Terminal Trouble

Pollution Violations at America's LNG Export Terminals

ENVIRONMENTAL INTEGRITY PROJECT

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This report was researched and written by Alexandra Shaykevich, with additional writing and research by Tom Pelton, Kira Dunham, Dante Mack, and Griffin Bird, with maps and layout by Louisa Markow and Alexandria Tayborn.

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Cover image: Aerial photo of the Calcasieu Pass LNG terminal in Cameron Parish, Louisiana. Inside photo: Sabine Pass LNG terminal in southwestern Louisiana. Both terminals have had air and water pollution violations since they began operating. Photos by Carlos Silva of for the Louisiana Bucket Brigade.

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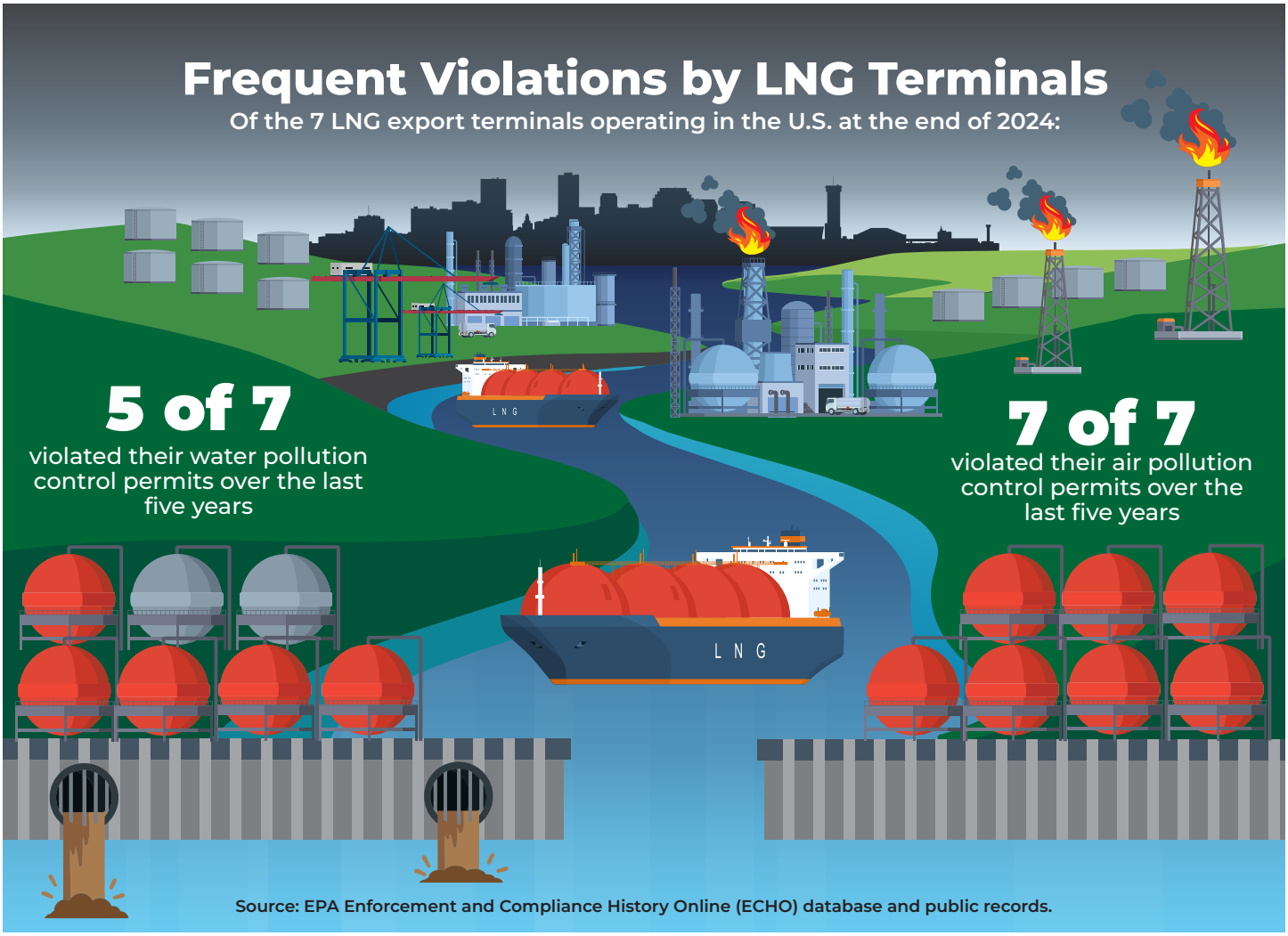
Pollution Violations at America's LNG Export Terminals

EXECUTIVE SUMMARY

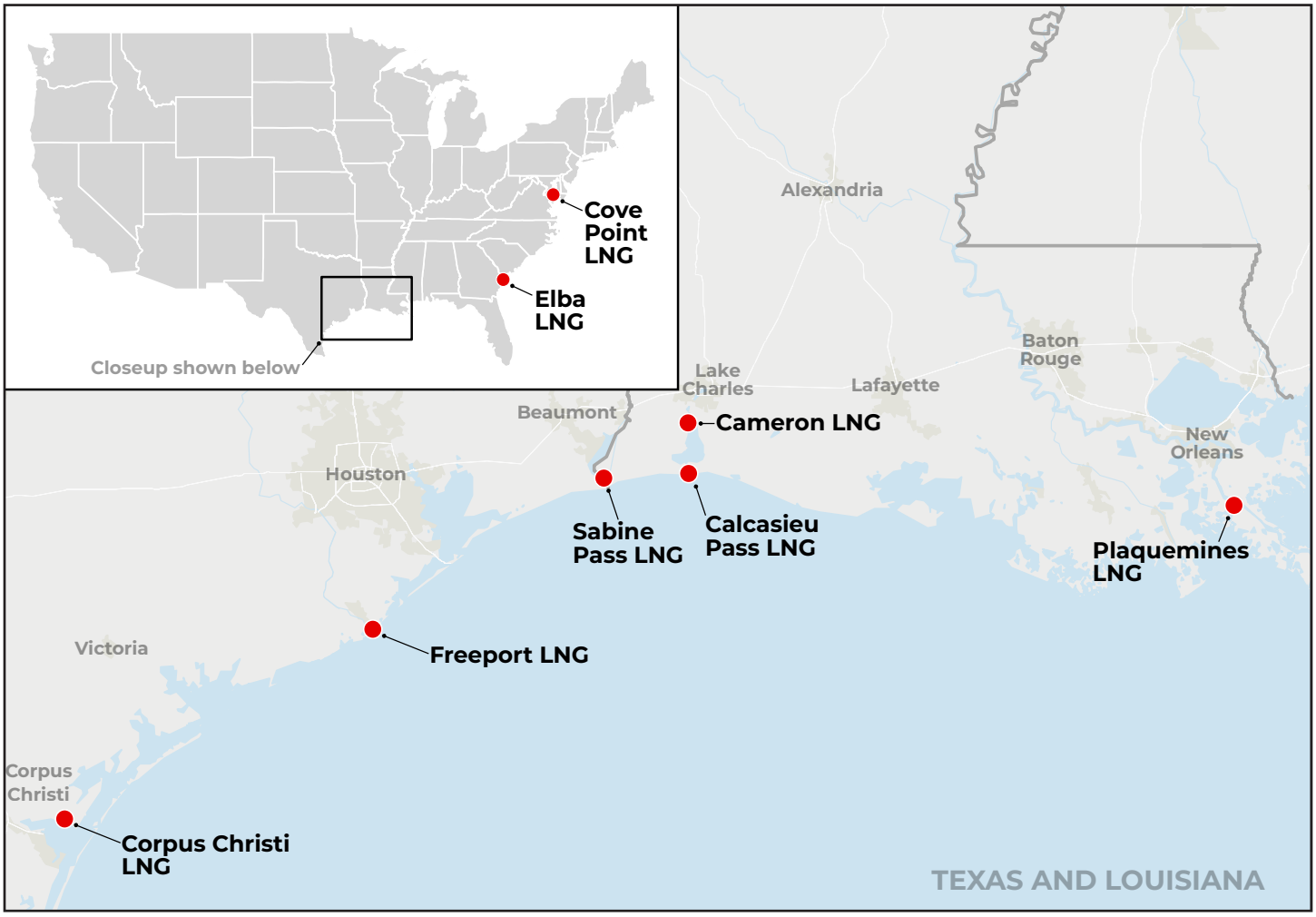
Since taking office in January, President Trump has aggressively promoted the liquefied natural gas (LNG) industry, including by directing agencies to fast-track certain approvals for new export terminals and by threatening foreign countries with steep tariffs if they do not buy American LNG.[1] In the first six months of 2025, LNG companies in the U.S. announced proposals to build two new LNG export terminals and expand three more along the Gulf Coast.[2] Those are on top of four new LNG terminals and an expansion already under construction – in Texas, Louisiana, and Georgia – and 23 additional projects planned before Trump took office. If all 33 projects are built, U.S. LNG exports could triple over the next decade.

But even as the industry proposes to expand, an examination of public records reveals that the LNG terminals already operating in the U.S. have regularly failed to comply with environmental laws. The LNG industry portrays itself as environmentally friendly, but companies do not consistently comply with air and water pollution control laws that LNG terminals must follow.[3] All seven of the LNG export terminals that were fully operational at the end of 2024 violated the Clean Air Act at least once the last five years. And five of the seven LNG terminals also exceeded their water pollution control permits, according and the Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database.[4]



On his first day in office, President Trump signed several executive orders related to energy, declaring a national energy emergency and directing federal agencies to take measures to "unleash" American energy, which the Trump Administration claims will help the U.S. "win" an international race to develop artificial intelligence and protect Americans from high energy prices and foreign adversaries.[5, 6] One of these executive orders lifted the Biden Administration's "pause" - which was ultimately blocked by the courts - on issuing certain LNG export authorizations. These orders came as U.S. oil and gas production and exports reached record highs, according to data from the U.S. Energy Information Administration.[7] Meanwhile, the Trump Administration took actions to throttle solar and wind energy production by denying federal permits at the Department of Interior and declaring it a policy not to issue permits for wind or solar projects.[8]

Locations of Operating LNG Export Terminals



Source: Publicly available permit documents on Oil & Gas Watch as of Aug. 4, 2025. Note: Plaquemines LNG in Port Sulphur, Louisiana, only began the startup process in late December 2024. It has been excluded from our analysis of LNG terminals' compliance and enforcement histories because robust compliance data was not yet available. Freeport LNG consists of a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island. The location shown here corresponds to the location of the export terminal.

The Environmental Integrity Project reviewed public records related to the seven LNG export terminals that were fully operational in the U.S. at the end of 2024: three in Louisiana, two in Texas, and one each in Maryland and Georgia.[9] Based on an examination of pollution control permits, public records, and the U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database,[10] we found that:

- All seven of the LNG export terminals operating in 2024 were listed as being in noncompliance with either the Clean Air Act or the Clean Water Act during at least one quarter over the past three years.
- All seven of the LNG terminals have violated their air pollution control permits at least once in the last five years. States and EPA have issued 15 enforcement actions that have resulted in about $1 million in penalties.
- The penalties for air violations are often minor compared to the significance of the violations, the maximum penalties allowed by law, and the multi-billion dollar companies involved.
- In the last five years, five of the seven terminals violated their water pollution control permit limits at least once, collectively exceeding limits 69 times for pollutants including oil and grease, suspended solids, zinc, copper, and bacteria.
- The seven LNG terminals reported releasing 18.2 million tons of greenhouse gases in 2023, which was as much as 3.9 million cars and trucks driven for a year, and 15,733 tons of health-damaging "criteria" air pollutants, including nitrogen oxides and sulfur dioxide.[11]
- LNG terminals routinely report accidents and "upsets" – including chemical releases, fires, explosions, and excessive flaring – that threaten the health and quality of life of local residents. The five LNG export terminals operating along the Texas and Louisiana Gulf Coast have reported at least 425 of these kinds of emission incidents that released over 14,155 tons of air pollution since they began operating.[12]

Five Gulf Coast LNG terminals reported **425** malfunction or 'upset' incidents that released **14,155** tons of air pollution.

State and federal oversight of pollution release incidents has not been sufficient to protect public health and the environment and ensure compliance with the law. In some cases, states have responded to repeated violations by simply adjusting the companies' permits to increase the amount of pollution they are legally permitted to release.

The people who suffer most when companies break the rules are local residents and workers at these massive terminals. For example, residents near Calcasieu Pass LNG terminal in Louisiana have suffered from air and water pollution and damage to their livelihoods as fishermen (see pages 32-36.) And people living near Freeport LNG in Texas suffered through an explosion in 2022, forcing the terminal to shut down for eight months (see page 28).

Against this backdrop of chronic pollution problems, state and federal agencies should be slowing down and more carefully scrutinizing permits and approvals for LNG export terminals, not rushing through new applications. A fast-track approach to authorizing the expansion of the LNG industry – as encouraged by the Trump Administration's "energy dominance" policies – puts the health of local communities, ecosystems, and the global climate at risk.

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CHAPTER 1
Background

The Trump Administration has taken several actions to try to accelerate the development of LNG export terminals in the U.S. and increase the export of natural gas.

Background

The second Trump Administration's first six months in office brought a flurry of executive orders and administrative actions designed to promote the development of fossil fuels. On the campaign trail, President Trump promised the oil and gas industry that he would roll back environmental protections in exchange for $1 billion in campaign contributions.[13] And, on his first day in office, he signed an executive order to "unleash" American energy and remove regulatory barriers to fossil fuel development.[14] Despite the U.S. being the world's largest oil and gas producer and top exporter of natural gas, he declared an "energy emergency" and directed agencies to speed up certain federal approvals for fossil fuel projects and weaken the National Environmental Policy Act—a foundational environmental statute that requires federal agencies to analyze the effects of major projects before they are built.[15, 16] In response to these executive orders and others, federal agencies have been directed to take steps to dismantle state and federal climate policies and revoke orders implemented under the Biden Administration that aimed to advance clean energy and environmental justice. The Trump Administration has also sought to boost the production of fossil fuels and minerals on federal lands and directed agencies to rescind any regulations directed agencies to rescind any regulations that they determine may pose an "undue burden."[17]

President Trump asked the oil and gas industry for **$1 billion** in campaign contributions and promised to roll back environmental rules.

