Plastic Prosperity

written by Nicole Fabricant | August 17, 2022

In the mid-2000s, a new industry came to Appalachian Pennsylvania, a region where the coal and steel sectors once reigned supreme. Energy companies had figured out a way to extract gas from beneath the soil, using a drilling technique called fracking to tap the vast reserves of the Marcellus Shale.[1]

But in the decade and a half since then, gas has become a far riskier investment. Even before the spread of Covid-19, global demand for the fuel was decreasing. In 2020, as the pandemic brought many industries to a grinding halt, the industry fell further into disarray. Analysts began speculating that fossil fuel demand had already reached its peak,[2] while others argued that gas from the Marcellus Shale, specifically, may never again prove profitable.[3] Yet industry heads have a scheme to turn things around and solidify gas demand for decades to come.

In June 2016, the energy giant Shell announced plans to build a multibillion-dollar ethane cracker plant—part of a much larger petrochemical hub that will connect Ohio, West Virginia, and Pennsylvania—in Pennsylvania's Beaver County. The facility, which is set to open in fall 2022, will focus on turning ethane, a by-product of fracked gas, into plastic pellets.

Shell's plant comes as part of a larger plan to transform the region sometimes known as "Frackalachia" into a plastics and petrochemical hub.[4] The scheme will outfit the area with hundreds of miles of pipelines and freight rails, storage facilities, and refineries, all in order to produce millions of tons of plastic each year.

This is a plan B for the fossil fuel industry. "The expanding petrochemical and plastics manufacturing sectors can sop up excess gas supplies, propping up the faltering fracking industry and creating a mutually profitable and polluting partnership," wrote researchers from an environmental nonprofit organization.[5] The authors estimated that broader petrochemical hub and plastics industries could invest $35.8 billion in central Appalachia's emerging petrochemical and plastics manufacturing facilities and a large underground gas storage facility.

The proposed storage complex may be a get-rich-quick scam, but it is also a pollution and socioeconomic nightmare. This hub would make the Appalachian basin the largest concentration of plastics and chemical manufacturing outside the highly polluted Gulf Coast, commonly referred to as "Cancer Alley."[6]

The demand for this massive petrochemical plant is partly driven by plastic's popularity and, relatedly, potentially high profit margins. A senior campaigner and researcher with Center for International Environmental Law, Dustin White, said,

> Plastics are supposed to reduce the weight of cars; therefore, you can meet better emission standards, but that's a myth because cars are actually getting heavier.[7] Another [big sell for

> plastics] is … plastics keep your food safer. … Like your food is wrapped in plastic, [and] if we don't use plastics you will not be protected as a consumer. Your food is wrapped in plastic to protect it in the shipping supply line … so that they can take longer to get it out to the stores.[8]

This article lays out the political economy of fracking for natural gas: that is, why the Marcellus Shale region became a region for fracking and some of the socioeconomic, environmental, and public health concerns of fracking. The environmental public health concerns tied to fracking should be a warning sign against the expansion of this petrochemical hub. The article then examines what this expansion means in the midst of a never-ending public health pandemic, climate chaos, and a fragile ecosystem. Unless we also halt the use of fossil fuels for all purposes, the industry will always find new markets. We must immediately eliminate subsidies to oil, gas, and coal, nationalize fossil fuels, and try the executives of fossil fuel industries for crimes against humanity.

Selling an Image of Prosperity: From Permanent to Plastic Jobs

When the fracking boom first came to Appalachia, the industry promised to bring desperately needed jobs. A 2010 study from the fossil fuel lobby group American Petroleum Institute projected that the sector would bring more than 211,000 jobs to Pennsylvania and an additional 43,000 to West Virginia.[9]

This expected prosperity didn't pan out. A 2021 report from the nonprofit Ohio River Valley Institute revealed that while fracked gas led to a 60 percent growth in economic output in Appalachia from 2008 to 2019, some 90 percent of the wealth created from shale gas extraction left local communities.[10] Jobs in the region increased by just 1.6 percent, which is more than eight percentage points below the national average.[11] Today, the fossil fuel industry is once again promising to improve economic prospects for fracked counties in Appalachia. As retired pediatrician and president of Physicians for Social Responsibility in Pennsylvania Ned Ketyer stated, "There is no industry in the world that is as wealthy and powerful as the oil and gas industry."[12]

In a region still reeling from the loss of jobs from manufacturing and steel, this petrochemical hub promises big things when it comes to economic development. The petrochemical hub is being sold by the oil and gas industry as a "silver bullet" to provide jobs and employ more than 5,000 people. When completed, the facility will be fed by pipelines stretching hundreds of miles across Appalachia. It will have its own rail system with 3,300 freight cars and will produce more than a million tons of plastics.

