

# **LWVCDC “Hot” Topic**

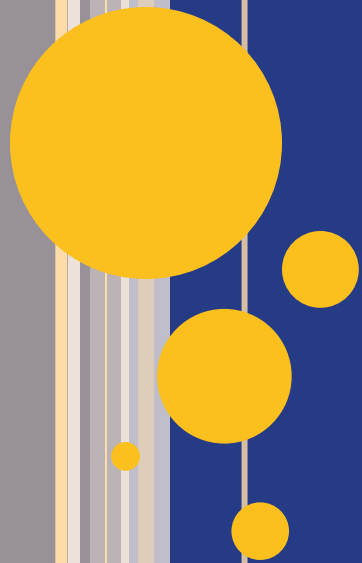
**June 5, 2020**

**P**ipelines,

**P**andemic,

and the

**E**nvironment



# PIPELINES

- **Safest way to transport large quantities of hazardous liquids and gases over land for long distances**



# BETTER THAN TRAINS

## ▣ Trump Executive Orders April 2019



*Photo (c) madsci - Getty Images*



# BETTER THAN TRUCKS

## □ Portable pipelines



<https://marinerpipelinefacts.com/about/marcus-hook/>

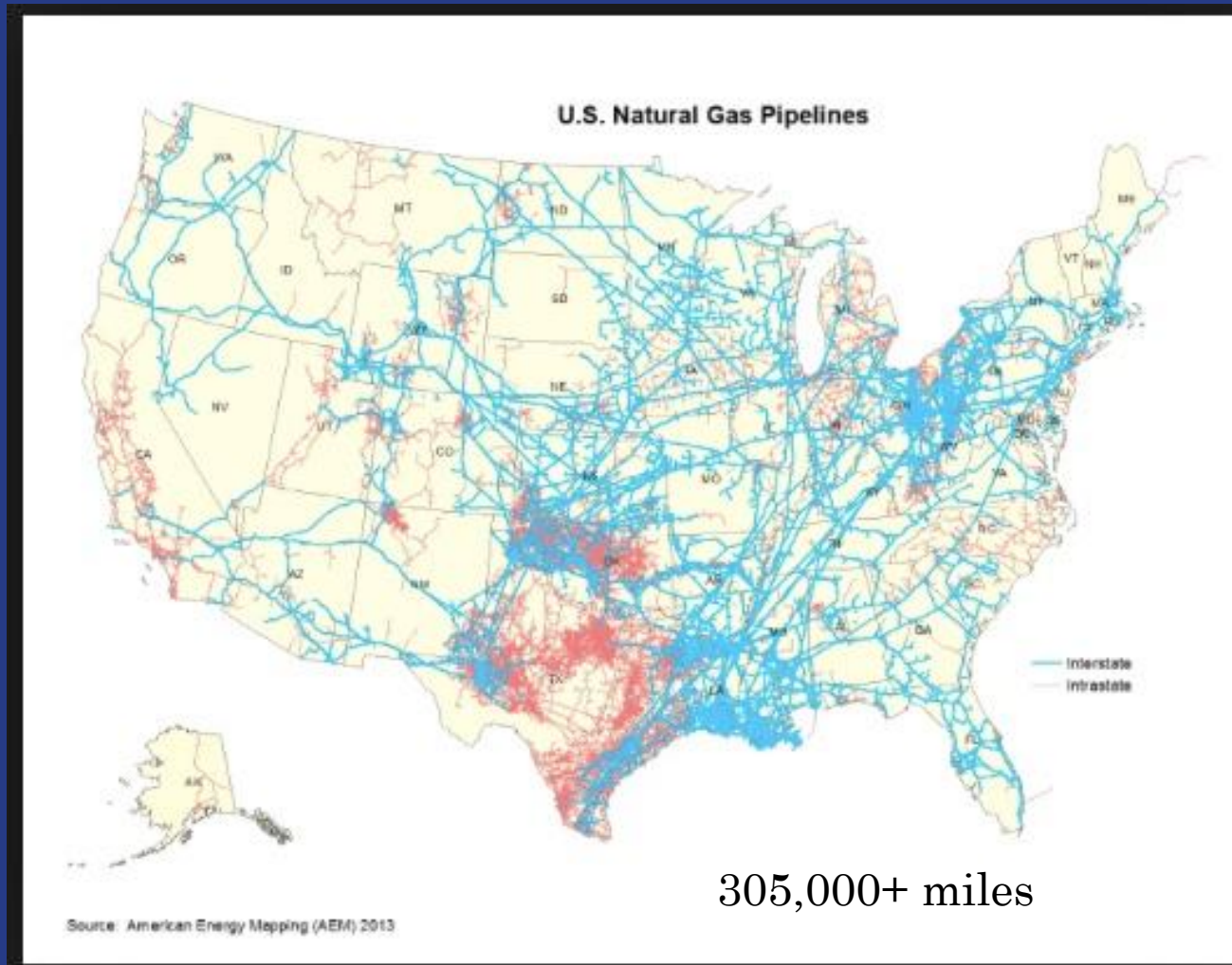
# BETTER THAN BOATS



*LNG Rivers, a Moss-type carrier with a capacity of 135,000 cubic metres*



# WHERE ARE THEY?



# NATURAL GAS INFRASTRUCTURE



# DELAWARE COUNTY PIPELINES



# WHO OVERSEES THEM?

## ■ **FERC – Federal Energy Regulatory Agency:**

- **Sale and transmission of natural gas (interstate)**
- **Siting and abandonment of natural gas pipelines and storage facilities**
- **Environmental matters re: projects**
- **LNG Terminal safety & operations**