On Inauguration Day, President Trump ordered the Department of Energy, the federal agency responsible for authorizing LNG exports, to resume processing LNG export applications "as expeditiously as possible" after a pause during the Biden Administration.[18] By August, the department had finalized eight LNG-related actions, including export authorizations for LNG projects, an order to remove barriers for the use of LNG as fuel, and the rescission of a Biden-era policy that required companies to meet certain criteria to extend construction deadlines.[19, 20, 21] The Federal Energy Regulatory Commission and the Maritime Administration, the two federal agencies responsible for authorizing construction of LNG export terminals, have finalized at least 10 LNG-related actions to build new facilities and expand capacity over the same time period.[22]

President Trump also directed the U.S. Army Corps of Engineers to fast-track "emergency" reviews of applications for permits to destroy wetlands or impact waterways across the country for fossil fuel projects.[23] LNG companies have already applied for at least five "emergency" wetland permits this year, including an "emergency" extension to build the long-delayed Magnolia LNG terminal in Louisiana, which still lacks the financing necessary to move forward, despite being proposed over a decade ago.[24]

President Trump has weaponized economic policy by threatening key trading partners with tariffs if they do not agree to buy American fracked gas. The European Union, already the country's largest buyer of LNG since Russia's invasion of Ukraine, agreed to triple energy imports from the U.S. over the next three years, with purchases equivalent to $750 billion.[25] Other countries, like Japan, have committed to a "major expansion" of U.S. energy imports and are even considering investing in expensive and risky infrastructure projects, like the Alaska LNG terminal.[26]

CHAPTER 2

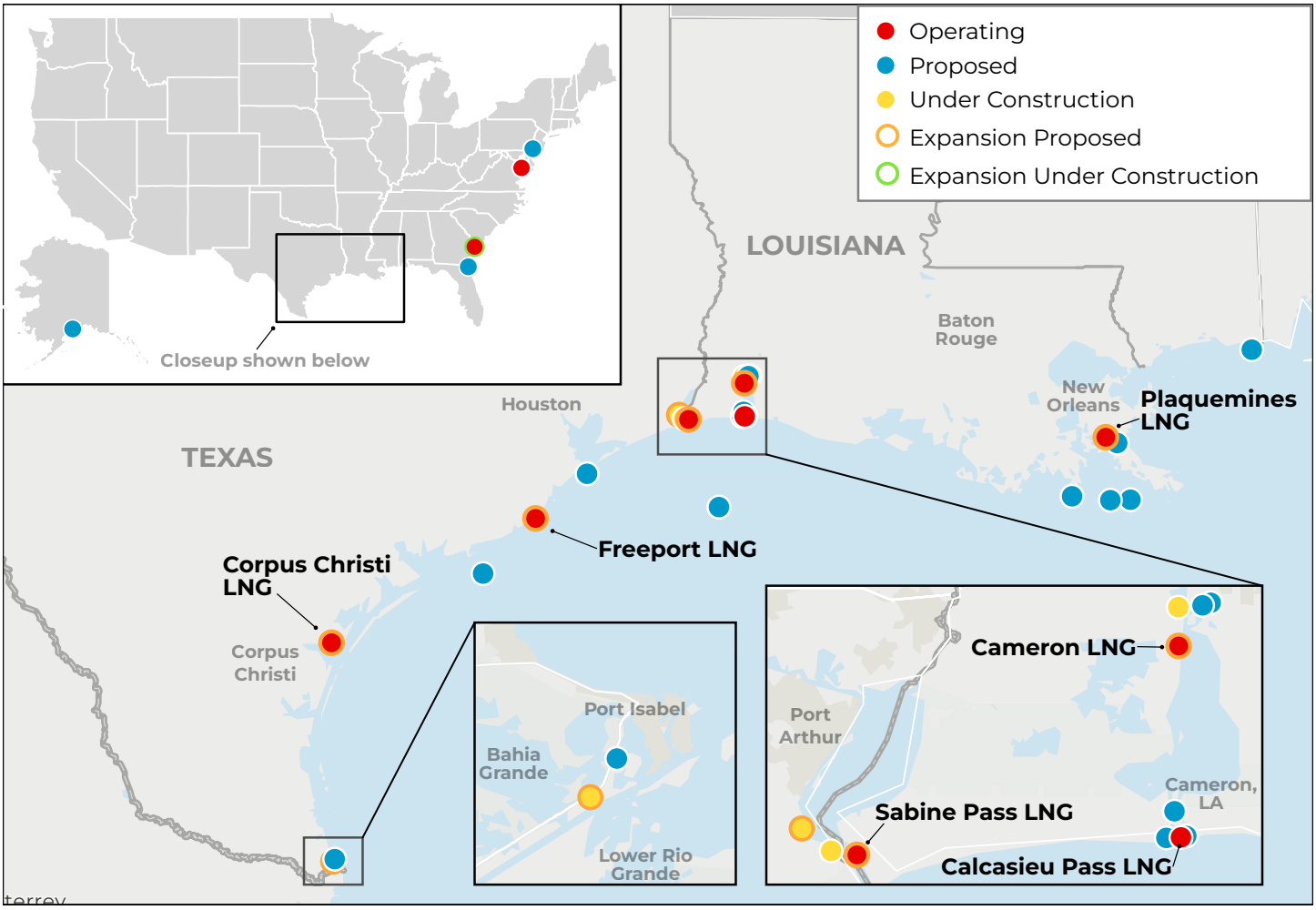
The LNG Industry Gains Momentum

Since the beginning of President Trump's second term, LNG companies have announced proposals to build two new export terminals and expand three more along the Gulf Coast.

The LNG Industry Gains Momentum

After Inauguration Day, several energy companies announced plans to pursue new permits to build or expand LNG capacity at least in part due to the Trump Administration's energy policies.[27] LNG companies in the first six months of President Trump's second term announced projects to add almost 100 million metric tons of liquefaction capacity (a 38 percent increase) through the construction of two new terminals and expansions at three existing facilities, including nearly doubling of capacity at the Corpus Christi LNG terminal in Texas and the Plaquemines LNG terminal in Louisiana.[28] (See Table 2 below and Appendix D for more information.)

Proposed Expansion of LNG Industry in the U.S.



Source: Publicly available permit documents on Oil & Gas Watch as of Aug. 4, 2025. Note: Freeport LNG consists of a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island. LNG produced at the Wyalusing LNG Terminal in Pennsylvania would be transported by truck or rail to the Gibbstown Logistics Center in New Jersey, where it would be loaded onto ships and exported overseas. The locations shown here correspond to the locations of the export facilities. This map excludes two proposed projects - the Qilak LNG North Slope Terminal in Alaska and the Coastal Bend LNG Terminal in Texas - because precise location information was not available.

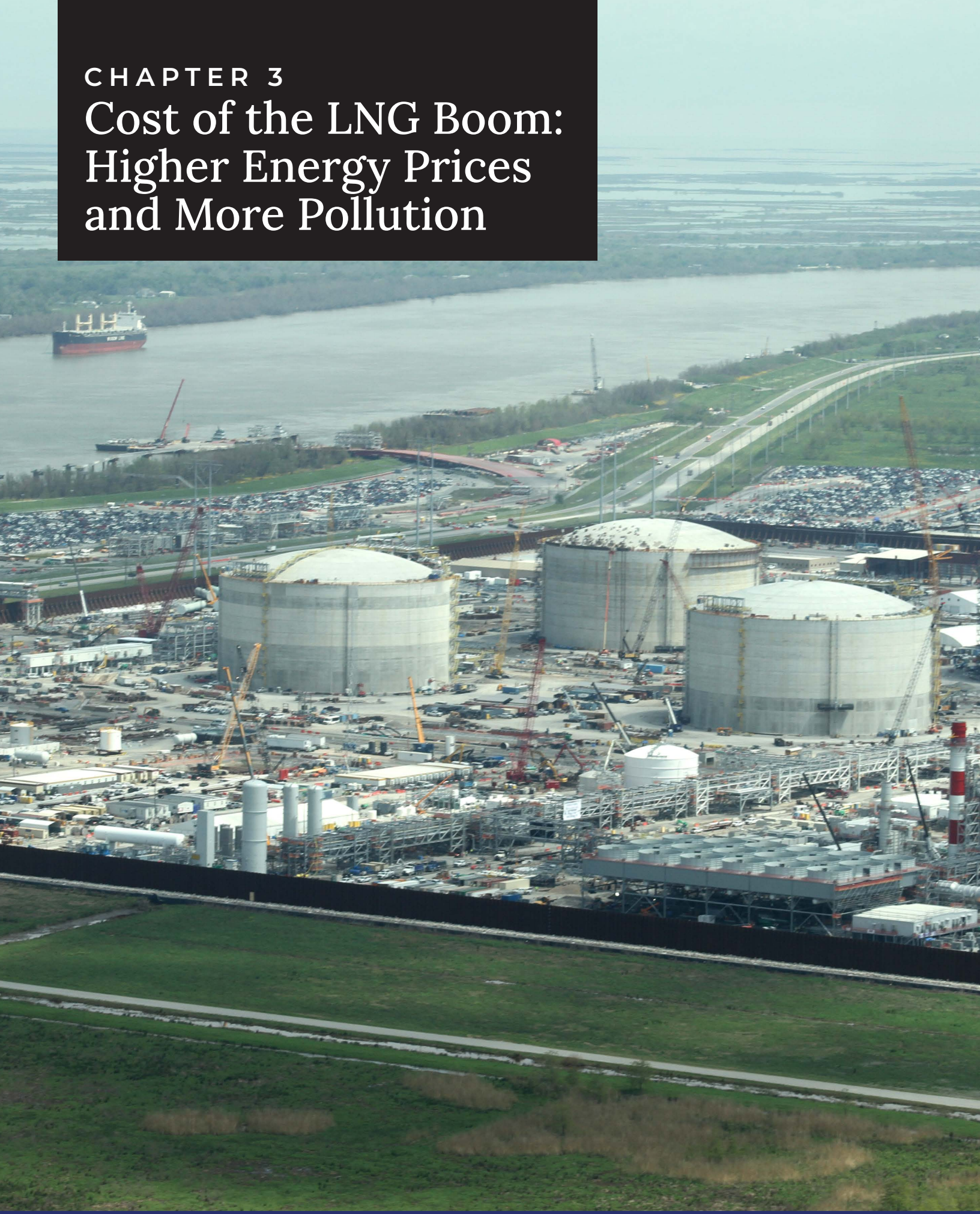
That's on top of the 340 million metric tons of export capacity already under development. Four new LNG export terminals are currently under construction – three in Texas and one in Louisiana – as well as an expansion project at the Elba Liquefaction terminal in Georgia. In addition to these five projects, which are already on track to increase annual LNG exports from the U.S. by 60 percent, companies have proposed another 28 projects, including 19 new export terminals and nine expansions of existing facilities that could add more than 350 million metric tons per year of liquefaction capacity if all are built.[29] All together, these 33 projects could triple LNG exports over the next decade.

The vast majority of proposed projects would be located along the Texas and Louisiana Gulf Coast, where communities already struggle with climate change-related extremes, including sea level rise and more intense hurricanes, and are often already dealing with dangerous levels of air and water pollution. (See Appendices B, C and D at the end of this report for a full list of existing and proposed LNG projects, including capacity data, emissions, and permit status.)

33 projects have been proposed in recent years that could **triple** LNG exports over the next decade.

CHAPTER 3

Cost of the LNG Boom: Higher Energy Prices and More Pollution



Construction at the Venture Global Plaquemines LNG terminal on the Mississippi River southeast of New Orleans, which is planning a massive expansion. Photo by Healthy Gulf.

Cost of the LNG Boom: Higher Energy Prices and More Pollution

This growth would come with real costs for ordinary Americans. A recent study published by the Department of Energy found that unfettered LNG exports would result in a "triple-cost increase" for American households and businesses and increase domestic natural gas prices by over 30 percent.[30] These findings have been repeatedly upheld by the country's lead energy forecasting agency, which concluded in its most recent short-term energy outlook that natural gas prices will rise as LNG exports increase.[31] Many of these LNG projects are also supported by hundreds of millions of dollars in state and local tax breaks, meaning that public schools in Texas and a variety of local services in Louisiana will not receive the funding support they deserve.[32]

The LNG boom could also have devastating impacts on public health and the environment. The eight LNG terminals currently operating in the U.S. already emit millions of tons of greenhouse gases and tens of thousands of tons of health-harming "criteria" air pollutants. In 2023 alone, LNG terminals reported emitting over 18 million tons of greenhouse gases and more than 15,700 tons of criteria pollutants (see Table 1 below).

Table 1. Reported Emissions from LNG Terminals

Facility	Location	2023 Reported Emissions	
		Greenhouse Gases (tons)	Health-Damaging Air Pollutants (tons)
Sabine Pass LNG Terminal	Cameron, LA	6,902,358	8,780
Corpus Christi LNG Terminal	Gregory, TX	3,348,593	2,945
Calcasieu Pass LNG Terminal	Cameron, LA	3,127,774	987
Cameron LNG Facility	Hackberry, LA	2,887,933	2,170
Cove Point LNG Terminal	Lusby, MD	1,270,254	218
Freeport LNG Terminal and Pretreatment Facility *	Freeport/Quintana, TX	630,276	559
Elba Liquefaction Terminal	Savannah, GA	70,013	75
Total		**18,237,200**	**15,733**

*Freeport LNG operates a pretreatment facility in Freeport and a liquefaction facility/export terminal on Quintana Island, which are regulated as separate facilities. Reported emissions have been aggregated. Freeport LNG was only partially operating in 2023.
Source: EPA's Greenhouse Gas Reporting Program (accessed May 30, 2025). State air emission inventories (accessed May 30, 2025).
Note: Greenhouse gases are in carbon dioxide equivalent tons, or CO_2e. Health damaging air pollutants refer to "criteria" air pollutants, including: fine particulate matter, nitrogen oxides, volatile organic compounds, sulfur dioxide, and carbon monoxide. Data are presented in short tons.