Lois Bower-Bjornson (a southwestern Pennsylvania field organizer with Clean Air Council) stated, "The cracker plant in Pittsburgh will create between four hundred and six hundred jobs. And the number keeps dropping, and everyone's coming up from Louisiana. They're not jobs for locals. No, no. There'll be very few local jobs."[13]

Millions of Americans live next door to drill rigs, and that opens the door to a range of potential environmental health problems. However, the problems are not quite visible to the eye. Earthworks representative and field advocate Leann Leiter talked about how hard it is to "fix a problem that you cannot see. Air pollution is invisible." Earthworks partners with communities to make visible air pollution that is normally invisible.[14] They have set up optical gas imaging in order to see the emissions and track the health consequences.[15]

The Plastic Prosperity of Natural Gas

Amity and Prosperity is an investigative journalistic book published in 2018 in which author Eliza Griswold details the social, political, environmental, and public health horrors of the natural gas

industry through the story of one family in the Marcellus Shale region. Griswold tells the story of Stacey Haney, a nurse and single mom, and how her hopes for big money fade quickly in the face of contaminated water and air, torn-up roads, an immobile son, lawsuits, and stints of homelessness. Once a beautiful farmhouse surrounded by animals on a pristine landscape, Stacey's home now seems like a living hell surrounded by red and white drill rigs dotted along the hillsides and huge semitrucks that run up and down the small country roads. Her children fall mysteriously ill, and her animals all become afflicted. The family goes deep into debt to try to keep their farmhouse, which eventually is robbed as it sits idle, and hooligans strip every metal from the abandoned home to sell on the black market.

In *Amity and Prosperity*, "The scrap metal market worked as much as it did all over the world; when the price of metal spiked, people hauled whatever scrap they had in their yard to sell it. A glance at the junkyard in the town could tell you where the metal market stood."[16] Stacey and her family lost a good part of their lives waging a never-ending battle against the oil and gas industry, which turned into Stacey losing faith in the political system, from local political leaders all the way up to the Obama administration.[17]

This tale is a warning to all of us about the human costs of the nonstop quest to preserve American energy. The tale also warns us of the sociopolitical consequences of fracking for natural gas, where extraction fragments community relationships. These processes create distrust among neighbors and friends, demobilize residents, and turn private property ownership into co-ownership with private corporations. And eventually, in the last stage of fracking, one will witness a toxic soup of contaminated water, air, lands, animals, and livelihoods.

We cannot live off scarred landscapes and soils filled with toxins. Will we eat the oil? Will we simply accept contaminated air, water, and soils? This should be not just a wake-up call to southwest Pennsylvania but also to all of us who utilize and depend upon nonrenewable resources for gas in our homes, who depend upon Appalachian headwaters for the water we drink, and who eat any kind of plants or animals that might come from this region.

As Lois Bower-Bjornson said while I and a group of Towson University students took a Frackland tour of Greene and Washington Counties with her in October 2021, "We are your supplier, but you are our junkie … stop buying our gas!"[18] May this forewarn what is to come: the last leg of the fossil fuel marathon to extract as much profit as possible, at the expense of us all.

Bower-Bjornson encapsulates the personal horrors of the fracking industry and the ways in which it has wreaked havoc upon lands, waterways, and bodies. While this article will turn toward my concerns about building a massive petrochemical hub outside Pittsburgh that will connect to West Virginia, Ohio, and Kentucky, we should look first at what fracking for natural gas has done to some of these regions in southwest Pennsylvania. Let's trace back.

