ■ Hydroelectric ■ Renewables ■ Coal ■ Oil

Economic Damage

- Pipeline infrastructure constraints damage NY business climate:
 - **Rockland / Westchester Journal News (1/25):** *ConEd gas moratorium to devastate growth in Westchester downtowns, developers say*
 - **NY Post Editorial (1/19):** *Blame Cuomo for New York's coming natural-gas crisis*
- U.S. Chamber Report – Keep it in the Ground Activism Costs Jobs, Economic Growth



Political Decisions Harm Consumers, Environment, Economy

- Gov. Cuomo's hydraulic fracturing ban & infrastructure blockade
- Unrealistic energy policy targets
 - 100% carbon-free by 2040
 - Zero emissions by 2050
 - Today—Biomass, Wind & Solar <4%

The Boston Globe

“There’s a trendy, but scientifically unfounded, national fixation on pipelines that state policy makers have chosen to accommodate. Climate advocates have put short-term tactical victories against fossil fuel infrastructure ahead of strategic progress on reducing greenhouse gas emissions.” (Editorial, 2/12/18)

Consumer Burdens

- EIA projects natural gas to remain the “*dominant fuel in the electric power sector through 2050.*”
- New England imported Russian LNG in 2018 to meet peak cold weather demand.



Implications for Residents of New York & New England from Pipeline Opposition

- 💧 Jan. 2018: Oil-fired electric generation increased from 1% to 30%
 - Higher emissions of SO₂, NO_x, Particulate Matter & Carbon
- 💧 Jan. 5, 2018: Price spike (\$175/MCF at Transco Zone 6)
 - Over **\$614 Million** in higher natural gas consumer costs **per day**
- 💧 January 28, 2018: First Russian LNG tanker arrives in Boston Harbor
- 💧 March 15, 2019: ConEd institutes moratorium on new natural gas customers in Westchester County

New York v. Pennsylvania Consumer Burden

Year	Avg. Annual NY Residential Gas Price / mcf
2009	\$15.71
2010	\$15.84
2011	\$15.73
2012	\$14.62
2013	\$14.63
2014	\$14.50
2015	\$13.22
2016	\$12.68
2017	\$14.22

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- New York's Green Power Plan does not work without baseload power.
- Natural Gas works hand-in-glove with renewables providing clean, reliable baseload power.
- All power generation comes with environmental risk.
 - Solar panels require large amounts of rare earth minerals; wind turbine death allowances by FWS of 4,200 eagles annually.



Path Forward

- Recognize natural gas as a major driver in achieving climate progress.
- New York approval of much-needed natural gas infrastructure—without it, economic development comes to a standstill.
- Leverage clean natural gas to support renewable energy growth.



Thank you!

David J. Spigelmyer, President
dspigelmyer@marcelluscoalition.org