Since 2023, an expansion project at the Corpus Christi LNG terminal was completed, and one new LNG terminal started operating, the Plaquemines LNG Terminal in Port Sulphur, Louisiana. This plant is allowed to emit over 8 million tons of greenhouse gases and 3,600 tons of health-harming air pollutants each year.[33]

Companies are planning to build an additional 33 LNG projects over the next decade. If just the 22 with available emissions data are built, they could emit nearly 80 million tons of greenhouse gases and nearly 100,000 tons of dangerous air pollution annually, according to permit records currently available (see Table 2). Beyond direct emissions from the LNG terminals themselves, the LNG boom would bring increased emissions from fracking gas out of the ground, transporting it overseas, re-gasifying it, and burning it as a fuel, in addition to the potential for increased pollution from LNG terminal malfunctions, breakdowns, and other "upsets."

Table 2. Potential Emissions from Future LNG Projects, by Construction and Permit Status

Construction Status	Number of Projects	Capacity (million metric tons per year)	Potential Greenhouse Gas Emissions (tons)	Potential Health-Harming Air Pollution Emissions (tons)
Under Construction	5	86.8	25,577,096	17,605
Permitted, but not yet built*	8	72.1	16,507,256	9,427
Proposed, but not yet permitted (application pending)**	13	162.8	37,892,956	71,484
Announced (no applications)	7	118.8	N/A	N/A
Total	**33**	**440.5**	**79,977,308**	**98,516**

*These totals exclude potential emissions from two permitted but unbuilt units (Train 4 at Freeport LNG and Train 4 at Cameron LNG).
**These totals exclude potential emissions from the proposed Corpus Christi Stage IV project and the Plaquemines LNG Phase III expansion. Although both projects have initiated the pre-filing process with the Federal Energy Regulatory Commission, potential emissions data were unavailable as of August 4, 2025.
Source: Oil & Gas Watch as of August 4, 2025. Note: Potential greenhouse gas and criteria air pollutant emissions estimates reflect totals provided by companies in their Clean Air Act New Source Review permits or permit applications, or in federal permitting documents, where available. Capacity figures represent peak liquefaction capacity, or the maximum amount of LNG that can be produced at the facility in a full calendar year. Greenhouse gases are in carbon dioxide equivalent tons, or CO_2e. Health damaging air pollutants refer to "criteria" air pollutants, including: fine particulate matter, nitrogen oxides, volatile organic compounds, sulfur dioxide, and carbon monoxide. Detailed capacity data and project emissions are available in Appendix D. The permit information in the "Construction Status" column reflects whether a project has received the necessary authorizations needed to start construction; more detailed permit information can be found in Appendix D.

LNG terminals are significant sources of air and water pollution that are required to obtain permits to limit environmental impacts. But state and federal enforcement records show that the seven LNG export terminals that were fully operational by the end of 2024[34] repeatedly violated pollution limits established in their permits. When enforcement actions were taken by federal or state agencies, penalties were relatively small compared to the significance of the violation and maximum penalties allowed under the law. In some cases, LNG companies failed to properly notify regulators when their plants malfunctioned or released excess emissions in violation of their permits.[35] As demonstrated by the fire and explosion at the Freeport LNG terminal in June 2022, accidents and fires have occurred at gas export terminals.[36] Chronic flaring – or the combustion of excess or hazardous gases – is also common at these sites, which can increase concentrations of hazardous air pollutants for workers and in neighboring communities.

These trends are especially concerning because all but one of the LNG terminals examined in this report are planning major expansions. Large energy projects – like gas export terminals – are complex and require careful scrutiny by regulators in order to properly assess impacts and avoid harms. Actions aimed at fast-tracking reviews could ultimately curtail agencies' assessment of pollution impacts and environmental damages, resulting in inadequate protections for nearby communities. Federal agencies are also required to provide meaningful opportunities for public participation. An expedited review could limit or even eliminate these opportunities, and thus prevent local communities from raising concerns about damaging projects or weak pollution-control permits that don't meet legal requirements.

As the LNG industry expands at record speed, environmental enforcement is on the decline. During the first Trump Administration, EPA inspections, penalties, and the enforcement of environmental laws all fell significantly, worsening a long-term decline in enforcement trends caused in part by budget and staffing cuts over more than 20 years.[37] Environmental enforcement has plummeted during the first six months of the Trump Administration, with far fewer civil judicial cases filed and concluded against polluters compared to the same period under the Biden Administration.[38] At the same time, state environmental agencies have endured severe staffing and budget cuts over the years, leaving them under-resourced precisely when state oversight and enforcement will be needed the most.[39]

CHAPTER 4

Compliance with the Clean Air Act

The Sabine Pass LNG terminal in southwest Louisiana has had both air and water pollution violations since it started exporting fuel in 2016. Photo by Carlos Silva of for the Louisiana Bucket Brigade.

Compliance with the Clean Air Act

EPA and state records indicate that LNG terminals have a poor track record when it comes to compliance with the Clean Air Act. According to a review of data available through the EPA's Enforcement and Compliance History Online (ECHO) database and state enforcement records, all seven of the recently built or expanded LNG terminals examined in this report have been in noncompliance with the Clean Air Act for at least one quarter over the past three years.

While violations ranged in severity – from failed performance tests to significant emission events – a review of EPA and state enforcement records reveals that LNG terminals routinely violate environmental laws designed to protect the public against dangerous air pollution.

Common violations include failure to properly operate pollution controls and monitoring equipment, failure to properly operate industrial flares, failure to report excess emissions and permit deviations to state agencies, and exceeding emissions limits for harmful pollutants, including nitrogen oxides, volatile organic compounds, and hazardous air pollutants.

Table 3. Clean Air Act Compliance Record of LNG Terminals

Facility	Location	Quarters in Noncompliance (Oct. 2022 – July 2025)	No. of Clean Air Act Enforcement Orders (2020-2025)	Penalty amount
Sabine Pass LNG Terminal	Cameron, LA	12 *	2	$225,000 *
Calcasieu Pass LNG Terminal	Cameron, LA	12 **	2	$0 ***
Cameron LNG Terminal	Hackberry, LA	11	2	$0 ***
Cove Point LNG Terminal	Lusby, MD	4	1	$0
Corpus Christi LNG Terminal	Gregory, TX	3	1	$114,750
Freeport LNG Terminal and Pretreatment Facility	Quintana/Freeport, TX	2	7 ****	$669,604 ****
Elba Liquefaction Terminal	Savannah, GA	1	—	—

* Sabine Pass LNG has been in noncompliance with the Clean Air Act's National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Combustion Turbines (40 CFR 63 Subpart YYYY) since September 5, 2022.[40, 41] As of July 29, 2025, ECHO's enforcement and compliance summary incorrectly listed quarters in noncompliance as zero, and the penalty amount levied against the Sabine Pass LNG terminal as $222,961.[42]
** According to the two enforcement orders issued by the Louisiana Department of Environmental Quality to Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC, the Calcasieu Pass LNG terminal has been in noncompliance with the Clean Air Act since the commissioning process began in January 2022.[43] As of July 29, 2025, ECHO's enforcement and compliance summary incorrectly listed quarters in noncompliance as zero.
*** Settlement resolution is ongoing and penalties have not been finalized for at least one enforcement order associated with this facility.
**** As of July 29, 2025, ECHO's enforcement and compliance summary incorrectly listed two enforcement orders issued to the Freeport LNG Pretreatment Facility in the last 5 years, corresponding to $165,680 in penalties.[44]
Source: EPA's Enforcement and Compliance History Online (ECHO) database as of July 29, 2025. Quarterly compliance status dates back three years; quarter one began on October 1, 2022, and quarter 12 ended on September 30, 2025. Data were validated using final administrative orders and other public records available through state air agencies. Note: Freeport LNG operates a pretreatment facility in Freeport and a liquefaction facility/export terminal on Quintana Island, which are regulated as separate facilities under different Clean Air Act permits. Compliance and enforcement data have been aggregated.

The most enforcement orders and the highest penalties have been levied against the Freeport LNG terminal in Texas, which exploded on June 8, 2022, forcing the facility to shut down for eight months. The Texas Commission on Environmental Quality (TCEQ) and the EPA issued two enforcement orders and $493,804 in penalties to address violations associated with the explosion.[45] These were among a total of seven enforcement orders and $669,604 in penalties imposed on Freeport LNG over the last five years.[46] That represents around half of formal enforcement actions taken and two-thirds of penalties assessed against all LNG export facilities in the U.S. over that time period.

An examination of state records shows that the Freeport LNG terminal had a poor track record with environmental compliance long before it exploded, and that the company continues to struggle with consistent compliance. This terminal's history of violations is examined in more detail in a case study on page 28 of this report.

The Cameron LNG terminal in southwest Louisiana has been flagged by EPA as having "high priority" violations for 11 out of the past 12 quarters—meaning it has been in significant noncompliance with the Clean Air Act for nearly three years. Public records made available by the Louisiana Department of Environmental Quality (LDEQ) reveal that the facility's violations include at least 89 pollution release incidents between January 2019 and May 2025 that emitted thousands of pounds of benzene, a carcinogen, and other volatile organic compounds, which contribute to smog and lung disease.[47] For more details, see the case study on page 30.

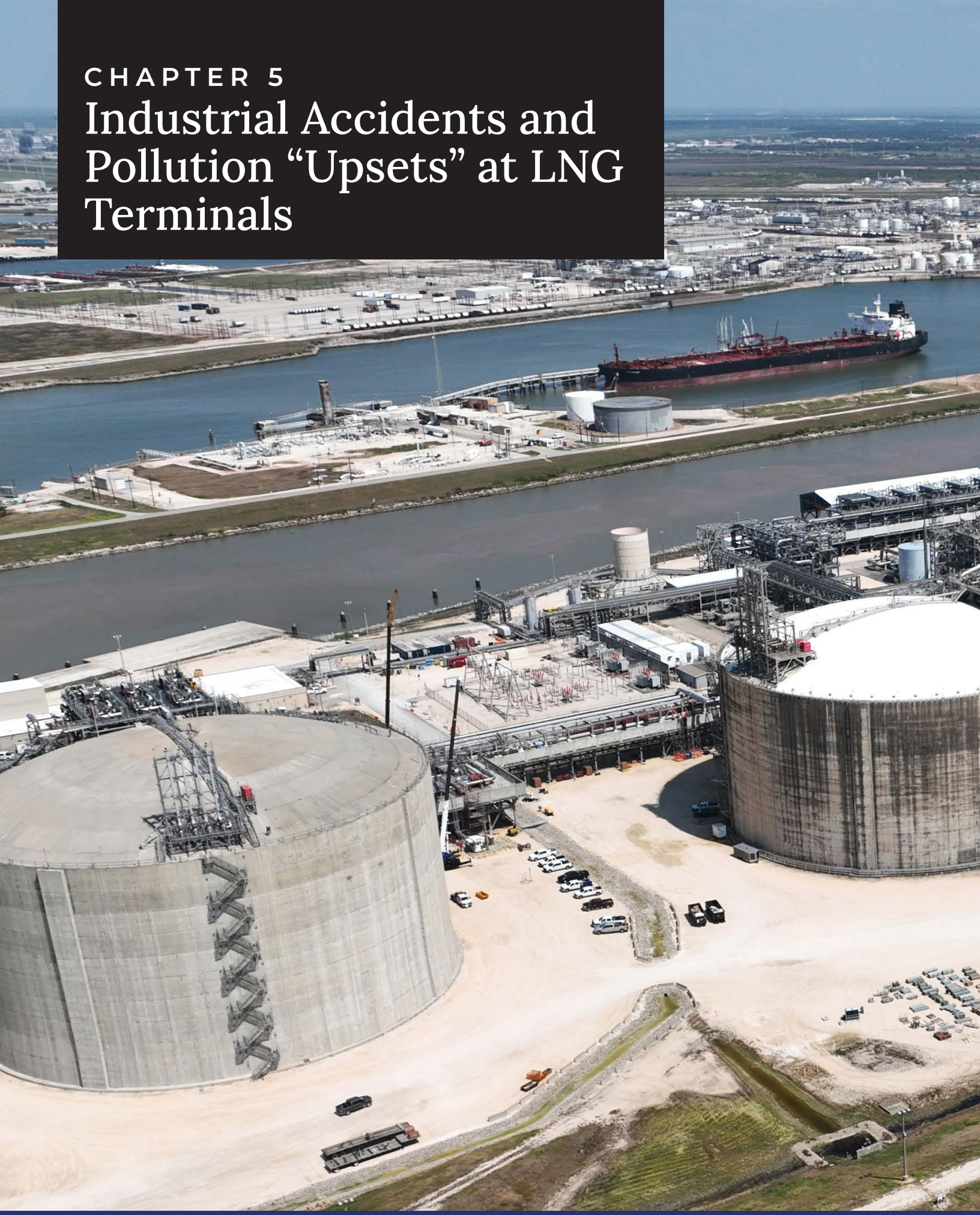
The Cameron LNG terminal in Louisiana reported

89 incidents

that released thousands of pounds of benzene, a carcinogen

CHAPTER 5

Industrial Accidents and Pollution “Upsets” at LNG Terminals



Pollution releases during industrial malfunctions, accidents, or 'upsets' are common during the startup of LNG terminals. Shown here is the Freeport LNG terminal in Texas, which exploded in 2022. Photo by Ted Auch, FracTracker Alliance.