The Public Health Horrors of Fracking

Fracking is a relatively new invention and has only been used as a means of extracting natural gas for the last fifteen years. It is sold as more efficient and productive for the natural gas industry. The Marcellus Shale location was key because of its proximity to gas supplies, creating shorter and more reliable supply chains. For fifteen years, we have seen the devastation that natural gas has created for southwest Pennsylvania. But for shale gas to meet its potential, millions of Americans will have to live with drill rigs in or near their own neighborhoods, and that opens the door to a range of potential environmental health problems: pipelines and wellheads can explode, the process produces toxic air emissions, and fracking generates liquid wastes that can contaminate surface and drinking water supplies.[19]

In Washington County, Pennsylvania, at a site we visited in October 2021 southwest of Pittsburgh, fracking well pads sit alongside neighborhoods. One, called a super-frack pad because of its dozens of wellheads, sits in a valley next to the former coal community of Marianna. Four counties in southwestern Pennsylvania have been afflicted by a rash of rare cancers, including twenty-seven cases of Ewing sarcoma over ten years in a population of about 750,000. This rare bone cancer occurs in both children and adults. Ned Ketyer said, "Ewing sarcoma is a nightmare for the families that are given that diagnosis, and certainly for the patients and also for the physicians that diagnose it. It starts very quietly, but by the time the diagnosis is made it has deepened and spread."[20]

Janice Blancock, a resident of Washington County, spoke of her high-school-aged son who fell ill with lower-spine Ewing sarcoma. Blancock described the only thing that would take away his pain was doing massive surgery. They did the surgery and he was released, but there was a long road ahead of them. Then her son underwent chemotherapy and radiation.[21]

> In our church, there was a young fellow for years at mass every weekend. I didn't realize at the time we were praying for a boy with Ewing sarcoma. I met a mom at the children's hospital who had lost her son to Ewing sarcoma and lived a mile up the road. It wasn't until his friend and classmate were diagnosed with Ewing sarcoma—something is very wrong here with this picture. We are all in this close-knit community, and it is such a rare cancer. [We asked ourselves] what the heck is going on? Washington County, Greene, and Fayette County had twenty-eight cases of Ewing sarcoma in the past year. There are toxic chemicals in our water—it's in our soil and it's in the air we breathe.[22]

We met Danny Russel on our Frackland tour—a longtime resident and homeowner who lives close to the Lusk compressor station in Washington County. Lois Bower-Bjornson said Russell is disturbed by around-the-clock noise pollution and described how a drilling pad built just hundreds of feet from his home has polluted waterways where his animals drink the water. "Something needs to be done about this," said Russell. "This is our area, we work hard, we are hard workers and I don't feel that we have to live with this. This is one of many that's going to happen here. We need to delay this and talk about it and get it right."[23]

His dog's neck was covered in massive tumors he suspects are related to the gas compressor station close to his house. He stated that "we are considered the guinea pigs … we don't know what they are doing here." He warned us all that when that "cracker plant gets going [in 2022] they are going to build sixteen more wells and mega pads (forty-four projected). It is like the great oil boom of the 1930s, and we will be their sacrifice zone.[24]

We heard about noise pollution from compressor stations, homes that shook like an earthquake, bright lights from flaring, and so many stories of a lack of transparency from oil and gas companies. We also heard about the lack of regulation and blatant neglect from the Department of Environmental Protection, from losing files such as important water testing records to failing to return phone calls. The stories constitute a dystopian hell of government working in lockstep with oil and gas companies, including ways in which the industry wrapped its tentacles around every facet of community life in Greene and Washington Counties, by sponsoring county fairs, camps for the children, and even fishing and recreation trips. This may be the greatest irony of all, since the companies contributed to the pollution of the waterways, and their mere presence makes everyday breathing and living a challenge.

The extraction of oil and gas, particularly the use of hydraulic fracturing for natural gas, releases an array of toxic substances into the air and water, often in significant volumes. Over 170 fracking chemicals that are used to produce the main feedstocks for plastic have known human health impacts, including cancer, neurotoxicity, reproductive and developmental toxicity, impairment of the

immune system, and more.

