ENVIRONMENT

The High Price of 'Costless' Climate Cleanup

Claims that there are no harmful economic effects from state "Climate Superfund" laws are dubious.

BY JONATHAN KLICK

Late last year, the State of New York adopted the so-called Climate Superfund Law that is intended to make fossil fuel firms pay the state's costs for climate change mitigation. It is the second state to adopt such a law, after Vermont, and several others—including California, Maryland, Massachusetts, and New Jersey—may follow suit.

Of the new law, New York Gov. Kathy Hochul declared, "Establishing the Climate Superfund is the latest example of my administration taking action to hold polluters responsible for the damage done to our environment and requiring major investments in infrastructure and other projects critical to protecting our communities and economy." That is certainly good rhetoric, but her claims are misleading. The law's basis for assigning responsibility is questionable at best. Worse, Albany lawmakers' claims that regular New Yorkers will not foot at least some of the bill are surely false.

THE LEGISLATION

The law requires fossil fuel firms to pay, collectively, $75 billion over the next 25 years if those firms "engaged in the trade or business of extracting fossil fuel or refining crude oil" and they are individually responsible for emitting more than one billion tons of greenhouse gases (GHGs) globally over the period 2000–2024. (Vermont similarly has a billion-ton threshold over the period 1995–2024.) The law specifically applies to firms that have "sufficient connection with the state to satisfy the nexus requirements of the U.S. Constitution," meaning they do business in New York.

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Some Albany lawmakers did worry that this civil ex post facto law would lead to higher prices for New Yorkers at the pump. However, Nobel laureate economist Joseph Stiglitz assured them there would be no price effects, arguing:

> Because the contemplated assessment would be based on historic contributions to the current stock of greenhouse gases in the atmosphere, it would not affect future production costs. It would therefore be treated as a fixed cost that would be borne by the owners of the relevant companies.

Further, he claimed:

> The companies likely to be covered by the Superfund assessment can easily afford these costs. The world's largest oil companies all enjoy significant operating revenue and significantly large profits. ExxonMobil, for example, made $36 billion in profits last year alone.

The judgmental language used by Stiglitz and supportive lawmakers seems a bit odd when directed at firms that sold products that are unquestionably legal and much in demand. While the New York statute is careful to note that the covered entities are liable without any consideration of fault, blame is invoked in every public pronouncement, despite the scientific fact that GHGs are primarily the result of consumers *burning* the fossil fuels as opposed to firms *extracting and refining* them. Moreover, claims that the payments are acceptable because the payers can afford them would apply to plenty of other entities, including the State of New York itself, which collected over $100 billion in tax revenue last year.

However, those normative non sequiturs are less troubling than the analytic ones. In essence, the Albany lawmakers (with Stiglitz's backing) claim the legislation provides a climate

mitigation "free lunch." Whenever politicians promise free lunches, it's prudent for constituents to check for their wallets. State Climate Superfund laws will have to be paid for by regular people *somehow*—likely in their roles as consumers and as investors—not by some rarefied modern-day Rockefellers.

THE ACTUAL SUPERFUND

These laws take their name from the federal Superfund program, created by the 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The law assigns liability for the release of hazardous substances and finances site cleanup expenses. Remediation mounted under CERCLA involves fairly localized operations; responsible parties for site cleanup fall under one of four categories:

- the current owner or operator of the polluted site,
- the owner or operator of the site at the time it was polluted,
- an individual who arranged to dispose of a hazardous substance, or
- an individual who transported the hazardous substance to the site.

As explained below, there are provisions for if a responsible party is not identified, but responsible parties have covered most Superfund cleanup costs.

Given the focus of CERCLA on the localized effects of pollutants, it is not surprising that GHGs are not covered by the framework. GHGs are decidedly non-local in their effects, with climate change resulting from the comingled global aggregate of the gases, especially carbon dioxide. This makes tying the behavior of a "responsible party" to the harm caused in a specific place much less direct than in the situation contemplated under CERCLA. Climate change and GHG emissions more generally do not lend themselves to the kind of local framework CERCLA uses.

For example, in 2000 (the beginning of New York's liability period), US GHG emissions accounted for about 17 percent of the global total. That share declined to about 10 percent by 2024, the end of the liability period. The fraction of total US GHG emissions generated by the burning of fossil fuels *in New York* over the time period was less than 3 percent. Thus, before even parsing out how much responsibility the users of petroleum products should bear, fossil fuel firms with at least some operations in New York account for about (17% × 3% =) 0.5 percent of the pollutants driving New York climate change costs.