Industrial Accidents and Pollution "Upsets" at LNG terminals

The LNG export terminals covered in this report release a significant amount of air pollution every year. In 2023, the most recent year for which data is available, these seven facilities reported emitting 7,824 tons of nitrogen oxides, 529 tons of particulate matter, and 552 tons of volatile organic compounds, including 4,410 pounds of benzene, and 20,207 pounds of formaldehyde.[48] All of these pollutants have potential health impacts, with nitrogen oxides and volatile organic compounds both contributing to smog, which can damage the lungs; particulate matter contributing to asthma and heart attacks; and benzene and formaldehyde are both carcinogens. Companies also reported emitting over 18.2 million tons of greenhouse gases – or about as much climate-warming pollution as four coal-fired power plants operating around the clock.[49] (See Table 1 and Appendices B and C for a summary of reported emissions.)

A significant amount of emissions from LNG terminals occur during malfunctions, upsets, and other unplanned incidents. The five LNG export terminals that were operating along the Texas and Louisiana Gulf Coast at the end of 2024 – which represented over 90 percent of operable liquefaction capacity – reported at least 425 emission events that released 14,155 tons of air pollution since they began operating between 2016 and 2022.[50]

Each state has different reporting requirements for these unauthorized discharges of air pollution. In Texas, companies are required to disclose unauthorized pollution above certain threshold levels to the State of Texas Electronic Emissions Reporting System (STEERS).[51] In Louisiana, unauthorized pollution must be reported to the Louisiana State Police, regardless of how much pollution is released or if permit limits are exceeded.[52] Because Louisiana and Texas define industrial "emissions events" and "air incidents" differently, it is difficult to directly compare the number of emission events reported by Texas facilities to the air incidents reported by those in Louisiana.

Table 4. Upset Emissions Events at LNG Terminals in Texas

Facility	No. of emission events reported	Amount of air pollution (tons) from emission events	Date Range
Freeport LNG Terminal and Pretreatment Facility	224	1,771	Jan. 2018 – May 2025
Corpus Christi LNG Terminal	59	7,605	Jan. 2018 – May 2025

Table 5. Upset Emissions Events at LNG Terminals in Louisiana

Facility	No. of emission events reported	Amount of air pollution (tons) from emission events	Date Range
Cameron LNG Terminal	89	475	Jan. 2019 – May 2025
Sabine Pass LNG Terminal	34	4,211	Jan. 2016 – May 2025
Calcasieu Pass LNG Terminal	19	93	Jan. 2022 – May 2025

Source: TCEQ STEERS database (accessed June 9, 2025) and air incident reports available through LDEQ's Electronic Document Management System (EDMS) (accessed May 21, 2025). For more information on how these events are defined and quantified, as well as data sources and caveats, please see the methodology section. Note: These numbers rely on company self-reported data. Freeport LNG operates a pretreatment facility in Freeport and a liquefaction facility/export terminal on Quintana Island, which are regulated as separate facilities. Emission events data have been aggregated.

Upsets are especially common during the startup phase—the period after construction when a facility is still testing new equipment. The startup phase, often referred to as "commissioning" by the oil and gas industry, can sometimes

take years. For example, Venture Global began the commissioning process at the Calcasieu Pass LNG terminal in January 2022. However, the terminal officially began commercial operations in April 2025, three years after exporting its first cargo.[53]

Corpus Christi Liquefaction reported its first upset in July 2018, when startup of the first liquefaction unit at its export terminal in Texas began. From that point through the end of 2019, the company reported emissions events every month except for one because it was bringing online its three new liquefaction units. One of the largest incidents occurred in September 2024 during the startup of the first "midscale" liquefaction unit associated with the Stage 3 expansion project. The company estimated that commissioning activities from the new units would result in 8.6 million pounds of pollution.[54] Of all reported upsets at the Corpus Christi LNG terminal between July 2018 and May 2025, 37 (63 percent) lasted more than seven days, while 24 (41 percent) continued for at least one month.[55]

Penalties

Data from EPA's ECHO database and state records indicate that between July 2020 and July 2025 administrative orders or judicial actions have been taken against all but one of these LNG terminals because of their failure to comply with the Clean Air Act. These enforcement orders have resulted in at least $1,009,354 in penalties to date.[56]

While these penalties may sound like a lot, it's a drop in the bucket when compared to the significance of many of the violations, the maximum penalties allowed under the law, and the revenues reported by LNG companies. This is especially true when shifts in global gas markets drive prices higher, boosting industry profits while ordinary consumers face sharply increased energy bills. U.S. LNG exporters reaped multibillion-dollar gains as global gas prices spiked after Russia's invasion of Ukraine, for example. For example, Cheniere Energy, owner of the Corpus Christi and Sabine Pass LNG terminals, earned roughly $94 billion in revenues over the last five years. The company paid $339,750 in penalties for three air pollution enforcement orders over that period — but that was only .0004 percent of its revenues.[57]

Cheniere Energy paid

$339,750

for air pollution violations over five years. That was only

.0004%

of its $94 billion in revenues.

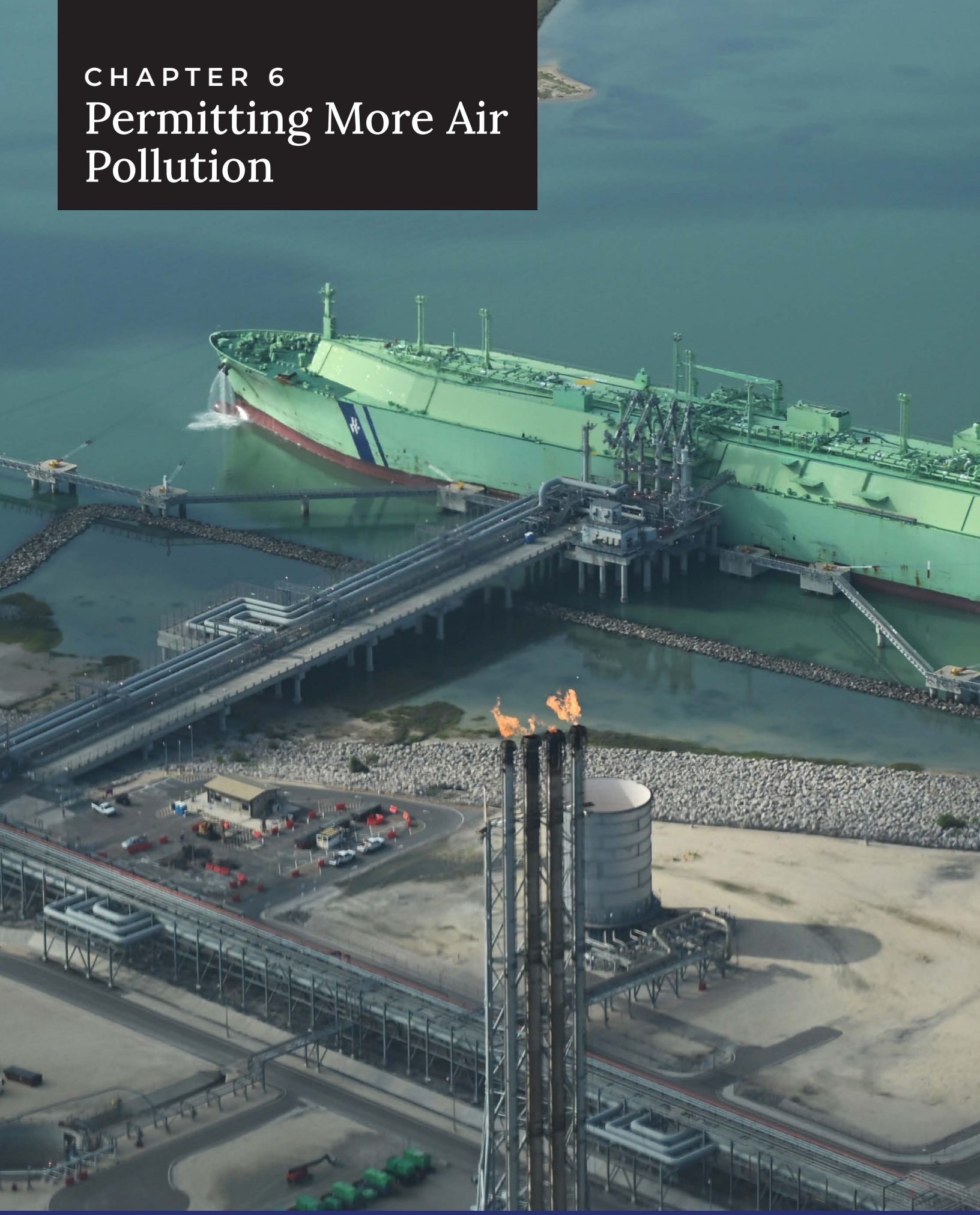
Even when states bring enforcement actions, the penalties imposed are often far below the maximum allowed under law, and, in at least two instances, companies were allowed to waive – or not pay – a portion of the fine just by agreeing to comply with enforcement orders.

For example, EPA ECHO data show that one enforcement action resulted in $114,750 in penalties levied against the Corpus Christi LNG terminal in 2023. However, Corpus Christi Liquefaction was only required to pay $45,900 to TCEQ after $22,950 was waived pending the company's "timely and satisfactory compliance" with the order. The remaining $45,900 of the penalty was paid in the form of supplemental environmental projects.[58] Similarly, of the $175,800 in penalties levied against Freeport LNG between 2021 and 2024 from five separate enforcement orders, the company was allowed to potentially waive $35,159, or 20 percent.[59]

Companies operating in Texas often argue they should not be required to pay penalties using a loophole called the "affirmative defense." In essence, companies argue that if they voluntarily report accidental pollution releases to the government, claims that it was beyond its control, and satisfies other requirements, the company should not be penalized for it.[60]

CHAPTER 6

Permitting More Air Pollution



Some state regulators have reacted to pollution violations at LNG terminals by adjusting the companies' permits to allow them to release more pollution. Shown here is the Corpus Christi LNG Terminal. Photo by Ted Auch, FracTracker Alliance.

Permitting More Air Pollution

Instead of addressing the technical and operational problems at the root of compliance problems, several LNG companies have requested that state agencies modify their Clean Air Act permits and increase emissions limits based on "actual operating experience." These permit amendments are treated by both the industry and states as valid compliance measures and are routinely cited in enforcement orders and monitoring reports as appropriate corrective actions.

EIP reviewed permit documents issued to three LNG export terminals – Sabine Pass LNG and Calcasieu Pass LNG in Cameron, Louisiana, and Corpus Christi LNG in Gregory, Texas – and found that state air agencies have authorized permit amendments that increased greenhouse gas emissions at these three facilities by over five million tons per year and emissions of other health-damaging "criteria" pollutants by over 3,500 tons per year. For reference, that's more climate-warming pollution and more than double the amount of criteria pollutants than the brand-new Golden Pass LNG export terminal – currently under construction in Sabine Pass, Texas – is authorized to emit.[61]

While it may be reasonable to allow companies to modify their permits to reflect design changes in some circumstances, these after-the-fact permit amendments often obscure a project's true environmental impacts at the time it is permitted, especially when emission increases are approved in piecemeal fashion or on a temporary basis without public input.

Texas and Louisiana amended the permits of three LNG terminals to allow them to release

5 million tons

more greenhouse gases per year.

One example is the Calcasieu Pass LNG terminal in Cameron, Louisiana. After reporting hundreds of permit deviations during its first year of operation, the LDEQ approved a major permit modification that increased emissions limits collectively by approximately 17 percent. That included a 132 percent increase in annual emissions of volatile organic compounds, which contribute to smog and can irritate the lungs and eyes, and cause headaches, nausea, and other health problems.[62]

Another example is the Sabine Pass LNG terminal, located just an hour's drive from Venture Global Calcasieu Pass. After exceeding permitted emissions limits for four pollutants – including particulate matter and volatile organic compounds – Cheniere Energy, the company that owns the Sabine Pass LNG terminal, applied to modify its air permit to increase heat inputs, flaring rates, and emissions limits.[63, 64] LDEQ approved the amendment in September 2017, allowing the facility to increase annual emissions of greenhouse gases by more than 25 percent, or 2.2 million tons per year, along with significant increases of nearly every regulated pollutant. [65]

While the permit amendment was still pending, Sabine Pass LNG also requested a temporary "variance" to operate above existing limits. That request was granted – and later extended for a total of one year – authorizing the facility to emit an additional 20 tons of nitrogen oxides, nine tons of volatile organic compounds, and two tons of toxic air pollutants, including benzene and hydrogen sulfide.[66]

A review of public records shows that LDEQ issued at least 23 variance permits for the Sabine Pass LNG terminal between 2016 and 2019.[67] These types of permits are supposed to be for "extenuating circumstances" that cause a facility to be unable to adhere to the terms of its permit.[68] However, LDEQ regularly allows companies to legally emit more pollution during periods of routine startup and maintenance, or when it becomes clear that the facilities they designed and built are emitting more pollution than originally expected.

The Corpus Christi LNG terminal on the Gulf of Mexico. In response to repeated air pollution violations at the terminal, Texas regulators granted the company permit amendments that allowed it to increase by 60 percent the amount of health-damaging air pollutants it is allowed to release. Photo by Ted Auch, FracTracker Alliance.

Although Cheniere says that design upgrades at its LNG terminals are evidence of its commitment to reducing emissions,[69] in practice the company has repeatedly failed to operate its facilities within the limits set by its air permits.

