A Methane Regulation Perspective

April 2024

Indiana Oil & Gas Association

Who is INOGA?

- All volunteer organization
- Formed 63 years ago
- Membership includes:
    - Operators
    - Refiners
    - Pipeline companies
    - Service companies
    - Engineering and geology companies
- Represent our members' interest at the State and Federal levels
- Provide education opportunities for our members and the public
- Provide scholarships annually

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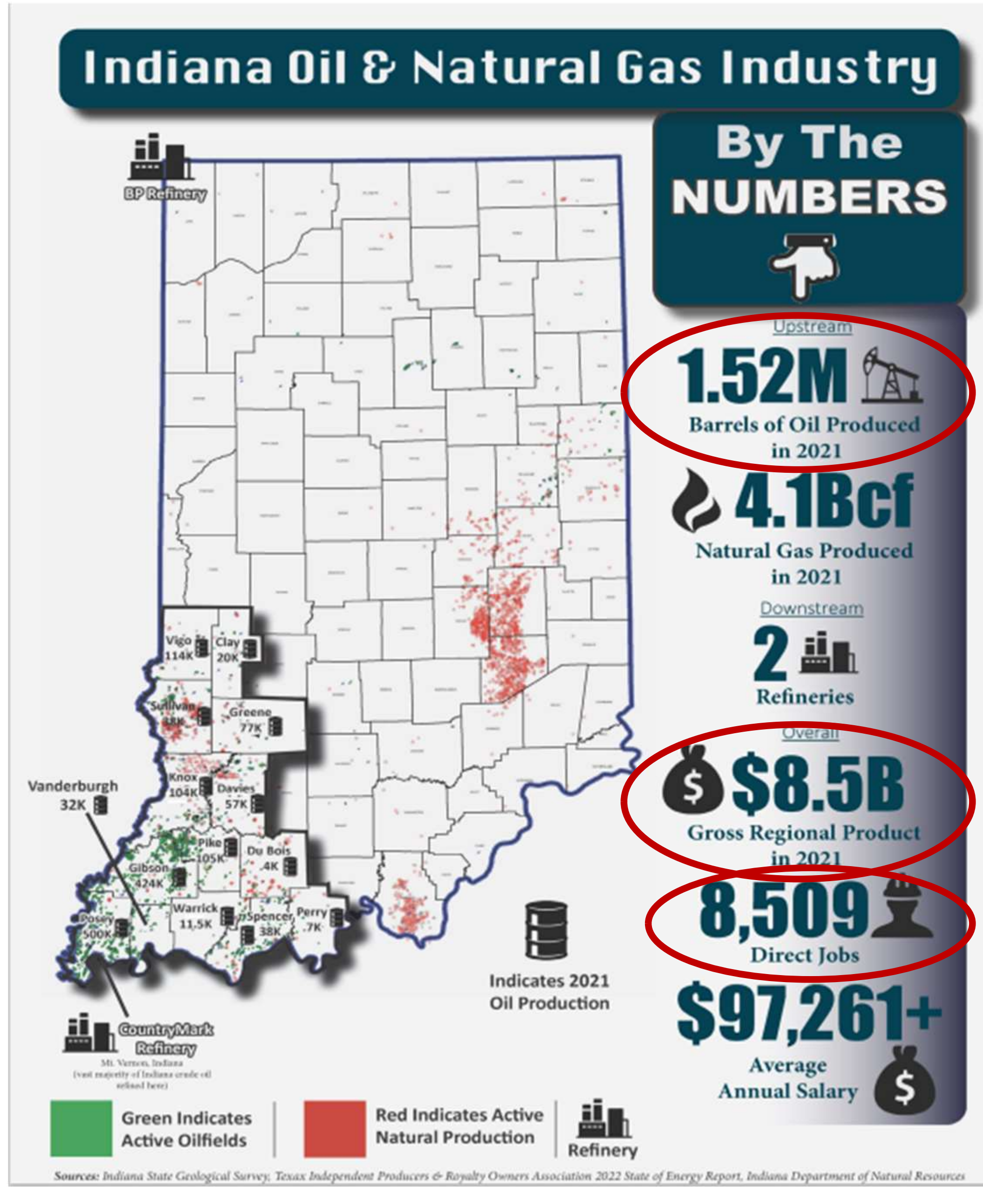
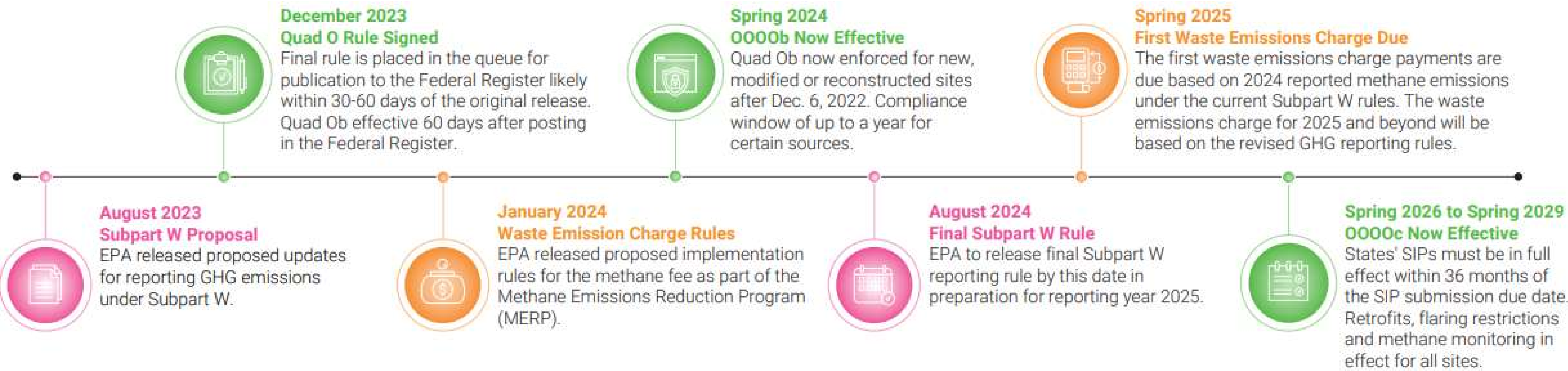
Industry Facts

