

Natural Gas Liquids: A Dangerous Plastic-Producing Byproduct of Fracking

The fracking boom and the resulting gold rush in natural gas liquids (NGLs) and petrochemicals has resulted in a blighted environmental landscape, worsening public health and proliferating plastic pollution. As companies have looked for ways to absorb excess natural gas production, hedge against an electrified future and ensure fossil fuel dependence, they have turned to reliable moneymakers: a fracking byproduct known as NGLs, and NGL-guzzling petrochemical facilities. But a petrochemicals buildout fueled by NGLs means more plastic and more pollution — and a step backward for climate at a time when we should be taking the most aggressive action.

The deluge of fracked natural gas has unleashed a dangerous buildout of wells, storage facilities and pipelines, worsening climate change and spreading a toxic web of pollution throughout the United States. And as fossil fuel corporations build NGL infrastructure at a breakneck pace, health and safety regulations to safeguard those living near developments cannot keep pace. Now, more than ever, people are being put at risk by the expansion of the petrochemical and plastics industry.



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The Gas Glut

Our current natural gas glut is fueling an increase in exports and the buildout of more unnecessary petrochemical and plastics facilities. As it stands, the United States is the biggest global producer of natural gas liquids.¹ NGL production grew nearly threefold between 2007 and 2019 as fracking took off, while prices for NGLs plummeted 66 percent.² Likewise, the real wholesale price for natural gas fell 62 percent as total production rose.³ This glut has led companies to rely on petrochemical manufacturing and NGL exports to spur increased demand and domestic production. From 2015 to 2020, U.S. NGL exports increased 117 percent.⁴

A Buildout Frenzy

This cheap oversupply of NGLs has led to an infrastructure boom, especially in wet-gas rich areas like Appalachia. Wet gas reserves, like the Marcellus Shale, have higher concentrations of NGLs than other gas reserves.

Over the past 10 years, oil and gas and chemical companies have committed to spending at least \$200 billion on shale, with nearly 350 chemical plants in the works across the United States.⁵ For example, the proposed Appalachian Storage and Trading Hub would create a multi-billion-dollar natural gas storage complex and an associated network of gas pipelines designed to capitalize on the region's shale gas to supply chemical and plastics inputs for manufacturing plants.⁶

NGLs Are a Health and Safety Hazard

NGLs and NGL infrastructure are extremely dangerous to public health and safety. NGLs are “extremely flammable”⁷ and typically odorless, making leaks from infrastructure easily undetected.⁸ Unlike natural gas, NGLs usually do not have a sulfur-based odorant added to them for leak detection.⁹ Many NGL pipelines are not federally regulated¹⁰, and there is no federal siting or permitting process for these pipelines.¹¹ Moreover, NGL storage facilities can leak, erupt into flames or form sinkholes, and petrochemical facilities can explode.

Unfortunately, these facilities are often sited in or nearby disadvantaged communities, compounding health and safety risks for already burdened populations.

Environmental Injustice

Petrochemical plants are disproportionately sited in or near low-income communities and communities of color. The petrochemical plant-laden “Cancer Alley” region between New Orleans and Baton Rouge along the Mississippi River has been polluted for decades; in general, areas that have more communities of color have some of the worst air in the country.¹² The petrochemical building boom in the Upper Ohio River Valley is taking place alongside a wide range of other industrial polluters in vulnerable communities.¹³

Conclusion

The expansion of drilling and fracking is associated with significant quality-of-life and public health problems and endangers society by worsening climate instability. This cheap and dirty fossil fuel is also proliferating its toxic legacy by facilitating the expansion of petrochemical plants, which are polluting and unsustainably producing

materials that often end up in landfills. Rather than continually investing in fossil fuels and chemical industries, we must invest in clean, renewable energy.

To protect people and the climate, we need to overhaul our energy system. A movement is growing to support a large-scale effort to move the United States away from fossil fuels by building renewable energy and electrifying infrastructure. Technology for a large-scale transition to renewables has existed for more than 20 years and is cheaply available now — we just need strong government policies backed by political will to see it through.

Food & Water Watch recommends:

- An immediate national ban on fracking and its associated infrastructure, like pipelines, power plants and petrochemical facilities.
- Transitioning to 100 percent clean, renewable energy by 2030 through an investment in a New Deal-scale green energy public works program that fosters a rapid transition to real zero-emission clean energy like solar and wind, accompanied by widescale deployment of energy efficiency.

Endnotes

- 1 Congressional Research Service (CRS). “Natural Gas Liquids: The Unknown Hydrocarbons.” R45398. October 26, 2018 at 11.
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- 3 FWW analysis of EIA data: “U.S. Natural Gas Gross Withdrawals from Shale Gas (Million Cubic Feet)”, “U.S. Natural Gas Gross Withdrawals (MMcf)”, “U.S. Natural Gas Citygate Price (Dollars per Thousand Cubic Feet)”, “Shale Gas Production.” Available at www.eia.gov. Accessed April 2020.
- 4 FWW analysis of EIA. Petroleum & Other Liquids. “Exports: Natural Gas Liquids.” Available at https://www.eia.gov/dnav/pet/PET_MOVE_EXP_A_EPL2_EEX_MBBLPD_A.htm. Accessed March 2021.
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- 10 Lee, Mike and Mike Soraghan. “Explosions from unregulated pipelines can kill in Texas while energy companies go unpunished.” *E&E News*. March 7, 2019.
- 11 Pipeline Safety Trust. Pipeline Briefing Paper #14. “Jurisdictional Issues Relating to Pipelines.” September 2015 at 3 to 4; Iowa Utilities Board. “Hazardous Liquid Pipeline Permit Process.” ND; 49 USC §60104(e).
- 12 Baurick, Tristan, Lylla Younes and Joan Meiners. “Welcome to ‘Cancer Alley,’ where toxic air is about to get worse.” *Times-Picayune and Advocate* and *ProPublica*. October 30, 2019.
- 13 FWW. “Another Petrochemical Sacrifice Zone: Proposed Appalachian Gas ‘Cluster’ Would Pollute Region and Entrench Fossil Fuel and Plastics Infrastructure for Decades.” September 2018 at 2.