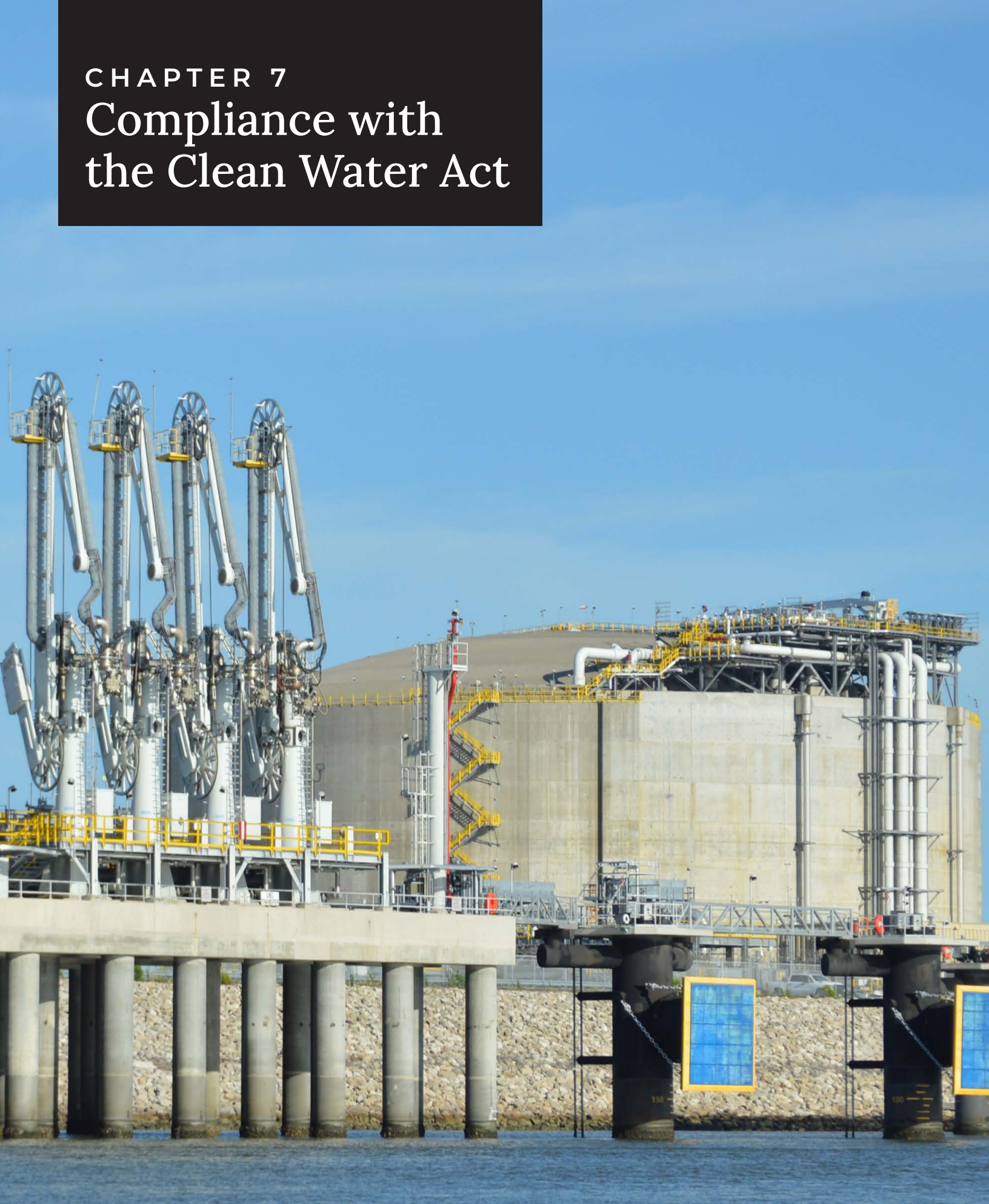
In Texas, for example, the TCEQ has granted three permit amendments for the Cheniere Corpus Christi LNG terminal that increased emissions of greenhouse gases by 2.1 million tons per year and emissions of dangerous criteria air pollutants by 60 percent above the limits set out in its original permit.[70] That includes more than doubling the terminal's potential to emit volatile organic compounds, partly as a result of chronic flaring that has been unbearable for local residents.

A 2022 Reuters investigation found that the Corpus Christi LNG terminal exceeded limits for multiple pollutants hundreds of times since starting up in 2018.[71] Texas regulators acknowledged the plant's impact on deteriorating air quality in the region, but, instead of imposing penalties, responded by repeatedly authorizing permit amendments that allowed the company to emit more pollution. According to the investigation, several massive flaring events – some lasting for weeks – forced residents out of their homes.[72]

Cheniere is planning three major expansion projects at its LNG terminals in Texas and Louisiana, which together would increase export capacity by nearly 75 percent. Venture Global is planning to build two new LNG terminals in Cameron, Louisiana, next to the existing Calcasieu Pass LNG terminal, as well as a major expansion in Plaquemines that would add nearly 95 million metric tons of additional liquefaction capacity to the company's portfolio. (See Appendix D at the end of this report for a full list of LNG projects, including capacity data, emissions impacts, and permit status.)

CHAPTER 7

Compliance with the Clean Water Act



Many LNG terminals exceed their permitted water pollution limits, including for suspended solids, zinc, copper, bacteria, oil, and grease. Shown here is the Calcasieu Pass LNG terminal in southwest Louisiana, which violated its limits for solids released into the Calcasieu River in 2022.

Compliance with the Clean Water Act

LNG terminals also produce wastewater that is released into surface waters or sent offsite for disposal. Facilities may produce wastewater when they clean and demineralize water needed to process the gas, with the filtration systems producing waste byproducts. Wastewater can also be produced when removing impurities from the gas prior to liquefaction and export. Other types of wastewater produced at LNG facilities can include water used to convert imported liquefied gas back into vapor, hydrostatic test water (from testing equipment and tanks for leaks), water from cleaning equipment, stormwater, sanitary wastewater, and more.[73]

Though the types of wastewater produced at each terminal varies, each facility that discharges wastewater to a waterway is required to obtain a wastewater discharge permit, as required by the Clean Water Act.[74] EPA regulates the wastewater discharge of dozens of industrial categories – such as petroleum refineries, chemical manufacturers, and coal plants – setting baseline limits called "effluent guidelines." However, EPA has not set these national limits for LNG terminals.[75] Without national guidelines, states issue wastewater permits which establish what pollutants will be monitored and whether there are numerical limits on how much can be discharged, based on water quality standards and the professional judgement of state regulators. But practices can differ across states and most permits for LNG terminals contain few limits and regulate a small number of pollutants.[76]

Data from EPA's ECHO database show four of the seven LNG export terminals (57 percent) examined in this report had been in noncompliance with the Clean Water Act for at least six months (or two quarters) from April 2022 to July 2025. These violations include failing to submit discharge monitoring reports as well as violating permit limits. Five of the seven facilities violated their permit limits at least once in the last five years (July 2020 to June 2025), collectively exceeding limits 69 times for pollutants like suspended solids, oil and grease, organic carbon, zinc, copper, and bacteria (Table 6).[77] Though Cove Point in Maryland has an active wastewater permit, the facility has not reported discharging any wastewater since 2017.[78]

Table 6. Clean Water Act Compliance Record of LNG Terminals

Facility	Location	Quarters in Noncompliance (April 2022 - July 2025)	Effluent Violations (July 2020 - June 2025)	Pollutants with with Violations
Cameron LNG Terminal	Hackberry, LA	7	27	Suspended solids, fecal coliform, pH
Freeport LNG Terminal and Pretreatment Facility	Quintana/Freeport, TX	6	24	Zinc, copper, organic carbon, oil & grease, pH
Corpus Christi LNG Terminal	Gregory, TX	2	9	Suspended solids, organic carbon, enterococci, pH
Sabine Pass LNG Terminal	Cameron, LA	8	8	Suspended solids, fecal coliform
Calcasieu Pass LNG Terminal	Cameron, LA	1	1	Suspended solids
Cove Point LNG Terminal	Lusby, MD	0	0	
Elba Liquefaction Terminal	Savannah, GA	0	0	

Source: EPA's Enforcement and Compliance History Online (ECHO) database. Data was accessed on July 29, 2025. Quarterly compliance status dates back three years; quarter one begins on April 1, 2022, and quarter "13+" ends on July 25, 2025. Note: Freeport LNG operates a pretreatment facility in Freeport and a liquefaction facility/export terminal on Quintana Island, which are regulated as separate facilities under different wastewater permits. Compliance and enforcement data have been aggregated.

Corpus Christi LNG and Freeport LNG were each subject to one and two enforcement actions, respectively, for violating permit requirements in the last five years. No penalties were assessed for Clean Water Act violations at any of these seven LNG terminals in the last five years.

The sections that follow present case studies of environmental compliance problems at individual LNG terminals. The examples include accidents, malfunctions, an explosion, several pollution releases — and an examination of how all of this is impacting local residents.

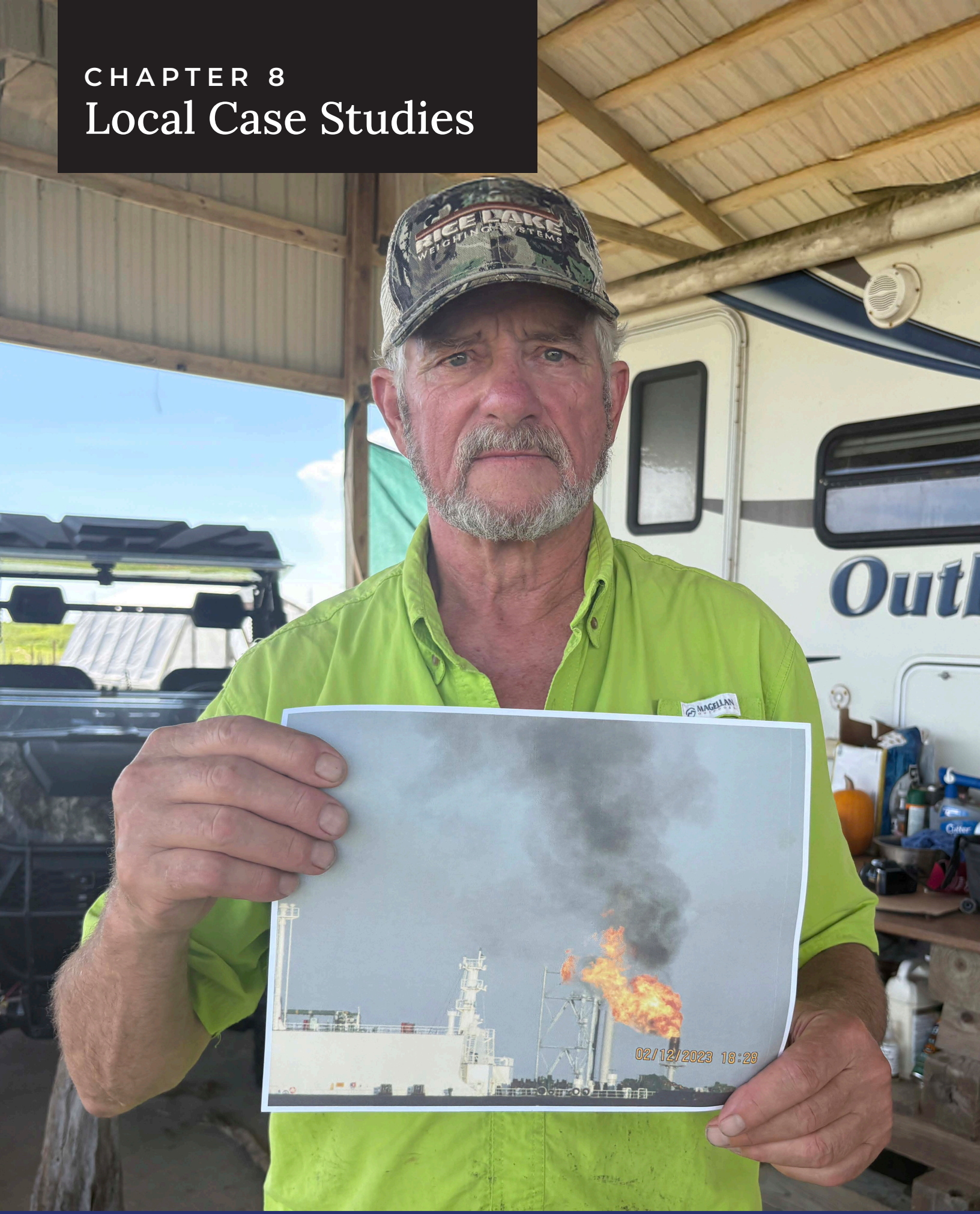
The five LNG terminals on the Gulf Coast exceeded their water pollution limits

69 times

over the last five years.

CHAPTER 8

Local Case Studies



John Allaire, a retired oil and gas engineer who lives near the Calcasieu Pass LNG terminal in Louisiana, holding a photo of flaring and black smoke pouring from the facility.

Freeport LNG Terminal in Texas

An explosion at the Freeport LNG terminal in 2022 frightened local residents and led to an eight-month shutdown of one of the world's largest export terminals. Photo by Healthy Gulf.