- 2024 Active Wells – 8614
- Average Production per well < 1 bpd
- Oil production primarily in SW Indiana
- Gas production primarily in central Indiana



Federal Methane Actions



Source | Enverus Intelligence® Research

- Expectation is high producing wells will absorb cost; marginal wells will be plugged.
- ~300,000 marginal wells will be plugged.
- Upgrading flares and controllers is estimated to cost $11.2B.
- Fugitive emissions monitoring is expected to cost $765M/yr.
- Reporting and recordkeeping is expected to cost $94M/yr.
- $350M is available to support plugging wells; estimated cost to plug marginal wells is $32B.

What Does the OOOOabc Cover?

- Leak Detection and Repair
- Associated Gas from Oil Wells
- Storage Tanks
- Closed Vent Systems and Control Devices
- Compressors
- Liquids Unloading
- Process Controllers and Pumps
- Record Keeping and Reporting

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Technical Areas of Concern

- Facility/wellsite definitions
  - EPA's definitions are so broad that many production wells will require more rigorous monitoring.
  - All wells will require monitoring.
- Pneumatic controllers and pneumatic pumps (Process Controllers and Pumps)
  - EPA eliminated controllers and pumps that vent to a combustion system because they still create emissions.
  - Many controllers have been converted to "low bleed" systems over the past 5-10 years, new regulation requires replacement of these devices.
- Eliminating the ability to flare associated gas
  - There is no economic consideration provided, only technical infeasibility.
- The Super Emitter program
  - Considers operators guilty until they prove themselves innocent through an investigation.
  - Industry is concerned with the response time by EPA.
  - Company's name published to an EPA website.