A $75 billion fine assessed over 25 years amounts to $3 billion per year. If fossil fuel operations in New York are responsible for 0.5 percent of global GHG emissions, this number suggests the state assumes that cleanup costs created by New York oil and gas use are ($3 billion × [100% ÷ 0.5%] =) $600 billion per year. However, Sen. Liz Krueger, who sponsored the New York Climate Change Superfund Act, stated in a press release that "Repairing from and preparing for extreme weather caused by climate change will cost more than half a trillion dollars statewide by 2050." The same press release quoted a number for 2024 of "$2.7 billion in taxpayer funding for climate-related infrastructure repairs and upgrades and resilience projects." Thus, for much of the payment time period, there will be no reasonable correspondence between the levy and the mitigation costs attributed to

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the assessed fossil fuel firms even if full responsibility rightfully falls on the firms and none on the consumers.

Moreover, both the New York and Vermont laws ignore the emissions of all firms that did no business in the states, even though those firms contributed to the GHGs that affect the states' climate. Again, there is no strong connection between who will pay and who is responsible for the actual harm to New York and Vermont residents; rather, the laws simply target those firms from whom the states can extract money.

The New York and Vermont fines are collectively punitive and excessive in a way that bears little resemblance to CERCLA. In 70 percent of cases, federal Superfund cleanup costs are paid by the parties that proximately caused the specific harm as indicated by the responsible party categories laid out above. The remainder of cases have sometimes been funded by excise taxes on the chemical and petroleum industries and other times funded from general tax revenues. When the excise taxes have been in place (they were instituted in 1990 and dropped in 1995, but then largely reinstated in 2021 via the Infrastructure Investment and Jobs Act), they were applied prospectively, not as some kind of surprise punishment for past lawful acts.

HAVING THEIR CAKE AND EATING IT TOO

This ex post facto element of the New York Climate Superfund law is a feature, not a bug, according to Stiglitz. While some New York politicians worried that users of fossil fuels (i.e., New York consumers, many of whom vote) would see prices rise because of the Climate Superfund fines, the Nobel-winner put them at ease. According to blackboard economics, firms set prices as a function of marginal cost, not fixed cost, and the Climate Superfund payments would be a fixed cost. Departing from this practice, the textbook tells us, lowers a company's profits, which is incompatible with the rational operation of the firm. "Companies will increase the price of their goods up to the point at which the marginal increase in profits from the price increase is offset by a decline in profits due to a reduction in the quantity of the goods demanded," according to Stiglitz.

Further, given that fossil fuel prices are generally set in global markets, even if firms tried to pass the fines on to New York consumers, competition would constrain them from doing so, claimed Stiglitz. He argued:

> The price of crude oil is set by the global market, based on the global balance of supply and demand. Individual companies cannot directly raise the price of crude even if it would be in their interest to do so. The price of gasoline at the pump, derived from crude oil, is set by a combination of global crude prices, refining costs, distribution and marketing costs, and local taxes and fees. The Superfund assessment does not impact any of those factors, as it is assessed too far upstream to impact local costs, and is far too small and affects too limited a universe of companies to impact global prices.

Thus, he predicted, fossil fuel firms will neither have the desire nor the ability to change the prices customers face at the pump as a result of the fines imposed by New York.

But this prediction seems naive. The Climate Superfund Law puts all producers on notice that future sales are likely to be taxed in the name of climate change mitigation. The covered period of production has already been expanded once (the first version of the bill used a 2000–2018 window, while the enacted version uses 2000–2024). Why would anyone assume government officials looking for "free" revenue won't expand the period further and go after fossil fuel firms that operate in the New York market after 2024?

For that matter, there is no good reason to expect politicians to hold to the billion-ton emissions floor over the coverage period. By expanding the period as the state did in revisions to the bill after passage, the state has already lowered the annual average production threshold by 25 percent.

With this expectation, the fines will clearly enter into a firm's ongoing marginal costs, leading to increased prices even in the textbook model Stiglitz relies upon. Further, the risk of falling into New York's system of fines represents a barrier to any new firms entering the market, diminishing the competitive discipline existing firms face. This, too, is likely to raise prices for New York consumers. Maybe residents close enough to the state's borders can avoid this implicit tax (at least until New Jersey passes its own version of the law), but the inconvenience of buying from out of state is a cost too, while higher fuel costs will fall on the millions of state residents who cannot do this easily. Stiglitz's promise of a free lunch for New Yorkers is a politician's dream but, as with all such promises, it is illusory. Fossil fuels will be more expensive for New Yorkers because of this law.

Perhaps this outcome is a good one. Economists have pushed for carbon taxes from the earliest days of the climate change debates. Indeed, another Nobel Prize winner, William Nordhaus, noted the importance of carbon taxes for addressing the potential of human-induced climate problems at least as early as 1977. If the costs of climate change are not internalized by buyers and sellers of fossil fuels, the consumption level of such products will be too high relative to the socially optimal outcome. This general point has been recognized by economists at least since the work of A.C. Pigou in the 1920s. However, acting as if these fines will not raise prices and lower output is not only dishonest, it is analytically and socially harmful as well.