On June 8, 2022, a massive explosion at the Freeport LNG terminal south of Houston sent a fireball 450 feet into the air, frightening local residents, rattling global markets, and leading to an eight month shutdown of one of the world's largest LNG terminals.[79]

But even before the explosion, Freeport LNG had a long track record of problems and environmental violations. Texas regulators identified 16 violations and issued four enforcement orders to Freeport LNG between November 2020 and March 2022.[80] The violations were for failing to prevent unauthorized emissions of nitrogen oxides, volatile organic compounds, carbon monoxide, and particulate matter, and failure to complete performance testing and properly operate flares, among other concerns.[81]

TCEQ issued another enforcement order against Freeport LNG in 2024 and $152,173 in fines, as well as six notices of violation between August 2022 and April 2025.[82] Five more enforcement orders were pending as of the time of this report, according to TCEQ records.[83] One of these orders is for pollution release incidents in 2019 when Freeport LNG was starting up its first liquefaction unit, resulting in thousands of pounds of unauthorized pollution. This violation could add another $42,600 in administrative penalties, once it is finalized.[84]

An investigation into the June 2022 explosion at the Freeport LNG export terminal found that the root cause was a blocked pipe valve, which led to a buildup of flammable methane gas and pressure that resulted in a vapor cloud explosion.[85] Contributing to the explosion were inadequate operating and testing procedures and problems with the plant's warning systems. The facility's control room failed to warn operators of soaring temperatures and some alarms were "constantly indicating" on equipment that had been out of service for years, making it difficult for staff to spot real danger.[86] The investigation concluded that company officials were aware of problems days before the explosion occurred, but refused to shut down the plant. Fatigue among workers at the plant also played a role, with nearly three-quarters of the plant's operators required to work at least 20 percent more than their scheduled hours.[87]

In response to the investigation, Freeport LNG said it had made "significant enhancements" to safety valve testing processes and revised its control systems to better alert operators of problems.[88] The company also promised it would update its training program and increase staffing by more than 30 percent, although it later refused to disclose how many people it had hired.[89]

In the two years before a 2022 explosion at Freeport LNG, regulators found

16 violations

and issued four enforcement orders.

Luckily, no one was injured or killed in the explosion. Although a local beach was evacuated as a precaution, Freeport residents expressed concerns that there were no alarms or sirens to warn them the day the terminal exploded.[90] Freeport LNG was temporarily shut down, causing gas prices to spike shortly after Russia's invasion of Ukraine. Federal regulators finally allowed the terminal to return to full service in May 2025.[91]

Following the explosion, many blamed the lack of government oversight and outdated federal safety regulations for the LNG industry.[92, 93] Safety rules for LNG facilities are the responsibility of the Pipeline and Hazardous Materials Safety Administration (PHMSA) and were last updated in the 1980s.[94] The agency was required to update safety standards by the end of 2023, but faced multiple delays.

PHMSA finally announced that it would be updating the decades-old safety regulations in April 2025. However, in order to comply with President Trump's directive to "unleash" American energy production in response to a manufactured energy "emergency," instead of focusing on public safety precautions, the agency announced that it would do the opposite. Under the Trump Administration, the rulemakings are expected to "fast-track new LNG infrastructure projects" and "expand domestic export capacity."[95]

Cameron LNG Terminal in Louisiana

Flaring at the Cameron LNG terminal in southwest Louisiana, which has experienced repeated problems with its pollution control devices. Photo by Healthy Gulf.

The Cameron LNG terminal, located on the Calcasieu Ship Channel south of Lake Charles in western Louisiana, started exporting liquefied natural gas in 2019.

But almost as soon as the terminal's gas liquefaction units started up, the facility experienced repeated problems with its thermal oxidizers. Thermal oxidizers are combustion devices that are meant to reduce pollution of hazardous air pollutants and volatile organic compounds by burning them at high temperatures.[96] They play a crucial role in controlling pollution from LNG terminals and other industrial facilities.

The startup of the Cameron LNG export terminal resulted in numerous thermal oxidizer malfunctions – or "trips" – which caused the facility to exceed emissions limits for benzene, a known carcinogen. Between July 2019 and January 2025, Cameron LNG reported at least 54 "incidents" involving the facility's thermal oxidizers.[97] During one event, which was reported to state police on July 17, 2019, the facility released 431 pounds of benzene from one of its turbines as a result of a thermal oxidizer trip.[98] That means the unit, in just nine days, released more than three times as much of this carcinogen than it is legally allowed to emit in a year (which is 120 pounds annually).[99]

Despite being issued six warning letters by the LDEQ since March 2020, Cameron LNG repeatedly failed to get the problem under control and limit unauthorized discharges of toxic air pollutants.

Overall, the terminal reported 89 incidents that released 949,955 pounds of pollution from January 2019 through May 2025, according to state records. Of the 89 incidents, 60 percent were associated with the repeated failures of its thermal oxidizers.

The LDEQ issued an enforcement order to Cameron LNG in April 2024.[100] The order addresses 42 incidents reported between July 2019 and September 2022 associated with the thermal oxidizers that resulted in the release of 1,486 pounds of benzene and thousands of pounds of dangerous pollution, including the hazardous air pollutants toluene, xylene, and ethylbenzene.

While LDEQ's enforcement order is significant and represents a positive step, it only addresses around 80 percent of benzene emissions that the facility disclosed in incident reports from the time startup of the export facility began in 2019 to April 2024, when the order was issued.[101] In 2024, the most recent year for which data are available, Cameron LNG reported releasing over 1,000 pounds of benzene to the state's emissions inventory.

Cameron LNG reported
89 incidents
that released
949,955
pounds of pollution from 2019 through 2025.

Sempra, the company that owns the Cameron LNG terminal, is planning to expand the facility with the construction of a fourth gas liquefaction unit. It is also building a new gas export facility in Port Arthur, Texas, which would be able to process up to 27 million metric tons of LNG per year once fully operational—nearly double the current size of the Cameron LNG terminal in Louisiana. The first two liquefaction units in Port Arthur are under construction and state and federal regulators have already issued approvals for the two remaining units, despite the company's poor track record when it comes to compliance with environmental laws.

Calcasieu Pass LNG Terminal in Louisiana

The Calcasieu Pass LNG terminal in southwest Louisiana, on the Gulf Coast. Photo by Carlos Silva for Louisiana Bucket Brigade.

EPA's Enforcement and Compliance History Online (ECHO) database shows the Venture Global Calcasieu Pass LNG export terminal in Cameron Parish, Louisiana, as complying with the Clean Air Act during every quarter over the past three years.[102] However, public records and personal accounts from those living next to the terminal tell a different story.

Venture Global's semi-annual monitoring reports show that the company disclosed 233 Clean Air Act permit "deviations"[103] between January 2022, when its startup process began, and December 2024, the most recent data available. Each deviation may represent multiple violations of the Clean Air Act because each day that a unit fails to meet an emissions limit for a single pollutant is a separate violation. These deviations include exceedances of emissions limits for nitrogen oxides, particulate matter, volatile organic compounds, and hazardous air pollutants. In total, the Calcasieu Pass LNG terminal reported deviations for a total of 562 days between 2022 and 2024—meaning it has been in compliance with the Clean Air Act for less than 50 percent of the time since it began operating.

Local resident John Allaire took this photo of flaring and pollution from the Calcasieu Pass LNG terminal in March 2022.

Most deviations occurred during the first year. In 2022, Venture Global reported 171 deviations, and monitoring reports show the terminal was out of compliance with the Clean Air Act for 298 days that year.[104, 105, 106] Several pieces of equipment exceeded emissions limits for multiple pollutants for months at a time. For example, one of the facility's hot oil heaters exceeded limits for volatile organic compounds, hazardous air pollutants, carbon monoxide, particular matter, nitrogen oxides, and sulfur dioxide over 261 days in 2022, meaning it was functioning properly for less than 30 percent of the time.[107]

LDEQ issued an enforcement order to Venture Global Calcasieu Pass in June 2023, citing the company's 2022 semi-annual monitoring reports and its repeated violations of emissions limits established in its permits.[108] The department amended its order earlier this year, adding additional deviations that the company reported in 2023 and 2024.[109] Besides exceeding emissions limits, the amended enforcement order addresses excessive flaring and Venture Global's failure to properly notify the agency when it exceeded emissions limits or deviated from permit requirements.[110]

The Human Impact of the Expanding LNG Industry

Shrimper Anthony Theriot said the opening of the Calcasieu Pass LNG terminal three years ago in Cameron, Louisiana, sharply reduced his catch. "This one LNG facility has put us out of business. It's pretty much destroyed what I do for a living."

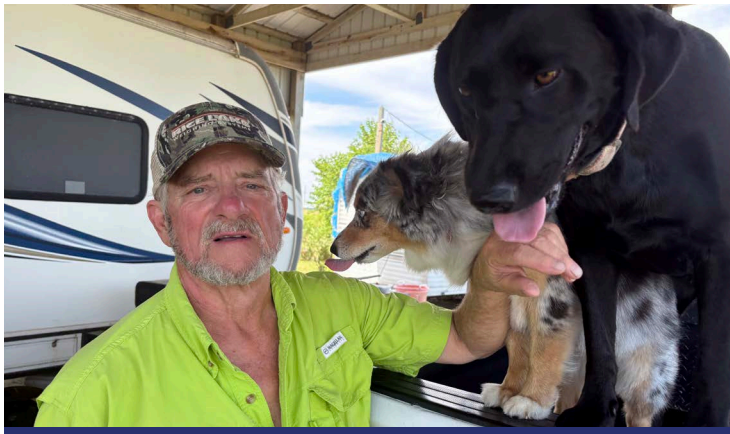
Since the Venture Global Calcasieu Pass LNG terminal opened near the mouth of Louisiana's Calcasieu River in 2022, the facility's frequent pollution releases and permit "deviations" have not simply been a matter of regulatory compliance for the people who live and work nearby, but a life-altering trauma.[111]

A former oil and gas engineer who owns a home near the terminal, John Allaire, has had to live with flames roaring from the stacks and plumes of inky smoke streaking across the sky above what had been his quiet and peaceful beach and wetlands.

"Frequently they flare, sometimes with black smoke; and sometimes I can hear the plant's alarms, all the way over here," said Allaire, standing outside his home across the Calcasieu River from the LNG terminal.[112] "I talked to their vice president and told him I was hearing alarms. And he goes, 'Well, if you feel like you're in danger, call 911.'"

That wasn't reassuring to Allaire, who purchased his Gulf Coast beach property in 1998 as a place he and his children could enjoy the tranquility of nature and live in their modest home. But now, he feels like he's being driven out of his home and his dreams overwhelmed.

"My kids grew up here. It was great back then," he said, looking across the marsh grasses, past the wreck of a shrimp boat, with the LNG terminal's fuel tanks looming in the distance. "I wanted my kids to be able to hunt and fish here. This is where I planned to have my ashes scattered. But LNG is screwing all that up. The habitat here is being destroyed."



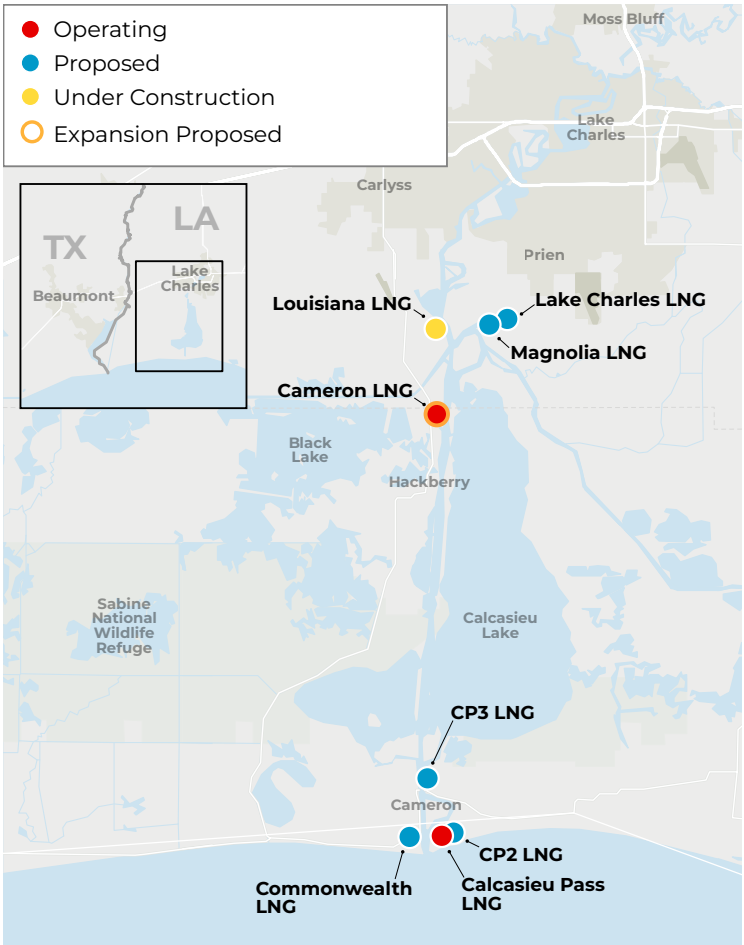
John Allaire, shown here with his dogs outside of his home, had his life disrupted by flaring and pollution from the Calcasieu Pass LNG terminal.

As if the LNG terminal across the river wasn't bad enough, immediately next to Allaire's home, a company called Commonwealth LNG, LLC is now planning to build a second massive LNG terminal, with stacks and tanks that will overshadow his home and drown out the sounds of waves and shore birds.[113]

That is just one of five new proposed LNG terminals – each the size of a small town – planned along the Calcasieu River. Immediately to the east of the existing Calcasieu Pass terminal near Allaire's home, Venture Global is planning two more. Construction has already begun on the CP2 LNG Terminal,[114] and next to it, the company is planning the CP3 LNG Terminal.[115]

Farther north up the Calcasieu River, a company called Woodside Louisiana LNG is also designing a new LNG terminal.[116] And just to the east of that, yet another is planned called the Magnolia LNG Terminal.[117]

Planned Expansion of LNG Industry Along the Calcasieu River in Louisiana



Source: Publicly available permit documents on Oil & Gas Watch as of Aug. 4, 2025.

This part of the western Louisiana Gulf Coast was once defined by shrimping, fishing, and oyster harvesting. But for professional shrimpers living here in Cameron, the sudden industrialization of the landscape – including dredging, construction, the bulldozing of wetlands, and massive LNG tankers making wakes up the river – has damaged the ability of families to earn a living and continue their fishing traditions.

Anthony Theriot, a 50-year-old shrimper who lives in Cameron, said that over the last three years, since the Calcasieu Pass LNG terminal opened, the number of shrimp boats operating in his town has plummeted from about 40 boats to 20.