# Who Oversees Them?

- **PHMSA – Pipeline and Hazardous Materials Safety Administration**



- oversees safety & security (88)
- develops regulations
- **Office of Pipeline Safety**
- safety in design, construction, operation, maintenance & spill planning (interstate)



# WHO OVERSEES THEM?

- **PA PUC (intrastate)**
  - ▢ **Direct & Enforce standards**
  - ▢ **Design, installation, operation, inspection, testing, construction, extension, replacement, and maintenance (6)**



# Who Oversees Them?

- **PA Department of Environmental Protection**

- ▢ **permit process**

- ▢ **monitor**

- ▢ **enforce**



- **County and Local Agencies**



# How RISKY ARE THEY?

## □ Factors\*

- Diameter of pipe
- Pressure of operation
- Material transported
- Other
  - compliance with standards
  - environmental variables
  - location (consequence areas)



# ADDRESSING SAFETY ISSUES

- Age and Stage

- Replace aging Infrastructure  
\$\$\$

- Monitoring



By Manpower

By Technology

By Robots



# PREVENTION

## REPLACE AGING INFRASTRUCTURE



▣ <https://www.hometownlife.com/story/news/local/milford/2020/02/05/consumers-energy-2020-pipeline-replacement-runs-through-milford/4598601002/>



# MANPOWER – VISUAL



<https://www.commercialuavnews.com/surveying/drones-pipeline-inspections-solspec>

© The Sniffers

# SCADA SYSTEM

## SUPERVISORY CONTROL AND DATA ACCESS

### □ Good for

- Leaks
- Pressure
- Temperature

### □ Problems

- Limited Coverage
- Human Error



<https://www.aboutpipelines.com/en/blog/pipeline-big-brother-4-ways-technology-helps-companies-see-underground/>