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Administrative Areas of Concern

- EPA released 2,000+ pages of regulations in a few months
  - OOOO/OOOOa/OOOOb/OOOOc was ~1,700 pages
  - Methane Tax (Waste Emission Charge) was ~ 300 pages
  - Subpart W revision was 160 pages
- Regulations have changes two times in eight years
  - Initial publication: 2016
  - Revision 1: 2020
  - Revision 2: 2024

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Financial Impact Without Methane Rules

WTI Price:	$80.00/bbl
ILB Crude Price:	$73.00/bbl
Daily Production:	1 bbl
Net Revenue Interest:	80%
Net Revenue to Owner:	$58.40
Taxes:	$ 2.66
Gross Revenue:	$55.74
Expenses	
Lifting Cost:	$35.00
Selling, General, & Admin.:	$15.00
Total Expenses:	$50.00
Non-Routine Costs:	$ 1.00
Taxable Income:	$ 4.74
Income Tax Due (22%):	$ 1.04
After Tax Income:	$ 3.70

Severance Tax (1%)
County property tax

Utility bills
Chemicals
Routine Maintenance
Operations Salary

Vehicles
Office Expenses
Insurance
Contract Support

Equipment Replacement
Well Stimulation

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What Is In the Expenses?

WTI Price:	$80.00/bbl
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Total Expenses:	$50.00
Non-Routine Costs:	$ 1.00
Taxable Income:	$ 4.74
Income Tax Due (22%):	$ 1.04
After Tax Income:	$ 3.70

$35/bbl x 365 bbl = ~$12,750/yr

	$/month	$/yr	
Utility bills	$100	$1,200	
Chemicals	$ 60	$ 750	
Maintenance	$150	$1,800	
Operations Salary	$750	$9,000	($25/day)
Total	$1,200	$12,750	

$15/bbl x 365 bbl = $5,700/yr

	$/month	$/yr
Vehicles	$250	$3,000
Office Expenses	$ 25	$ 300
Insurance	$ 25	$ 300
Contract Support	$175	$2,100
Total	$475	$5,700

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Financial Impact With Methane Rules

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Net Revenue to Owner:	$58.40	
Taxes:	$ 2.66	Severance Tax (1%) County property tax
Gross Revenue:	$55.74	
Expenses		
Lifting Cost:	$35.00	Utility bills Chemicals Routine Maintenance Operations Salary
Selling, General, & Admin.:	$15.00	Vehicles Office Expenses Insurance Contract Support
Compliance Costs:	$ 5.10	
Total Expenses:	$55.10	
Non-Routine Costs:	$ 1.00	Equipment Replacement Well Stimulation
Taxable Income:	$ (0.36)	
Income Tax Due (22%):	$ (0.08)	
After Tax Income:	$ (0.28)	

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What is in the Compliance Cost?

WTI Price:	$80.00/bbl
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Reporting and Record Keeping:
Annual Cost = $94,000,000/yr
Number of Companies = 9,000 (source: IPAA)

$94,000,000/9,000 companies = $10,444/company per yr
Assume each company operates 10 wells
Annual Production = 3,650 barrels

$10,444 reporting cost / 3,650 barrels = **$2.86/bbl**

Fugitive Emissions Monitoring:
Annual Cost = $765,000,000/yr
Number of Producing Wells = 937,000 (Source: EIA)

$765,000,000 per yr /937,000 wells = $816/well per yr
Annual Production = 365 barrels

$816 monitoring cost per well / 365 barrels = **$2.24/bbl**

Compliance Cost: **$5.10** = **$2.24/bbl + $2.86/bbl**

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Flaring Restrictions

Operators are restricted from flaring associated gas from oil wells. EPA provided four options:

(1) Recover the associated gas from the separator and route the recovered gas into a gas gathering flow line or collection system to a <u>sales line</u>

(2) Recover the associated gas from the separator and use the recovered gas as an <u>onsite fuel source</u>

(3) Recover the associated gas from the separator and use the recovered gas for <u>another useful purpose</u> that a purchased fuel or raw material would serve

(4) Recover the associated gas from the separator and <u>reinject</u> the recovered gas into the well or inject the recovered gas into another well for enhanced oil recovery