"The last four years have been the worst four years of my fishing career. My catch has gone down by more than half," Theriot said. "The Global Venture LNG terminal, right at the mouth of the river, is somehow affecting the ability of shrimp to come up the river here. This one LNG facility has put us out of business. It's pretty much destroyed what I do for a living. Most of us who are making a living now have to shrimp elsewhere."

> "The last four years have been the **worst four years of my fishing career**. My catch has gone down by more than half."
>
> - **Anthony Theriot**, shrimper who lives in Cameron, Louisiana

Fisherman and shrimper Ray Mallett said the industrialization of the Calcasieu River by the LNG industry is destroying his livelihood. "What one boat caught four years ago – the whole fleet didn't catch this year."

On a sultry July afternoon, Ray Mallett, 64, piloted a motorboat down the Calcasieu River, past the LNG tanks, as a line of pelicans soared overhead and the setting sun glazed the waves with silver. “When they put this LNG terminal here in Cameron four years ago, we noticed a drop in production every year, with fewer and fewer shrimp coming in,” Mallett said. “What one boat caught four years ago – the whole fleet didn’t catch this year. So it’s been a dramatic change.”

It’s not clear what, exactly, is harming the fishing industry. The Calcasieu Pass LNG terminal had one water pollution violation in 2022 for releasing excessive amounts of total suspended solids into the Calcasieu River, according to EPA records.[118] But there are also other impacts, including more noise at the mouth of the river from construction projects, as well as dredging, and the massive wakes of LNG tankers. Some combination of these factors could be harming the aquatic life, the fishermen speculate. Dredging for the planned CP2 terminal has already buried crab traps and muddied the river’s waters with sediment.[119]

Sky Leger, 43, a shrimper who lives in Cameron, said the wakes from the LNG tankers are so huge they can knock over fishing boats and erode the banks of the river.

Sky Leger, 43, a shrimper who lives in Cameron, said the wakes from the LNG tankers are so huge they can knock over fishing boats and erode the banks of the river. He complained that most of the people hired to run the new plant are from out of town – with only a few locals hired as construction workers, and only on a temporary basis.

“In so many words, they are just pushing us out – bullying us,” Leger said. “The end result is going to be the complete elimination of commercial fishing in Cameron, Louisiana. Up until about six or seven years ago, shrimping was the main industry here. But they just came in here and completely destroyed it.”

CHAPTER 9

Conclusion

The rapid growth of the LNG industry has not been accompanied by adequate oversight or enforcement of air and water pollution control laws, putting local communities at risk.

Conclusion

The policies of the Trump Administration are paving the way for an expansion of the LNG industry, and government agencies are taking action to speed up the review process for certain permits for new and expanded LNG terminals. President Trump has threatened countries with tariffs if they don't buy more American gas. In the first six months of 2025, the Federal Energy Regulatory Commission and the Maritime Administration have finalized at least 10 LNG-related actions to advance the construction and expansion of new LNG terminals. Since January, companies have proposed new projects that would add nearly 100 million metric tons of liquefaction capacity, which would be a 38 percent increase above what was proposed before President Trump took office.

But the Trump Administration's rush to expand the industry ignores the fact that LNG companies repeatedly violate environmental laws. In the last five years, all seven of the LNG terminals operating in the U.S. violated their air pollution control permits. States and EPA have issued 15 enforcement actions, including for the release of dangerous pollutants like benzene. Over the same period, five of the seven LNG terminals also violated their water pollution control permit limits, releasing illegal amounts of pollutants like oil and grease, suspended solids, zinc, copper, and bacteria scores of times.

When state and federal environmental agencies impose penalties for these violations, they are often small compared to the significance of the violation, the maximum penalties allowed under the law, and the multi-billion-dollar companies involved. The people who suffer when companies break the rules are the local residents of these massive terminals who breathe in harmful emissions, live in fear of possible explosions, and have a front row seat to the declining health of local waterways and once-thriving fish and shrimp populations.

In the face of the industry's struggles to achieve consistent compliance with the law at existing facilities, the government should slow down, not speed up, the review process for proposed new LNG terminals. For the sake of public safety and health, more vigorous government oversight and accountability for this fast-growing industry is badly needed.

Appendix A: Methodology

EIP reviewed state and EPA records to assess air and water compliance at the seven LNG export terminals that were fully operational by the end of 2024: Sabine Pass LNG (Cameron, LA), Cove Point LNG (Lusby, MD), Corpus Christi LNG (Gregory, TX), Elba Liquefaction (Savannah, GA), Cameron LNG (Hackberry, LA), Calcasieu Pass LNG (Cameron, LA), and Freeport LNG (Quintana and Freeport, TX).

For a spreadsheet with our data, click here.

Although there are eight LNG export terminals operating today, Plaquemines LNG, which only started operating in late December 2024, was excluded from this analysis because robust compliance information was not yet available.

Freeport LNG operates a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island, which are regulated as separate facilities under different Clean Air Act and Clean Water Act permits. Compliance and enforcement data have been aggregated throughout this report to make it easier to understand and assess impacts.

Information about proposed projects and those that are under construction came from state and federal permit documents, company press releases, and news sources compiled on the Oil and Gas Watch database as of August 4, 2025.[120] Where available, we use potential greenhouse gas and criteria air pollutant emissions estimates provided by companies in their Clean Air Act New Source Review permits or permit applications.

Capacity data were compiled using government records (primarily applications submitted to or authorizations issued by the U.S. Department of Energy, Federal Energy Regulatory Commission, or the Maritime Administration, where available), as well as company websites, press releases, or the U.S. Energy Information Administration's liquefaction capacity database.[121] Capacity figures are presented in million metric tons per year and represent peak liquefaction capacity, or the maximum amount of LNG that can be produced at the facility in a full calendar year.

Enforcement and Compliance

Enforcement and compliance data were downloaded from the EPA's Enforcement and Compliance History Online (ECHO) database on July 29, 2025.[122] ECHO provides access to compliance information for major and minor sources of pollution regulated under the Clean Air Act (CAA), Clean Water Act (CWA), and other major environmental laws.

Compliance status, quarters in noncompliance, formal enforcement actions, and penalty information were sourced from detailed facility reports and public records obtained from state agencies. The detailed facility reports contain quarterly compliance status dating back three years. Quarterly Clean Air Act compliance data spans October 1, 2022 through September 30, 2025. Quarterly Clean Water Act compliance data spans April 1, 2022 through July 25, 2025. Clean Water Act compliance data includes 12 quarters and an unofficial 13th quarter that extends the three year compliance span by up to three months. Current Clean Water Act compliance status reflects the most recent data during this 13th quarter.

Compliance with the Clean Water Act reflects compliance for individual National Pollutant Discharge Elimination System (NPDES) permits and general permits associated with the facility (e.g., for hydrostatic test and vessel testing wastewater). It does not include compliance with CWA Section 404 permits, or "wetland permits."

EIP calculated effluent violations (numeric permit limit violations) from discharge monitoring data from July 2020-June 2025 for all outfalls regulated by an individual NPDES permit and with reported data, including outfalls that discharge process wastewater, utility wastewater, stormwater, sanitary wastewater, etc.

Compliance status and violations flagged in ECHO are based on industry self-reported data. EPA considers violations as alleged violations and data in ECHO does not necessarily represent final legal determinations nor imply companies were charged with criminal or civil violations or convicted in court.[123] Data on formal and informal air enforcement actions and penalties were validated using final administrative orders and other public records available through state air agencies. EIP made a good faith effort to report potential errors in ECHO to EPA.

While data from EPA's ECHO database offer a glimpse of the compliance and enforcement history of LNG terminals, as noted above, the data are not always complete and do not always accurately reflect the compliance status of a given facility. States, which have primary enforcement responsibilities under the Clean Air Act and the Clean Water Act, do not always update or inform EPA's ECHO database about enforcement actions taken at the state level.

For example, Sabine Pass LNG in Louisiana is listed in EPA's database as being in compliance with the Clean Air Act for every quarter over the past three years.[124] However, state data show that the LDEQ issued a compliance order in April 2023 because of the facility's ongoing failure to comply with formaldehyde standards for its turbines as required under federal regulations called National Emission Standards for Hazardous Air Pollutants.[125] The company was required to comply with emissions standards for formaldehyde for all 44 of its turbines beginning in September 2022. Under an enforcement order, LDEQ reserved the right to impose penalties for these violations and required Sabine Pass LNG to take specific actions to achieve compliance with the law by October 2025.[126]

Research shows that being exposed to formaldehyde for even a short time – as short as 15 minutes – can lead to respiratory inflammation and irritation of the eyes, nose, and throat. Chronic exposure has been proven to reduce lung function, increase asthma and allergy-related conditions, and cause cancer.[127]

Despite the facility's serious violations of air quality standards established under the Clean Air Act to protect public health, EPA's ECHO database still listed Sabine Pass LNG as complying with the law as of July 2025.

Emission Events

Each state has different reporting requirements for unauthorized discharges of air pollution known as "upsets," "emission events," or "air incidents." Because of this, event counts and event-related emissions should not be compared between facilities in different states or between states.

In Louisiana, unauthorized pollution must be reported to the Louisiana State Police, regardless of how much pollution is released or if permit limits are exceeded.[128] For this analysis, we examined PDF copies of emergency and non-emergency air incident reports available through the state's Electronic Document Management System (EDMS) as of May 2025.[129] Amounts of released pollutants were recorded and summed for each air incident. For emissions of volatile organic compounds (VOCs), we assumed that the reported total included all individually listed VOCs, except in cases where the sum of the individual compounds exceeded the separately reported VOC total.

Some companies did not report emissions totals if the discharge did not exceed a reportable quantity, so emissions totals are likely underestimated.[130] Incident reports can be miscategorized in EDMS. For example, 79 documents associated with incidents at the Cameron LNG export terminal were categorized as "single point of contact." EIP made a good-faith effort to identify and correct these errors.

In Texas, companies must disclose unauthorized pollution releases during unexpected "emissions events." These include "[a]ny upset event or unscheduled maintenance, startup, or shutdown activity, from a common cause that results in [an] 'unauthorized' pollution release."[131] Even planned startups, shutdowns, and maintenance activities are considered upsets if emissions exceed the amount of pollution anticipated for the activity by a significant amount due to an unplanned malfunction.[132] Companies must file an initial report to the State of Texas Electronic Emissions

Reporting System (STEERS) within 24 hours after discovering an emissions event.[133] Then, as soon as practicable, but no later than two weeks after the event has ended, the company must provide an updated, final report, adjusting any pollution estimates or other details as necessary.

For this analysis, we examined reports that companies filed with STEERS between January 1, 2018 and May 1, 2025. The data were current as of June 9, 2025, when EIP downloaded the reports. Companies will often submit reports to STEERS when there is a scheduled maintenance, startup, or shutdown (MSS) event, but sometimes these events either don't take place, or don't reach the reportable quantity required for reporting. TCEQ leaves these events in the database, but EIP has removed them from this analysis. We also excluded duplicate events or if companies indicated that events were submitted in error. Additionally, some events include duplicate emissions of particular pollutants – like particulate matter or nitrogen oxides. EIP took measures to avoid double-counting emissions.

Appendix B: Greenhouse Gas Emissions from Operating LNG Export Terminals

Facility	Parent Company	Location	Operating Date	Greenhouse Gases (CO_2e) (tons/year) in 2023
Calcasieu Pass LNG Terminal	Venture Global	Cameron, LA	2022	3,127,774
Cameron LNG Facility	Sempra	Hackberry, LA	2019	2,887,933
Corpus Christi LNG Terminal	Cheniere Energy	Gregory, TX	2018	3,348,593
Cove Point LNG Terminal	Berkshire Hathaway Energy	Lusby, MD	2018	1,270,254
Elba Liquefaction Terminal	Kinder Morgan	Savannah, GA	2019	70,013
Freeport LNG Terminal and Pretreatment Facility*	Freeport LNG Development	Freeport/Quintana, TX	2019	630,276
Plaquemines LNG Terminal	Venture Global	Port Sulphur, LA	2024	N/A
Sabine Pass LNG Terminal	Cheniere Energy	Cameron, LA	2016	6,902,358
				18,237,200

* Freeport LNG consists of a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island, which are regulated as separate facilities. Reported emissions have been aggregated. Freeport LNG was only partially operating in 2023.
Source: Publicly available permit documents on Oil & Gas Watch as of Aug. 4, 2025. EPA's Greenhouse Gas Reporting Program (accessed May 30, 2025). Note: These numbers rely on company self-reported data. Greenhouse gas emissions are presented as carbon dioxide equivalents and reflect the global warming potentials used by the GHGRP. We adjusted metric tons to short tons.

Appendix C: Other Air Pollutants from Operating LNG Export Terminals, 2023

Facility, State	Particulate Matter (PM2.5) (tons/year)	Nitrogen Oxides (NOx) (tons/year)	Volatile Organic Compounds (VOCs) (tons/year)	Sulfur Dioxide (SO_2) (tons/year)	Carbon Monoxide (CO) (tons/year)	Benzene (lbs/year)	1,3-butadiene (lbs/year)	Ethyl benzene (lbs/year)	Formaldehyde (lbs/year)	Propylene oxide (lbs/year)
Calcasieu Pass LNG Terminal, LA	62.6	359.8	85.8	55.3	423.4	1,128.2	15.9	1,248.2	1,025	1,131.1
Cameron LNG Facility, LA	200	632.2	96.8	12.3	1,228.3	1,070.7	20	1,490.5	5,644.7	1,349.6
Corpus Christi LNG Terminal, TX	64.8	2,169.6	108.5	15.9	586.2	373.4	0	0	4,774.6	0
Cove Point LNG Terminal, MD	8.2	119.9	12.8	1.1	75.5	Unknown	Unknown	Unknown	Unknown	Unknown
Elba Liquefaction Terminal, GA	4.7	11.4	11.8	24.6	22.6	Unknown	Unknown	Unknown	Unknown	Unknown
Freeport LNG Terminal and Pretreatment Facility*, TX	39.7	69.8	48.1	0.7	400.6	321	0	236	0	0
Plaquemines LNG Terminal, LA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sabine Pass LNG Terminal, LA	149	4,460.8	188.4	4.4	3,976.9	1,516.3	36.6	3,586.8	8,762.6	3,250.5
Total	**529.2**	**7,823.6**	**552.3**	**114.2**	**6,713.5**	**4,409.7**	**72.5**	**6,561.4**	**20,206.9**	**5,731.1**

* Freeport LNG consists of a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island, which are regulated as separate facilities. Reported emissions have been aggregated. Freeport LNG was only partially operating in 2023.