# ROBOTS -

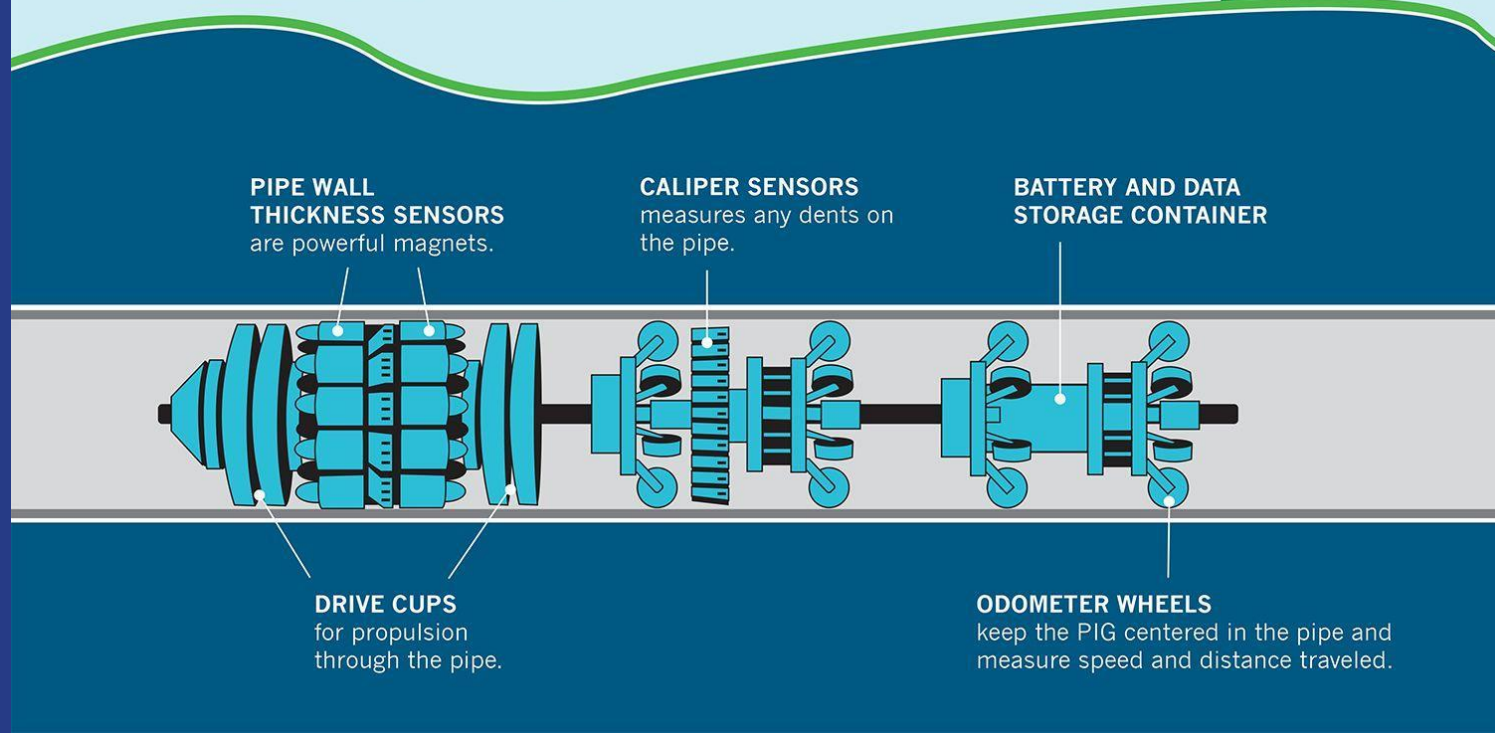
## How smart PIGs keep pipelines safe

Smart PIGs are probes that clean and inspect pipelines to prevent leaks and environmental damage. In a natural gas line, PIGs are powered by natural gas pressure pushing them onward. Outfitted with computers, GPS, sensors and magnets that transmit data to engineers, smart PIGs can pinpoint any signs of trouble.

**WHAT THEY LOOK FOR:** Stress, corrosion, gouges, dents and cracks.

**WHY ARE THEY CALLED PIGs?** In addition to being an acronym for Pipeline Inspection Gauges, they also make a squealing noise when running through a pipe.

**HOW BIG ARE THEY?** When PIGs are used to inspect Duke Energy natural gas lines, they can be up to 18 feet long and can inspect pipes that are up to 30 inches in diameter.



# **REDUCING RISKS – SITING AND LOCATION**

## **□ PLAN (FERC)**

## **□ Avoid**

- High Population Areas**
- Sensitive Ecosystems**
- Steep Slopes**
- Flood Zones**
- Calcite Geology**



# REDUCING RISKS – INCLUSION OF SHUT OFF VALVES

- ❑ **Increase Number**
- ❑ **Increase Accessibility**
- ❑ **Increase Ease of Use**