Transforming fossil fuels into plastics will create other carcinogenic and highly toxic substances to be released into the air. Already well-documented effects of exposure to these substances include impairment of the nervous system, reproductive and developmental problems, cancer, leukemia, and genetic impacts like low birth weight. Industry workers and communities neighboring refining facilities are at greatest risk and face both chronic and acute exposures due to uncontrolled releases during emergencies.[25]

Beyond public health concerns tied to soil, air, and waterways, the 2019 *Plastic & Health: The Hidden Costs of a Plastic Planet* report from the Center for International Environmental Law also found that the plastics life cycle—all the way from the extraction of gas to the manufacturing of plastic to the disposal of plastic—is set to become a major driver of climate change. Pittsburgh mayor Bill Peduto challenged President Trump on climate change and said Pittsburgh would adhere to the Paris Climate Agreement even if Trump pulled out, as he eventually did.[26] Peduto spoke out about it in 2019. The expected 2.25 million tons of carbon dioxide a year from the Shell plant will more or less undo all reductions in carbon dioxide that Pittsburgh (which is twenty-five miles away) is planning to achieve by 2030, according to an Inside Climate News interview with Grant Ervin, chief resilience officer of Pittsburgh.[27]

Climate Catastrophe and Fossil Fuels

This story is tragic and alarming. Yet this should be more than a wake-up call to the American public. It should mobilize all of us to action. We must immediately divest from our dependence upon fossil fuels. We must get our governments to immediately stop subsidizing these industries. Bankrupting the fossil fuel industry seems like the only hope for fully embracing renewables. Dustin White argues, "We need to stop giving fossil fuel companies so many subsidies and start putting that money toward research that goes [toward understanding and combating these industries]. We should be putting subsidies into the reusable or renewable type sector."[28]

Climate activist and director of the Climate and Community Project Johanna Bozuwa and Olúfẹ́mi O. Táíwò, assistant professor of philosophy at Georgetown University, argue in a recent *Guardian* article that

> oil and gas companies are a political structure: they possess private, authoritarian dominion over the pace and volume of oil and gas production, and thus of important determinants of global emissions. These emissions and their consequences do not respect any sort of public/private distinction, nor borders, nor the rights to clean air or clean water.[29]

As Bozuwa and Táíwò point out, public ownership might be our only shot.

Journalist Kate Aronoff has argued that we should try fossil fuel executives at an international body similar to The Hague: "It isn't hyperbole to say that fossil-fuel executives are mass murderers. We should put them on trial for crimes against humanity." She continues:

> More immediately, a push to try fossil-fuel executives for crimes against humanity could channel some much-needed populist rage at the climate's 1 percent, and render them persona non grata in respectable society—let alone Congress or the UN, where they today enjoy broad access. Making people like Exxon CEO Darren Woods or Shell CEO Ben van Beurden well known and widely reviled would put names and faces to a problem too often discussed in the abstract. The climate fight has clear villains. It's long past time to name and shame them.[30]

As we try these fossil fuel executives at a Hague-like structure, we must immediately nationalize the fossil fuel industry. Then, and only then, can we simultaneously move to convincing the American public of the dangers of plastics. "Addressing plastic pollution will require adapting and adopting legal frameworks to ensure better transparency regarding the presence of petro-chemical substances in all products and processes, as well as increased independent research to fill existing and future knowledge gaps."[31] Beyond this, we will also need to begin state by state with plastic bans or even plastic taxes so that folks begin scaling back on the use of plastics.

But this is not enough. Plastics are woven into every facet of our globalized economic system and food chains. Dustin White mentions,

> I like to think of it as I used to refer to [oil and gas] as a hydra or something. You know, it has all these heads moving at once and seems like every time you take off one, two more begin to take shape. … The production, use, and disposal of plastic are interwoven around the world in supply chains that cross and recross borders, continents, and oceans.

A piecemeal approach will not address the scale of this problem. We need a wholly new global political and economic system that is not tied to disposable culture but encourages reuse facilities, curbside composting, and reusable items and that supports localized agriculture and other economies of scale and ways to bring food to home.

