

Pipeline Safety



T R U S T

Credible.

Independent.

In the public interest.

CO₂ Pipelines

Amanda McKay
Policy Manager

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Pipeline Safety Trust History



Guys.
I'm fishing. Will
be back before dark.
Homework is done.

Liam



**Pipeline
Safety**

TRUST

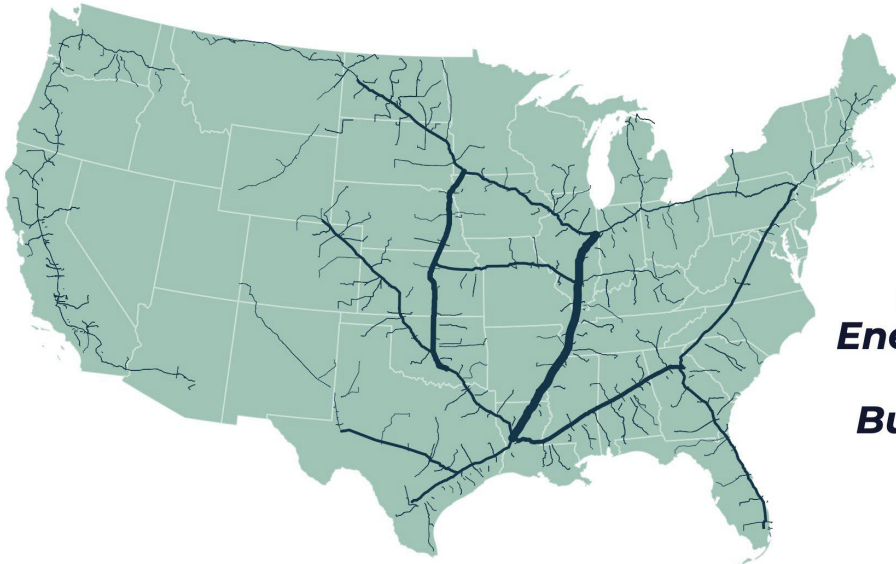
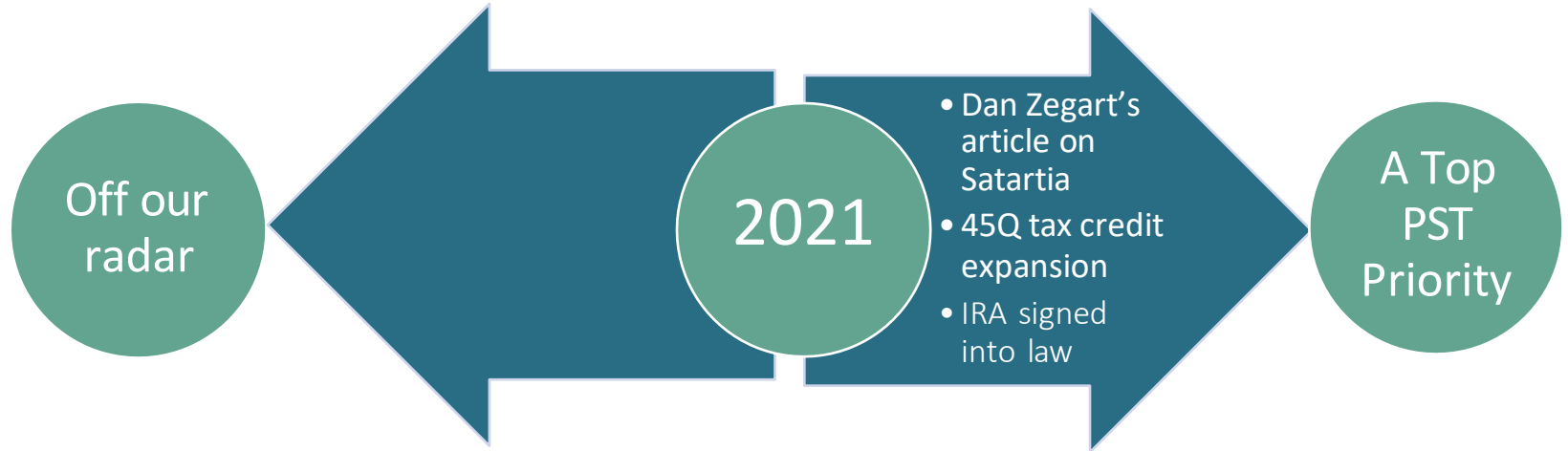
CO₂ Pipelines - History

- 1986 – Lake Nyos, Cameroon tragedy
- 1988 – PHMSA final rule
- 2020 – Satartia, MS disaster
- 2021 – 45Q Tax credit expansion
- 2022 – Inflation Reduction Act
- 2023 – PHMSA Public Meeting
- 2024 – PHMSA NOPR *expected*



Operators and regulators have little experience with CO₂ pipelines compared to hazardous liquid