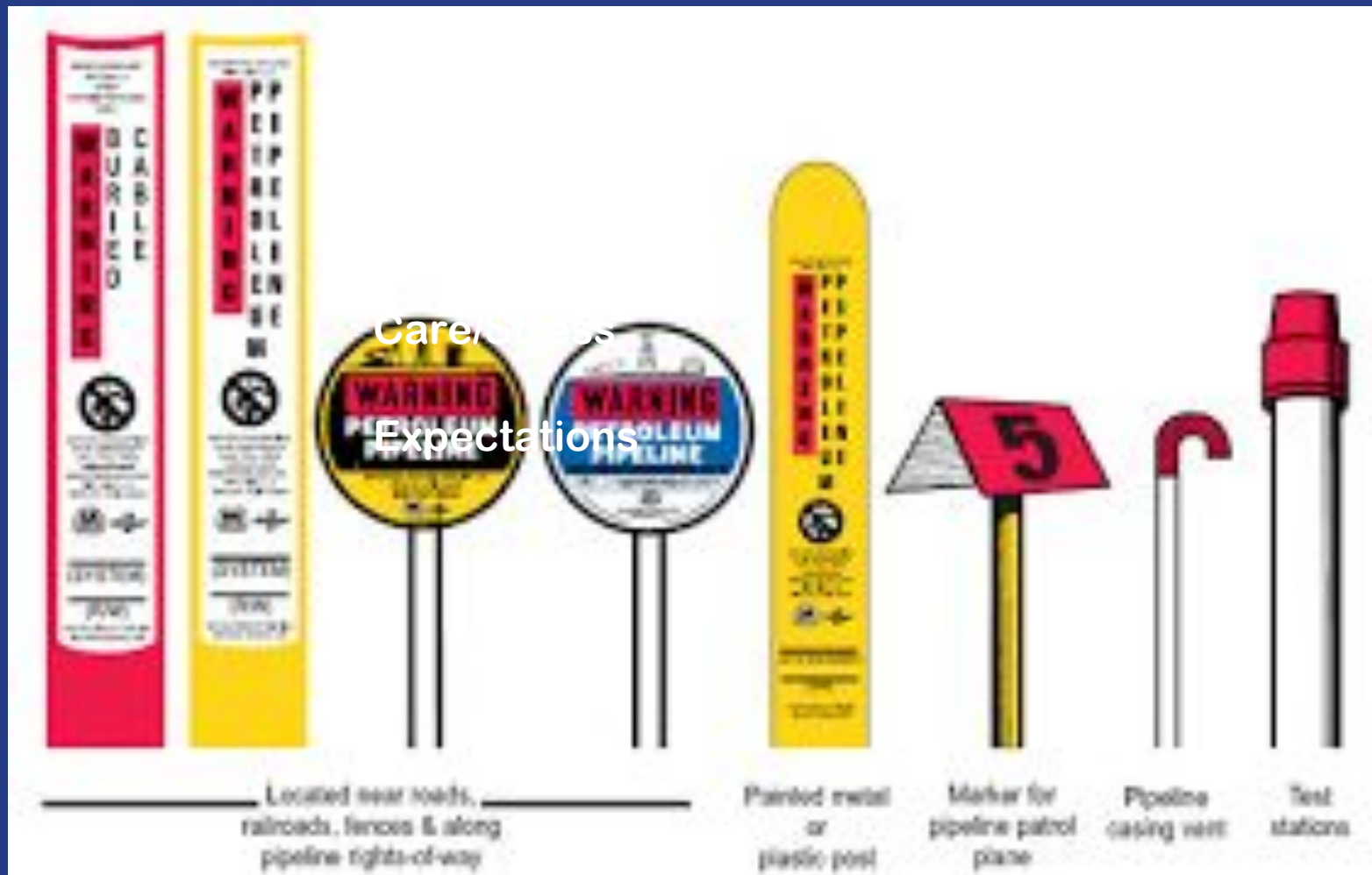


<http://www.valvemagazine.com/magazine/sections/where-valves-are-used/4405-where-valves-are-used-pipeline-valves-always-ready.html?showall=1&limitstart>



# PREVENTION

## PUBLIC NOTICE – SIGNAGE



# PREVENTION

## CALL BEFORE YOU DIG!



# PREVENTION - EDUCATION



**Smell**

**Look**

**Listen**



# PREVENTION - EDUCATION

## Sources of Ignition



# PA -PANDEMIC IMPACTS

## ▣ **Construction**

- **Wolff – Not Life-sustaining**
- **PUC – Essential Construction**  
**Exempt from Governor's order as**  
**a public “utility”**



## ▣ **Health Risk**

**workers in and out of community**  
**CDC Guidelines (followed?)**

# PA PANDEMIC IMPACTS

## PA Dept. of Environmental Protection (DEP)



- **Delayed Hearing (4/2)**  
**Air Quality in Marcus Hook**
- **Absence of Boots on the Ground to Monitor**
- ***Zoom Meetings***



# US PANDEMIC IMPACTS



## **Emergency *Trumps* Regulations**

- **EPA suspends environmental laws**
- **No penalties for pollution to air, land or water**
- **No expectation for compliance or reporting**

<https://www.hcn.org/articles/climate-desk-trumps-epa-halts-environmental-law-enforcement-during-coronavirus-pandemic>



# **PANDEMIC IMPACTS**

## **Consequences**

- **EPA not protect public health**
- **Air pollution increases in environmental justice zones**
- **Increase vulnerability of at-risk populations**



# US PANDEMIC IMPACTS

**Health: *Each increase of one microgram (fine particles 2.5 microns in diameter)...was associated with an annual increase of 634 deaths, 5,692 hospitalization and 32.314 patient-days in the hospital.***



***Darrel Rees, Air Pollution's Systemic Effects, Harvard Magazine (March-April 2020)***

***[sites.sph.harvard.edu/francescadominici/research/air-pollution-climate change-health](https://sites.sph.harvard.edu/francescadominici/research/air-pollution-climate-change-health)***

# ‘THEY’RE BASICALLY KILLING US,” TEXAS RESIDENTS SAYS OF TRUMP ROLLBACKS



Activist Hilton Kelley poses along the railroad tracks that divide East and West Port Arthur, Texas, on March 23. "Now we may not drop dead that day," Mr. Kelley said of the environmental protection rollbacks and the communities surrounding the refineries and plants. "But when you're inundated day after day ... we're dead. We're dead." (David J. Phillip/Associated Press)

# ENVIRONMENTAL WINS\*



□ <https://venngage.com/blog/coronavirus-impact-on-environment-infographic/>





# CARBON EMISSIONS

## UNITED STATES

**40%**  
LESS DOMESTIC  
AIR TRAFFIC



New York:  
**50%**  
DECREASE  
IN CARBON  
MONOXIDE



Seattle:  
**41%**  
DECREASE  
IN PEAK TRAFFIC  
CONGESTION

## EUROPE

**67M**  
FEWER AIR  
PASSENGERS



DECREASE  
IN NITROGEN  
DIOXIDE:

**75%**  
Madrid, Spain

**10%**  
Northern Italy

## CHINA

Improved air  
quality may have  
saved the lives of

**4,000**  
CHILDREN  
UNDER 5 YRS\*



CARBON  
EMISSIONS  
FELL BY  
**25%**

\*As of April 2020, the official death toll is 3,322, but is likely higher.



# WASTE

## UNITED STATES

Surge in solid medical waste puts

# 467K

WASTE COLLECTION WORKERS AT RISK

REUSABLE BAGS ARE BANNED IN SEVERAL STATES



# 1B TREES PER YEAR

are needed to package shipped goods.



## ITALY



# 111%

INCREASE IN CONSUMER SPEND ON PACKAGED MANDARINS

## CHINA



MEDICAL WASTE QUADRUPLED TO

# 200

TONS PER DAY

□ <https://venngage.com/blog/coronavirus-impact-on-environment-infographic/>



# WILDLIFE & HABITAT

## UNITED STATES

### FAKE NEWS!

False reports claimed that wild turkeys were now in Oakland, CA, but they've already been roaming the city for years.