When asked about solutions for the region of West Virginia and Pennsylvania, White said "There is no silver bullet." He talks about how important it is for the American public to understand plastics from cradle to grave:

> And [in terms of alternatives] … bio plastics. You know, people think that that's a really good alternative move to plant-based plastics, things like that. They still have to use chemicals, right? So it's still toxic, right? It's really a false narrative. You know, recycling is pretty much a myth, right? So it's really a trick because, I mean, anything you think about doing, wind and solar, then you have to think about where the lithium is being mined. … Just as oil and gas obeys no state boundaries, our resistance must be global. So it really does make the resistance much broader. So thinking about different forms of protest and of action.[32]

May this be a wake-up call to all Americans. If now is not the time, then when? Our fossil fuel addiction will mark the end of humanity. We must not just transition as quickly as possible; we must also hold executives accountable and begin to radically rethink our socioeconomic structures at local, state, and federal levels before it is too late. Shouldn't it be way overdue for the public to demand that we bankrupt the fossil fuel industry once and for all and turn toward community-owned and controlled sustainable alternatives?

Notes

1. United States Geological Survey, "USGC Estimates 240 Trillion Cubic Feet of Natural Gas in Appalachian Basin Regions," October 3, 2019.

2. Kingsmill Bond, "Was 2019 the Peak of the Fossil Fuel Era?" Carbon Tracker Initiative, May 1, 2020.

3. Peter Erickson and Ploy Achakulwisut, "Risks for New Natural Gas Developments in Appalachia," Ohio River Valley Institute, March 2021.

4. Mary Westervelt, "Frackalachia and the Great Fracking Jobs Myth," *Drilled News*, May 13 2021.

5. “Another Petrochemical Sacrifice Zone: Proposed Appalachian Gas ‘Cluster’ Would Pollute Region and Entrench Fossil Fuel and Plastics Infrastructure for Decades,” Food and Water Watch, September 2018.

6. Center for International Environmental Law et al., *Plastic & Health: The Hidden Costs of a Plastic Planet*, Earthworks, March 22, 2019.

7. Interview with Dustin White, conducted by Nicole Fabricant, January 7, 2022.

8. White interview.

9. Timothy J. Considine, “The Economic Impacts of the Marcellus Shale: Implications for New York, Pennsylvania, and West Virginia; a Report to the American Petroleum Institute,” American Petroleum Institute, July 14, 2010.

10. Erickson and Achakulwisut, “Risks for New Natural Gas Developments.”

11. Considine, “Economic Impacts.”

12. Interview with Ned Ketyer, conducted by Nicole Fabricant on January 18, 2022.

13. See Lois Bower-Bjornson interview during Frackland tour, May 21, 2020. Also see here.

14. Bower-Bjornson interview.

15. Bower-Bjornson interview.

16. See Eliza Griswold, *Amity and Prosperity: One Family and the Fracturing of America*, (Farrar, Straus and Giroux: New York, 2018), 210.

17. Griswold, *Amity and Prosperity*.

18. Bower-Bjornson interview.

19. Ruth McDermott-Levy et al., “Fracking, the Environment, and Health,” *American Journal of Nursing* 113, no. 6 (June 2013): 45–51.

20. Ketyer interview.

21. Bower-Bjornson interview.

22. Bower-Bjornson interview.

23. “West Pike Run Township Residents Complain About Compressor Noise,” *Observer-Reporter*, December 7, 2017.

24. Notes from Frackland tour 2021, a tour of Marcellus Shale region by Towson University students, October 2–3, 2021.

25. Center for International Environmental Law et al., *Plastic & Health*.

26. Oliver Morrison, “Peduto Speaks Out Publicly for the First Time Against a Petrochemical Expansion in Western Pennsylvania,” PublicSource, October 30, 2019.

27. James Bruggers, “Plastics: The New Coal in Appalachia?” Inside Climate News, February 25, 2019.

28. White interview.

29. Johanna Bozuwa and Olúfẹ́mi O. Táíwò, “It Is Time to Nationalize Shell: Private Oil Companies Are No Longer Fit for Purpose,” *Guardian*, June 7, 2021.

30. Kate Aronoff, “It’s Time to Try Fossil-Fuel Executives for Crimes Against Humanity,” *Jacobin*, February 5, 2019.

31. Center for International Environmental Law 2019 Plastic and Health: Hidden Costs of a Plastic Planet.

32.White interview.