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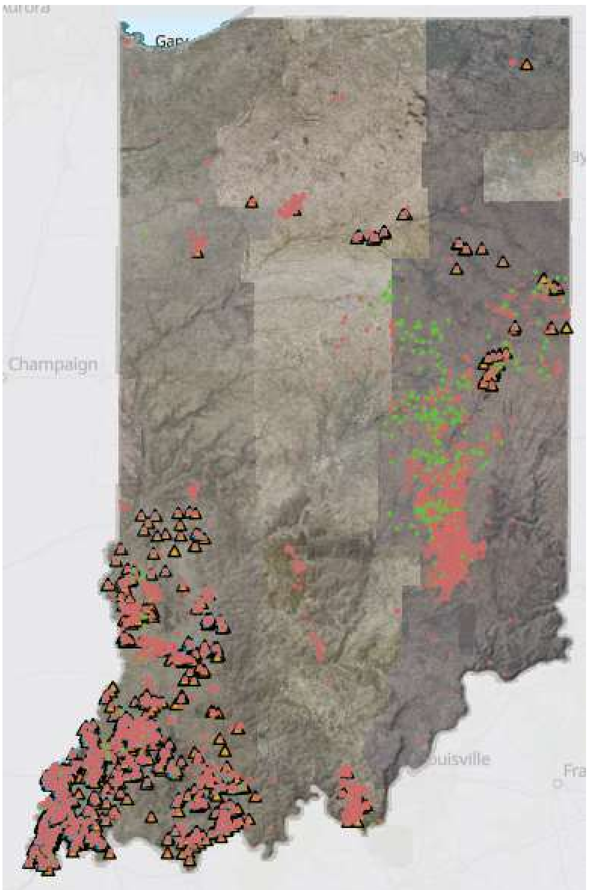
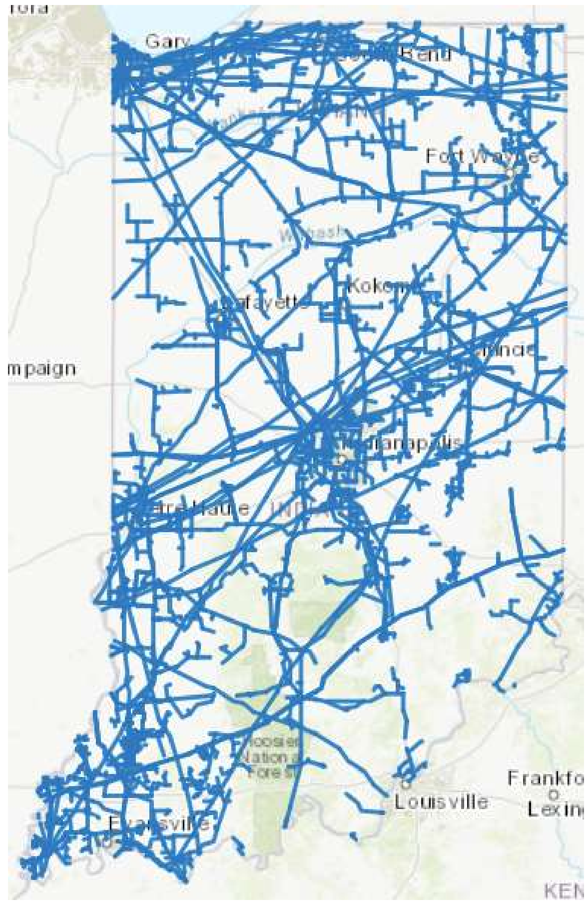
Indiana Oil Wells and Commercial Gas Lines