## ITALY

### FAKE NEWS!

Dolphins and swans did not return to Venice's canals. The dolphins were elsewhere and swans are already local regulars.



## JAPAN



SIKA DEER WANDERED THE STREETS AND SUBWAY STATIONS OF NARA

## CHILE



A PUMA SHOWED UP IN THE CENTER OF SANTIAGO

## INDIA




A STAG RAN AROUND THE STATE CAPITAL OF DEHRADUN





# ENERGY

## UNITED STATES

**1.5%** 

OF THE TOTAL  
POWER IN THE U.S.  
IS CONSUMED BY DATA  
CENTERS ANNUALLY

## EUROPE

**40%** INCREASE IN  
BROADBAND DEMAND 

**9.1 TERABITS  
PER SECOND**

A new world record  
for data throughput at  
the Internet Exchange  
in Frankfurt, Germany.

## WORLDWIDE

**63M** STREAMS OF  
STRANGER THINGS S3\*

Comparable  
to driving  
420 miles +  
189 million  
kg of CO2.



## SOUTH KOREA



**30%**  
INCREASE IN  
ONLINE GAMING  
ACTIVITY

\*Reportware.com, 2019 by Design, 2020

- <https://venngage.com/blog/coronavirus-impact-on-environment-infographic/>

# ENVIRONMENTAL ROLL BACKS

	Completed	In progress	Total
Air pollution and emissions	19	8	27
Drilling and extraction	11	8	19
Infrastructure and planning	10	1	11
Animals	9	2	11
Toxic substances and safety	6	2	8
Water pollution	4	7	11
Other	5	6	11
All	64	34	98



<https://www.nytimes.com/interactive/2020/climate/trump-environment-rollbacks.html>

# EVOLVING ISSUES



- **Law Suits/Legal Action**
  - **Eminent domain (2700 properties)**
  - **Wetland assessment**
  - **PA Constitution Article 1, Section 27**
  - **DAs Chester Co. & Delco & PA AG– Criminal – endanger life & property**
  - **Operating Pressures 1480 to 2100 psig (increases risk)**