If fines or taxes on negative externalities are added prospectively, firms have incentive to reduce output, but they also have incentive to reduce the harm (e.g., reduce atmospheric emissions of GHGs like carbon dioxide), and consumers have incentive to buy from firms that do a better job reducing the harm. For example, ExxonMobil and other oil companies have invested substantially in carbon capture and storage technology among other approaches to reduce GHG emissions. It's also worth noting that the large industry profits noted by Stiglitz and politicians are what fund the research and development behind these abatement efforts.

Taxing past behavior alone does not induce this innovative process because the emission has already occurred. However, politicians are loath to take responsibility for raising prices by taxing future emissions. Instead, they'd rather just pretend that somebody other than voters will pay the bill.

REGULAR FOLKS HOLD OIL STOCKS TOO

Another justification for the Climate Superfund assessments is that they supposedly hold rich polluters responsible for climate change costs. But many middle-class New Yorkers are shareholders of fossil fuel firms. Costs charged to the firms will be borne by shareholders generally, not just the rich ones. For example, according to its 2024 disclosures, the New York State and Local Retirement System (NYSLRS), which covers more than 700,000 New York public employees, holds nearly five million shares of ExxonMobil stock worth almost $580 million, 34 million shares of BP worth more than $200 million, 1.5 million shares of Shell worth $52 million, and 2.5 million shares of Chevron worth more than $400 million. Even those eye-popping numbers understate the stake these civil servants have in the fossil fuel industry because the pension fund holds equity in many smaller firms in the sector as well, to say nothing of substantial credit holdings in the industry and indirect holdings via the billions in index funds held by NYSLRS.

And NYSLRS isn't the only affected Empire State public employee system. The nearly 500,000 active and retired teachers of New York—hardly plutocrats by anyone's definition—have nearly half a billion dollars invested in ExxonMobil as of March 2025 through the New York State Teachers' Retirement System. The pension fund has another quarter billion dollars invested in Chevron, as well as more than $100 million in ConocoPhillips. To round out their oil and gas portfolio, the New York teachers have holdings in at least two dozen foreign oil and gas producers, such as Saudi Aramco, PetroChina, Petrobras, and the Abu Dhabi National Oil Company. The fund also holds debt in virtually all these firms as well. Additionally, the private equity investments held by the teachers' retirement system no doubt provide more exposure to the fossil fuel industry.

New York City civil servant pension plans also have significant oil and gas holdings. For example, the industry is well represented among the largest investments of the New York City Employees' Retirement System's portfolio (e.g., Marathon Petroleum made up $133 million, or 0.6 percent of the fund, in June 2024 before it was acquired by ConocoPhillips; Phillips 66 made up another $125 million, or 0.6 percent). The disclosures for the Teachers' Retirement System of the City of New York tell much the same story, with many millions more invested in ExxonMobil, Chevron, Shell, BP, and dozens of other oil and gas companies, both foreign and domestic.

In Vermont, some lawmakers and activists have attempted for years to pass legislation requiring the state's public pensions to divest from the oil and gas industry. However, disclosures for the Vermont Pension Investment Commission indicate the state's pension portfolios still include significant equity and credit holdings in the industry. Though the direct Vermont holdings are not as extensive as those in New York's pensions, it is impossible to know for sure the extent of exposure because of Vermont's reliance on external investment funds whose holdings are opaque.

The public pensions tell only part of the story. Untold millions of middle-class New Yorkers and Vermonters have exposure to at least ExxonMobil, Chevron, and ConocoPhillips inside indices like the S&P 500 through their 401(k)s and 403(b)s. When Stiglitz notes the ability of these companies to pay because of their billions in profits, it's not as though this just means Rockefeller heirs will need to make do with fewer monocles and top hats. Instead, these profits come out of the returns that fund modest retirements for regular people, including residents of New York and Vermont.

It's politically expedient to imply that the fossil fuel firms can easily bear the fines imposed by New York through its Climate Superfund law, but these claims hide who will ultimately pay the price. Both at the pump and in their investment returns, these laws will affect average individuals in the states that pass them.

"FREE LUNCH" PROMISES HIDE DIFFICULT DECISIONS

The Climate Superfund movement trades on the enticing promise of a cost-free cure, but economics—and common sense—say there is no such thing. By levying a retroactive, multi-billion-dollar assessment, these laws merely disguise the ultimate payers. Whether through higher pump prices or reduced investment returns (to say nothing of potential broader economic effects), the burden will land squarely on ordinary people. Pretending otherwise may be politically useful, but it masks the very tradeoffs honest policy debates should force into the open.

Perhaps worse, the likely moving goalposts in future amendments to the statute—an ever-lengthening liability window and extension to smaller emitters—signal to would-be innovators that any low-carbon breakthrough they commercialize today could be retroactively taxed tomorrow. That prospective chill is a genuine threat to climate progress. R

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