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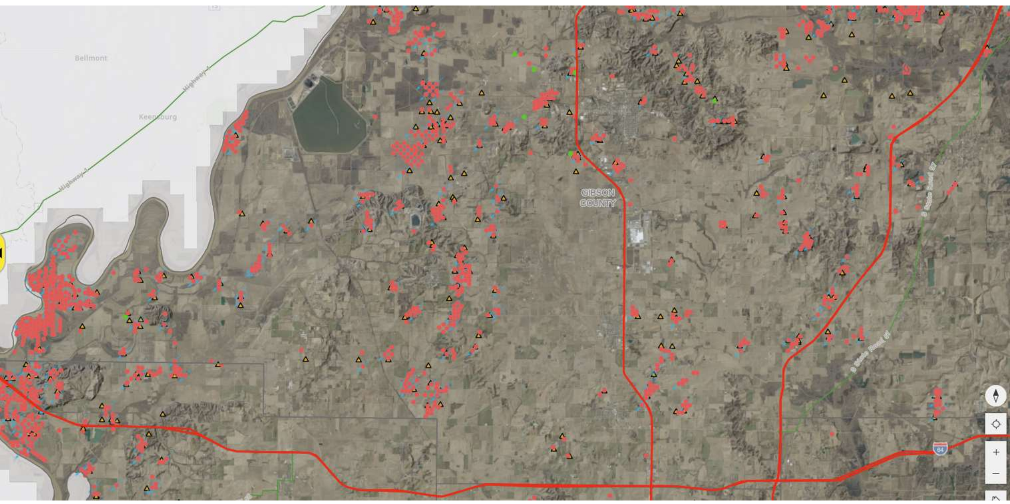
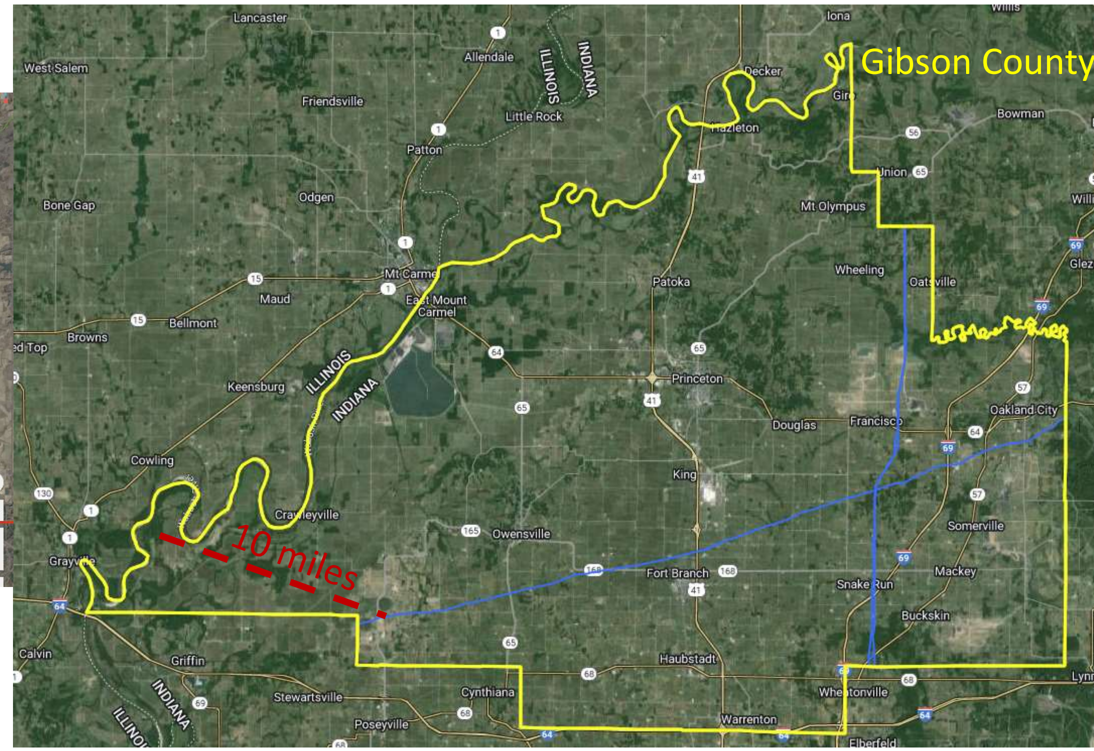
Construct a New Gas Pipeline





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Pipeline Cost

- Leasing: $ 100,000
- Survey: $ 250,000
- Permitting: $ 25,000
- Design: $ 125,000
- Construction: $ 400,000
- Processing Plant: $ 200,000
- Tie-in: $ 250,000
- Compliance: $ 25,000
- Commissioning: $ 25,000
- Total: $1,400,000