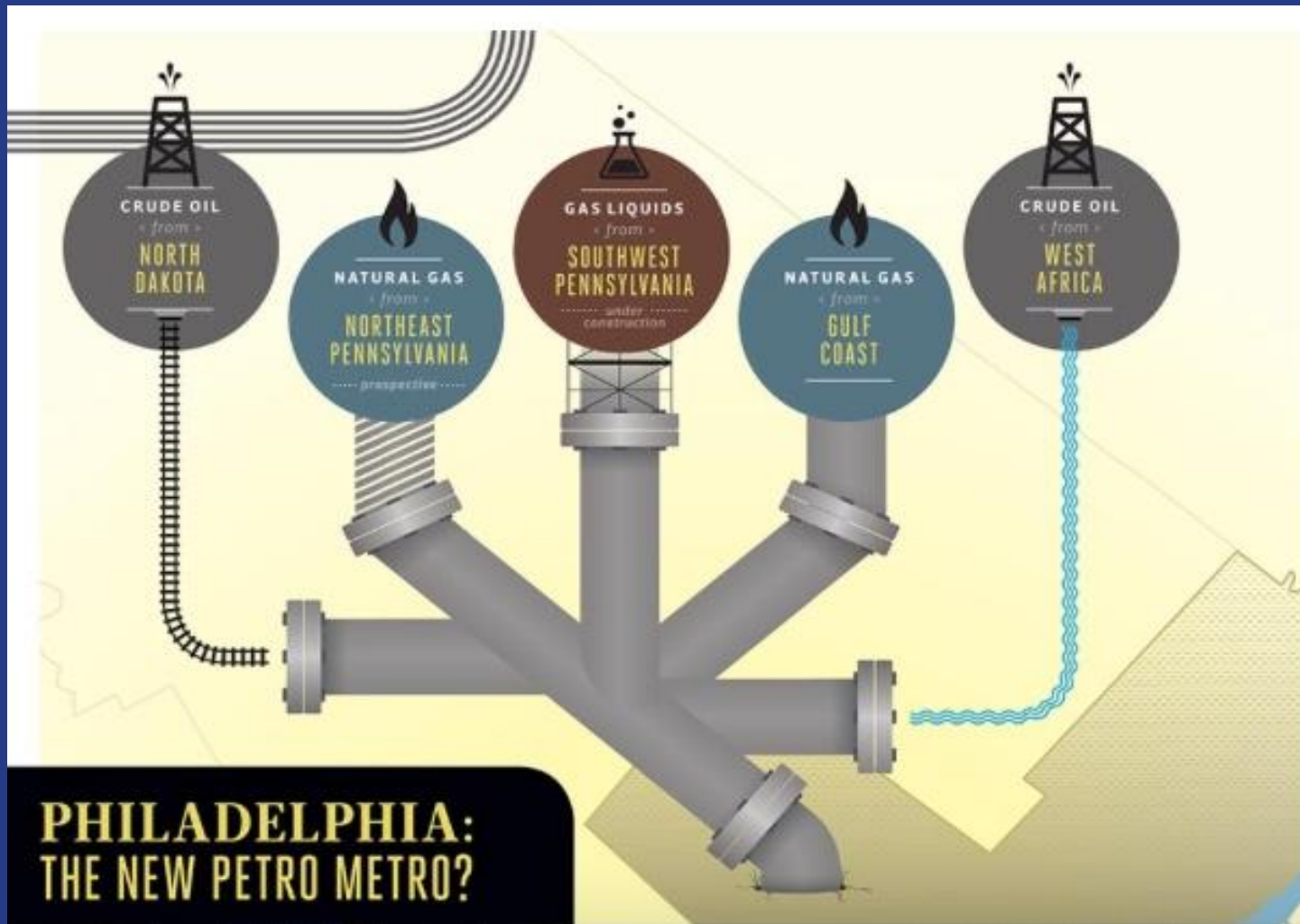


# EVOLVING ISSUES

- **Interstate/intrastate status**
- **80+ DEP Violations**
- **DEP fines of \$13.5 million**
- **Ethics (Gov./PUC/DEP)**
- **Operating Pressures 1480 to 2100 psig (increases risk)**
- **Mergers – Sunoco Logistics to Energy Transfer Partners**



# WHAT'S NEXT? – METRO PETRO



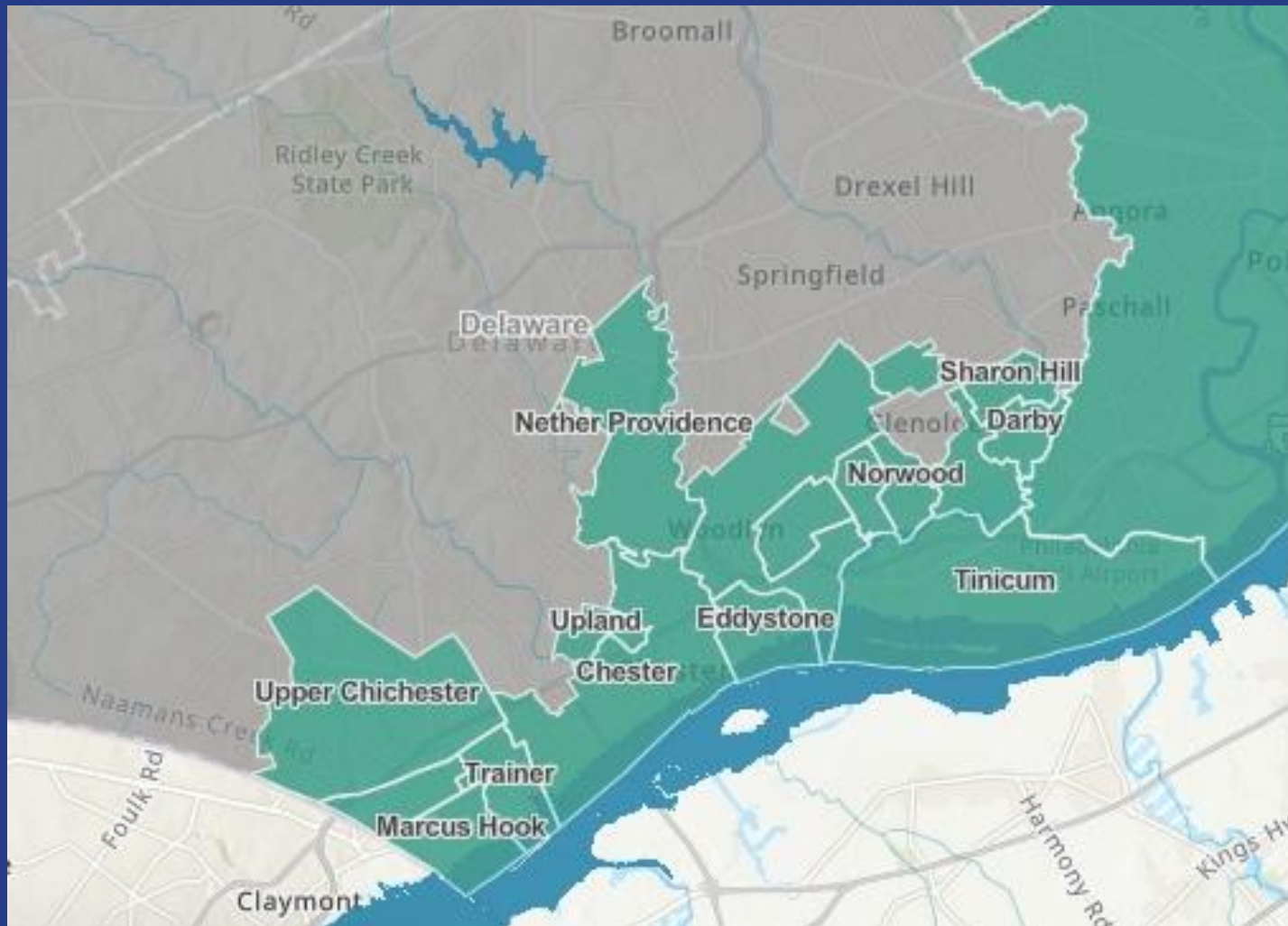
<https://www.phillymag.com/news/2014/09/29/philadelphia-pipeline-americas-next-energy-hub/>