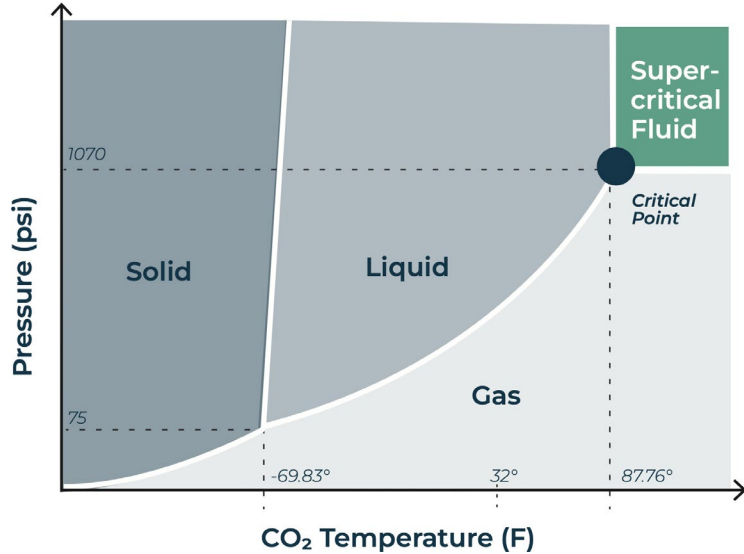
PST and CO₂ Pipelines



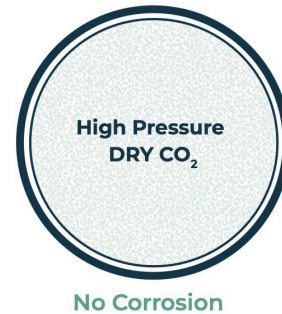
Department of Energy Estimated CO₂ Pipeline Buildout by 2050

6, 7, 8

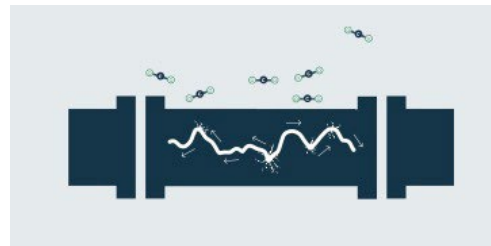
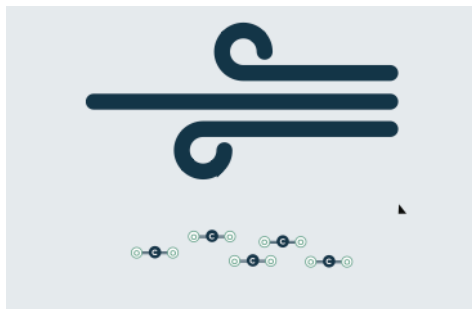
CO₂ Pipelines Report – Major findings



WATER IN CO₂ PIPELINES: POTENTIAL FOR CORROSION



Historically, CO₂ pipelines have transported relatively dry and pure CO₂. However, the expansion in different sources of CO₂ has the potential to lead to higher water content and more impurities introduced into pipelines. In addition, carbon dioxide mixed with water can form carbonic acid which is extremely corrosive to the internal surface of the pipe.



CO₂ Pipelines and Environmental Justice

- White House EJAC- CCS and direct air capture do not benefit a community
- Disproportionate burden
- Routing and siting issues



PHMSA's Response

- Satartia Accident Investigation Report
- Fine on Denbury
- In progress- new rulemaking for CO₂ pipelines
- Funding new R&D projects

Challenges Ahead

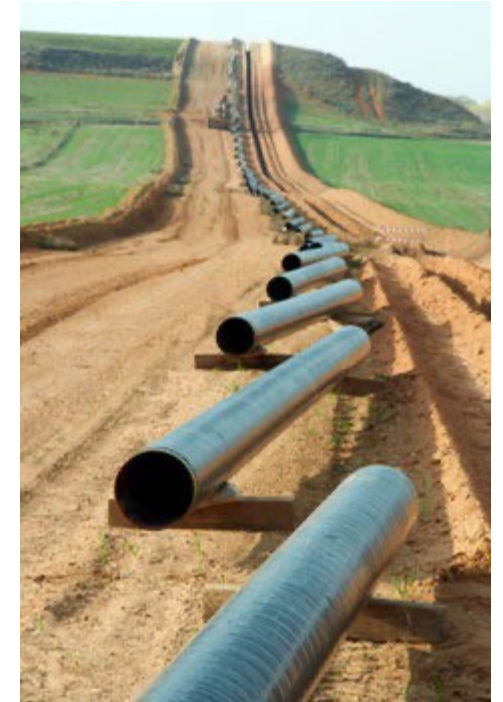
- No congressional mandate
- Federal rulemaking will take years
- Statutory limitations



Figure 6. Failure Location (Upstream to Downstream)

Call to Action

- Federal agency for siting and routing
- R&D projects
- Closing the regulatory gaps through federal and state level regulations
- Local efforts to ensure safety



Thank You!

- PST CO2 Pipeline Report and Backgrounder –
<https://pstrust.org/carbon-dioxide-pipelines-dangerous-and-under-regulated/>
 - Article – [The Gassing of Satartia](#)
 - Video – [8" CO2 Pipeline Test Rupture](#)
- White House EJAC Report – [Final Recommendations: Justice40, Climate and Economic Justice Screening Tool and Executive Order 12898 Revisions](#)
 - Research Paper – [CO2 Pipeline Material and Safety Considerations](#)

Email: amanda@pstrust.org