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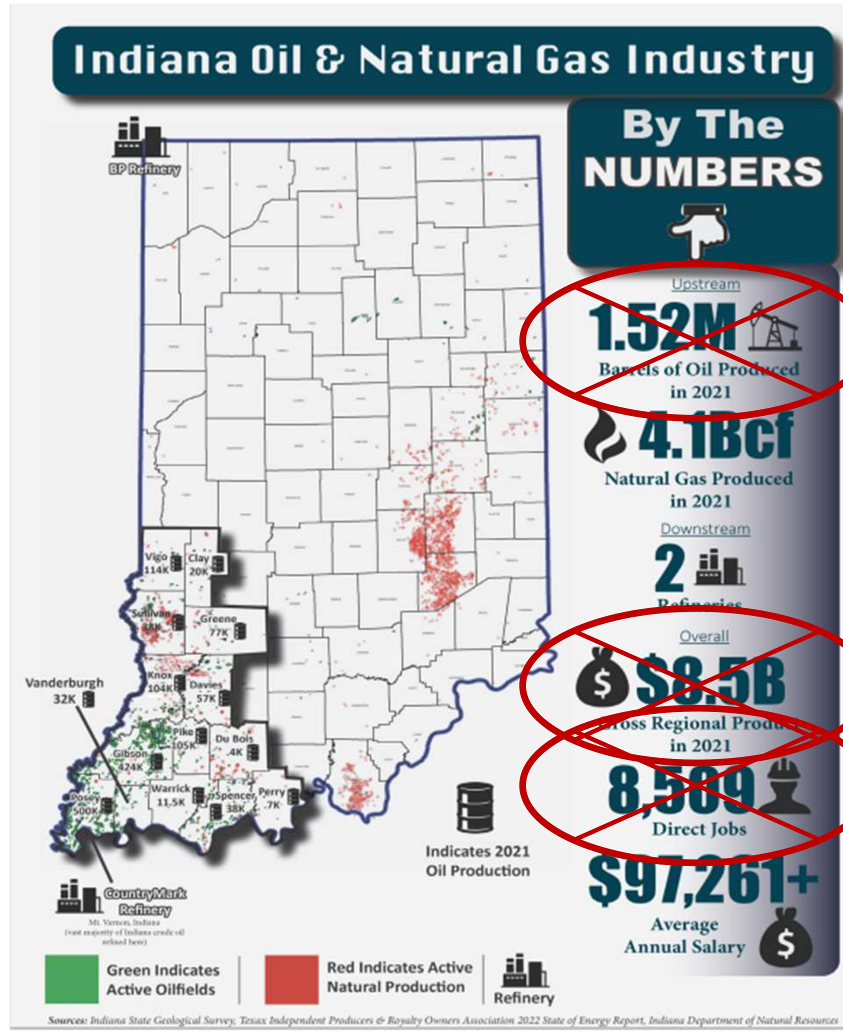
Pipeline Economics

- Tariff: $0.50 / MCF
- Pipeline Flow Rate: 50 MCF/day
- Annual Gross Revenue: ~$9,000
- Payback (ignore OpEx): 155 years

Link

Summary

- Indiana's oil production will be impacted
- Compliance will be expensive
- EPA estimates 300,000 wells plugged



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Thank you

Methane Tax Summary (Waste Emission Charge)

- The Methane Tax was created in 2021 by the US Congress in the Inflation Reduction Act (IRA).
- Fee Schedule per metric ton of methane released above the regulatory threshold of 25,000 metric tons of carbon dioxide equivalents per year.
  - 2024 - $900 / metric ton
  - 2025 - $1,200 / metric ton
  - 2026 - $1,500 / metric toon
- EPA has estimated that the program will result in $390 million in compliance costs and tax payments after accounting for methane mitigation
- EPA is estimating that taxes paid will decline year-over-year, even with an increasing tax rate, because operators will be reducing emissions from their facilities.
- WEC is due on the same day that your report is due.

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Indiana Oil Well Locations