# NEXT – FUTURE LIQUIFIED NATURAL GAS EXPORT TERMINAL GIBBSTOWN LOGISTICS CENTER



<https://www.delawariverkeeper.org/ongoing-issues/gibbstown-logistics-center-lng-ngl-exports-proposed>

# RISING SEA LEVEL – DELCORA COVANTA, MARCUS HOOK . . .



<https://www.arcgis.com/apps/MapSeries/index.html?appid=8080c91a101d460a9a0246b90d4b4610>

# **P**IPELINES, THE **P**ANDEMIC AND THE **E**NVIRONMENT

- ▣ **Personal - Your Story**
- ▣ **Protective – Your Reasons**
- ▣ **Equipment – Your Resources**



# How CAN I CHANGE MY BEHAVIOR TO MAKE A DIFFERENCE?

- Minimize use of plastics
- Avoid single-use plastics
- Conserve
- Use “green” energy sources
- Reuse resources



## WHERE CAN I GO TO LEARN MORE? -

- List on LWVCDC website
- Middletown Coalition for Community Safety
- *State Impact PA*
- Chester County Pipeline Information Center
- Pipeline Safety Trust
- Pipeline Safety Coalition
- Google (watch sources)



# WHAT CAN I DO WITH MY MONEY TO MAKE A DIFFERENCE?

- Divest in oil and gas
- Support environmental groups
- Fund legal action on issues
- Contribute to candidates who share your values



# WHAT CAN I DO WITH MY TIME TO MAKE A DIFFERENCE?

- Join in Local Advocacy
  - Middletown Coalition
  - Del – Chesco United for Pipeline Action
  - Delaware Riverkeeper
  - Clean Air Council
  - Sierra Club



# WHAT CAN I DO WITH MY TIME TO MAKE A DIFFERENCE?



## Advocate Locally

- Attend zoning, environmental, health,  
and township meetings
- regulate light and noise
  - classify operations as industrial
  - enhance emergency  
preparedness & training
  - monitor and assess impacts



# WHAT CAN I DO WITH MY TIME TO MAKE A DIFFERENCE?



## Advocate at County Level

Attend health, safety ,land-use, conservation  
and council meetings

- provide input
- encourage funding
- enhance emergency prep
- support oversight /planning

**Chief of Environmental Crimes  
Unit in Delco DA - Melissa Muroff**



# WHAT CAN I DO WITH MY TIME TO MAKE A DIFFERENCE?



## Advocate at the State Level

- Contact Legislators to
- Fund DEP and DCNR
- Protect regulations and PA Constitutional rights
- Pay attention to “Alerts” from environmental groups
- Raise risk issues – health & safety



# WHAT CAN I DO WITH MY TIME TO MAKE A DIFFERENCE?



## Advocate at Federal Level

- Contact Rep. Scanlon, Sen. Toomey, Sen. Casey
- Protect public lands, rights, health and safety
- Advocate for PA – agriculture, alternative energy jobs and keeping natural resources in US



# WHAT CAN I DO TO MAKE A DIFFERENCE?

- Spread the Word/Network
- Share your views
  - Comment publically
  - Write letters to the editor
  - Call and write elected officials - committees
  - Speak at hearings, citizen advisories
  - Provide written input (Go to *PA Environmental Digest*)



# QUESTIONS



# WHAT ARE DELCO'S “GREEN” PLANS?

- ▣ **DELCO 2035 Open Space, Recreation, and Greenway Plan**
- ▣ **Multi-municipality focus**
- ▣ **Initial borrowing of \$10 million**



# SWARTHMORE COLLEGE AND SUSTAINABILITY

- ▣ **Be a model**
- ▣ **Be a resource**
- ▣ **Speak truth to power**
- ▣ **Capitalize on youthful passion**
- ▣ **Use expertise to provide input in permit, policy, and regulations**
- ▣ **Think globally but act locally**
- ▣ **Organize others to make a difference**
  - **Environmental Justice**
  - **Grants**
  - **Political Action**





## **MARINER EAST – 3 IN 1**

- ▣ **Mariner East 1 – 8” Refurbish 1930’s line completed late 2014 (2018 temporary shut down – sink holes)**
- ▣ **Mariner East 2 – Begin in 2017 – delays from lawsuits, well pollution, etc; was operational in 2018 . (20”) in part, expected 2020 completion**
- ▣ **Mariner East 2x – (16”) Parallel to #2; still under construction 2020 projected**



# PIPELINE TIMELINE

## PERMIT PROBLEMS

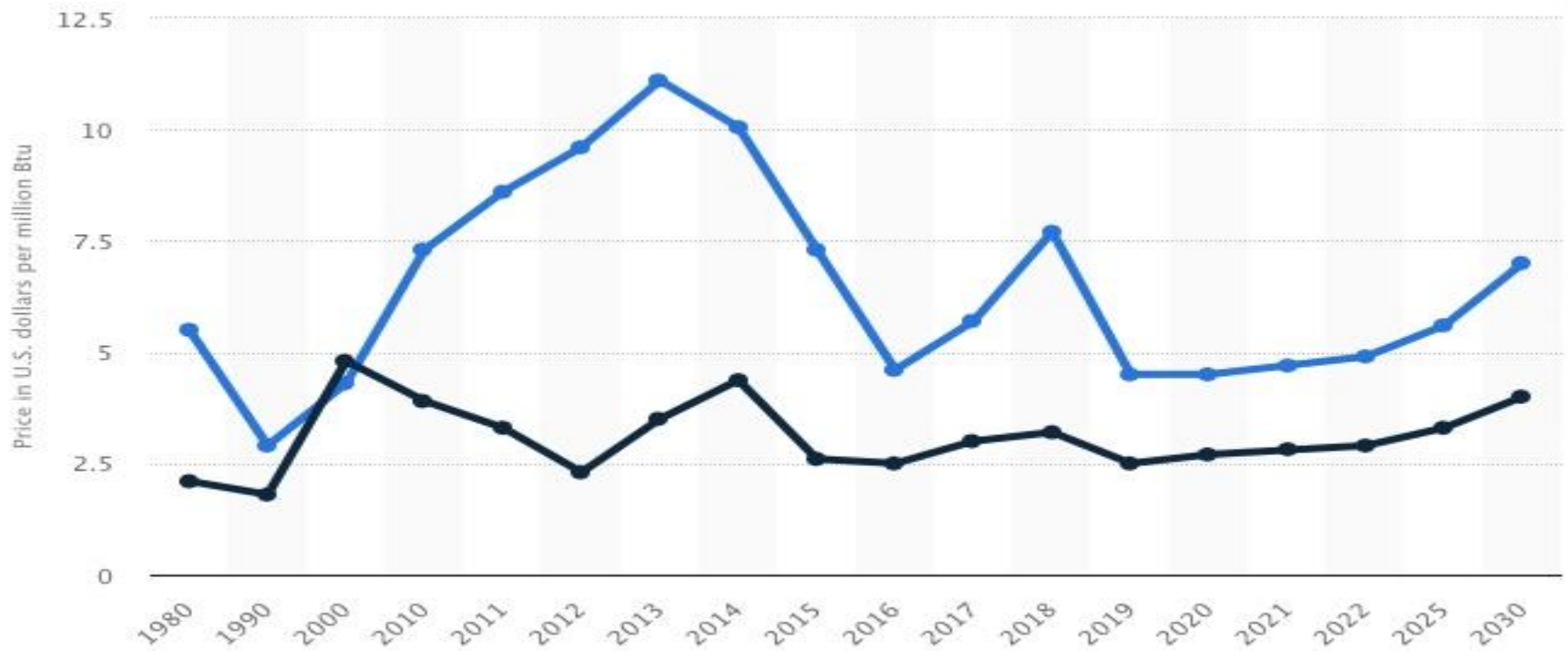


<https://stateimpact.npr.org/pennsylvania/2019/11/13/mariner-east-2-pipeline-fbi-investigations/>



# PIPELINES AND PLASTICS

- Supply and Demand
- Shipped abroad – market provides higher price (Oct 2019)



# HOMEOWNER ISSUES

- ❑ **Eminent Domain**
- ❑ **Sink Holes**
- ❑ **Polluted Wells**
- ❑ **Right of Ways (Tax for Revenue)**
- ❑ **Noise/Light**
- ❑ **Health**

## MONEY TALKS



# **NEED TO UNIFY ENVIRONMENTAL EFFORTS**

- Check with New Jersey Environmental Justice Alliance**
- Vested interest – Non-profits**
- Can Swarthmore help?**
- Focus on Common Goal Chester City?**



# AIR QUALITY - PERMITS – DEP

## INPUT/DELAYS/LITIGATION

- <https://www.dep.pa.gov/About/Regional/SoutheastRegion/Community%20Information/Pages/default.aspx>

[DEP](#) > [About DEP](#) > [Regional Resources](#) > [Southeast Regional Office](#) > Community Information

## Community Information

DEP believes that it is vital for citizens to be informed about environmental issues in their communities, especially those issues that are of significant local interest and impact over an extended period of time. It is the purpose of the Community Involvement section to make information about major environmental issues within the five counties of southeastern Pennsylvania conveniently located and accessible to all residents.

Elcon Recycling  
Services LLC

Easton Road

Ridge Run

Hoff VC-Gibraltar  
Rock

New Hope Crushed  
Stone





# MAKING A DIFFERENCE

## DAVID VS. GOLIATH



- **Support Legal Action**
- **Advocate**
- **Work for Campaign Finance Reform**
  - ***Deep Drilling Deep Pockets***
- **VOTE**



# THANK YOU!