Source: Publicly available permit documents on Oil & Gas Watch as of Aug. 4, 2025. State air emission inventories (accessed May 30, 2025). Note: These numbers rely on company self-reported data. Speciated HAPs emissions were not available for facilities in Georgia and Maryland.

Appendix D: Proposed LNG Export Projects by Capacity, Permit Status, and Potential Emissions Increases

Project Name	Parent Company	Location	Classification	Capacity (million metric tons/year)	Operating Status	Expected Operating Date(s)	Approvals Still Needed (as of Aug. 4, 2025)	Potential to Emit (tons/year)		
								Greenhouse Gases (CO_2e)	Sum of Criteria Pollutants	Hazardous Air Pollutants (HAPs)
Alaska LNG Terminal	Alaska Gasline Development Corporation	Nikiski, AK	New	20	Proposed	2029/2030	CAA (Extension), NPDES	8,572,968	40,827.9	Unknown
Argent LNG Terminal	Argent LNG	Port Fourchon, LA	New	25	Proposed	2030	CAA, NGA, DOE, Wetlands, NPDES	TBD	TBD	TBD
Cameron LNG, Train 4	Sempra	Hackberry, LA	Expansion	6.8	Proposed	2027	NPDES	Unknown	Unknown	Unknown
Coastal Bend LNG Terminal	Coastal Bend LNG	TBD, TX	New	22.5	Proposed	Unknown	CAA, NGA, DOE, NPDES, Wetlands	TBD	TBD	TBD
Commonwealth LNG Terminal	Kimmeridge	Cameron, LA	New	9.5	Proposed	2029	NPDES, DOE[1]	3,568,708	1,682.2	159.7
Corpus Christi LNG, Stage 4 Expansion	Cheniere Energy	Gregory, TX	Expansion	24	Proposed	2035	CAA, NGA, DOE, NPDES, Wetlands	TBD	0	TBD
Corpus Christi LNG, Trains 8 & 9	Cheniere Energy	Gregory, TX	Expansion	3.3	Proposed	2031	DOE, NPDES	653,236	1,698.3	2.5
CP2 LNG Terminal	Venture Global	Cameron, LA	New	28	Proposed[2]	2026/2027	NPDES, DOE[3]	8,528,260	3,135.5	370.4
CP3 LNG Terminal	Venture Global	Cameron, LA	New	42[4]	Proposed	Unknown	CAA, NGA, DOE, Wetlands, NPDES	TBD	TBD	TBD
Delfin LNG Terminal[5]	Fairwood Peninsula Energy Corporation	Gulf of Mexico, LA	New	13.2	Proposed	2031	CAA, NPDES	5,302,396	12,530.8	5.7
Eagle Jacksonville LNG Facility	The Energy & Minerals Group	Jacksonville, FL	New	1	Proposed	2030	NPDES	71,852	340.5	12.8
Elba Liquefaction Optimization Project	Kinder Morgan	Savannah, GA	Expansion	0.6	Under Construction	2025	DOE	38,853	18.8	0.2
Freeport LNG, Train 4[6]	Freeport LNG Development	Freeport/ Quintana, TX	Expansion	5.5	Proposed	2031		Unknown	Unknown	Unknown
Golden Pass LNG Export Terminal	QatarEnergy, ExxonMobil	Sabine Pass, TX	New	18.1	Under Construction	2027/2029		4,940,072	1,659.4	Unknown

Appendix D: Proposed LNG Export Projects by Capacity, Permit Status, and Potential Emissions Increases

Project Name	Parent Company	Location	Classification	Capacity (million metric tons/year)	Operating Status	Expected Operating Date(s)	Approvals Still Needed (as of Aug. 4, 2025)	Potential to Emit (tons/year)		
								Greenhouse Gases (CO_2e)	Sum of Criteria Pollutants	Hazardous Air Pollutants (HAPs)
Gulf LNG Terminal	Kinder Morgan	Pascagoula, MS	Expansion	10.9	Proposed	2029	CAA	2,885,787	1,315.2	20.9
Gulfstream LNG Terminal	Gulfstream LNG Development	Port Sulphur, LA	New	4.9	Proposed	2030	CAA, NGA, DOE, Wetlands, NPDES	1,450,000	932.1	11.5
Lake Charles LNG Terminal	Energy Transfer	Lake Charles, LA	New	16.5	Proposed	2028	CAA (Renewal/ Extension), Wetlands (Extension), DOE (Extension), NPDES	4,199,076	2,269.7	12.6
Magnolia LNG Terminal	Glenfarne Group	Lake Charles, LA	New	8.8	Proposed	Unknown	CAA, DOE, Wetlands, NPDES	2,459,715	1,928.7	21.9
New Fortress Louisiana FLNG Terminal	New Fortress Energy	Gulf of Mexico, LA	New	3	Proposed	Unknown	MARAD, CAA, DOE, Wetlands, NPDES	1,506,900	2,490.1	8
Penn LNG Terminal	Penn America Energy Holdings	Chester, PA	New	7.2	Proposed	2030	CAA, NGA, DOE, NPDES	TBD	TBD	TBD
Plaquemines LNG, Phase III	Venture Global	Port Sulphur, LA	Expansion	24.8	Proposed	2029/2030	CAA, NGA, DOE, Wetlands, NPDES	TBD	TBD	TBD
Port Arthur LNG, Trains 1 & 2	Sempra	Port Arthur, TX	New	13.5	Under Construction	2028	NPDES (Renewal)	4,659,930	3,612.2	Unknown
Port Arthur LNG, Trains 3 & 4	Sempra	Port Arthur, TX	Expansion	13.5	Proposed	2029	NPDES (Renewal)	3,081,114	2,176.4	Unknown
Power LNG Terminal	Power LNG	Galveston, TX	New	0.1	Proposed	Unknown	CAA, NGA, NPDES	TBD	TBD	TBD
Qilak LNG North Slope Terminal	Lloyds Energy	Point Thomson, AK	New	4.0	Proposed	2033	CAA, MARAD, DOE, NPDES	TBD	TBD	TBD
Rio Grande LNG Terminal	Global Infrastructure Partners, NextDecade, TotalEnergies	Brownsville, TX	New	27	Under Construction	2028	NPDES	6,425,400	3,594.8	38.3
Rio Grande LNG, Trains 6-8	Global Infrastructure Partners, NextDecade, TotalEnergies	Brownsville, TX	Expansion	18	Proposed	Unknown	CAA, NGA, DOE, Wetlands, NPDES	TBD	TBD	TBD

Appendix D: Proposed LNG Export Projects by Capacity, Permit Status, and Potential Emissions Increases

Project Name	Parent Company	Location	Classification	Capacity (million metric tons/year)	Operating Status	Expected Operating Date(s)	Approvals Still Needed (as of Aug. 4, 2025)	Potential to Emit (tons/year)		
								Greenhouse Gases (CO_2e)	Sum of Criteria Pollutants	Hazardous Air Pollutants (HAPs)
Sabine Pass LNG, Stage 5 Expansion	Cheniere Energy	Cameron, LA	Expansion	19.8	Proposed	2031	CAA, NPDES, NGA, DOE, CWA Wetlands	6,055,029	1,791.9	245.9
ST LNG Terminal	ST LNG	Gulf of Mexico, TX	New	8.4	Proposed	2029/2031/ 2032/2034	CAA, DOE, Wetlands, NPDES, MARAD	3,311,736	5,379	6.2
Texas LNG Terminal	Glenfarne Group	Cameron, TX	New	4.5	Proposed	2027	NPDES	604,087	394.5	2
West Delta LNG Terminal	LNG21	Gulf of Mexico, LA	New	6.1	Proposed	Unknown	MARAD, NGA, CAA, DOE, Wetlands, NPDES	1,041,670	1,610	9.4
Woodside Louisiana LNG	Woodside Energy	Sulphur, LA	New	27.6	Under Construction	2027/2029	DOE (Extension)	9,512,841	8,720.3	525.7
Wyalusing LNG Terminal/ Gibbstown Logistics Center[7]	New Fortress Energy, Fortress Investment Group	Wyalusing, PA / Gibbstown, NJ	New	2.4	Proposed	Unknown	CAA, NGA, NPDES	1,107,679	408.2	8.8

KEY:

Project has not initiated the permitting process.

Project is authorized to begin construction, meaning it has been authorized for construction by the Federal Energy Regulatory Commission and/or the Maritime Administration and has obtained final Clean Air Act pre-construction permits. Other permit approvals may be required before operations can begin.

Approvals still needed:

CAA = Clean Air Act New Source Review pre-construction permit
NGA = Order Granting Authorization under Section 3 and/or Section 7 of the Natural Gas Act
DOE = Authorization to export LNG
Wetlands = Clean Water Act Section 404 permit
NPDES = Clean Water Act National Pollutant Discharge Elimination System permit
MARAD = Deepwater Port License

Many of the projects in the above table will need to obtain Title V operating permits under the Clean Air Act before operations can begin. However, some states (like Louisiana) issue operating permits together with New Source Review pre-construction permits.

[1]The U.S. Department of Energy issued a conditional authorization to Commonwealth LNG to export LNG to nations with which the U.S. does not have a free trade agreement on February 14, 2025 (Order No. 5238).
[2]Venture Global began early site work at the CP2 LNG Terminal in June 2025.
[3]The U.S. Department of Energy issued a conditional authorization to CP2 LNG to export LNG to nations with which the U.S. does not have a free trade agreement on March 19, 2025 (Order No. 5264).
[4]Venture Global has not announced a final capacity figure for its CP3 LNG terminal but has indicated a range of 30–42 million metric tons per year.
[5]Potential emissions for the Delfin LNG facility include emissions from both the offshore export terminal and the onshore facility.
[6]Freeport LNG consists of a pretreatment facility in Freeport and a liquefaction facility and export terminal on Quintana Island, which are regulated as separate facilities.
[7]LNG produced at the Wyalusing LNG Terminal in Pennsylvania would be transported by truck or rail to the Gibbstown Logistics Center in New Jersey, where it would be loaded onto ships and exported overseas.
Source: State and federal permit documents, company press releases, and news sources compiled on the Oil and Gas Watch database as of August 4, 2025. Note: Criteria pollutants refer to: fine particulate matter, nitrogen oxides, volatile organic compounds, sulfur dioxide, and carbon monoxide. Potential emission estimates were sourced from permit documents. TBD indicates the company has not yet submitted a permit application, and emission estimates are unavailable. Unknown indicates that potential emission estimates were not provided in permit documents, or could not be disaggregated from operating units.

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[11] Source: EPA's Greenhouse Gas Reporting Program (GHGRP) (accessed May 30, 2025. Link: https://ghgdata.epa.gov/ghgp/main.do) and state air emission inventories (accessed May 30, 2025. Link: https://environmentalintegrity.org/state-emissions-inventory/). Equivalencies were calculated using EPA's Greenhouse Gas Equivalencies Calculator (Link: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator). Please see the methods section in Appendix A for more information.
[12] For some plants, emission events may include estimates of future emissions due to planned maintenance, startup, or shutdown. Please see the methods section for more information. Each plant began operating at a different time. See Appendix B for operating years.
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[32] Sierra Club, "The People Always Pay: Tax Breaks Force Gulf Communities to Subsidize the LNG Industry," December 2024, Link: https://www.sierraclub.org/sites/default/files/2025-01/lng_taxabatement_report-1.pdf.

[33] PSD Permit PSD-LA-808 (M3) (April 16, 2024). Issued by the Louisiana Department of Environmental Quality to Venture Global Plaquemines LNG, LLC and Venture Global Gator Express, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14252039

[34] Although there are eight LNG export terminals operating today, Plaquemines LNG only began the startup process in late December 2024 and was excluded from this analysis because robust compliance data is not yet available.

[35] See, for example: 1) Amended Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-22-00367A (May 9, 2025). Issued by the Louisiana Department of Environmental Quality to Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14762198; 2) Louisiana Department of Environmental Quality, Incident Investigation Report, Incident No. 192263, Cameron LNG (July 17, 2019). Link: https://edms.deq.louisiana.gov/app/doc/view?doc=12092625; 3) Notices of Violation issued to the Freeport LNG Pretreatment Facility (RN106481500) under Operating Permit No. O3958 on November 23, 2020, August 23, 2023, and January 12, 2024, and Notices of Violation issued to the Freeport LNG Liquefaction Plant (RN103196689) under Operating Permit No. O2878 on November 20, 2020, available through the TCEQ Central Registry Query. Link: https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

[36] In addition to the Freeport LNG explosion and fire in Texas in 2022, examples include: 1) The Plymouth LNG explosion in 2014. In Plymouth, Washington, an explosion during the startup of a liquefaction system injured five employees and led to the evacuation of nearby residents. Link: https://www.theguardian.com/world/2014/apr/01/five-injured-natural-gas-plant-explosion-washington. 2) The Skikda LNG Explosion in Algeria in 2004. At least 23 people died and 74 were injured when three liquefaction units at an LNG terminal in Algeria exploded. Link: http://news.bbc.co.uk/1/hi/world/africa/3411651.stm. 3) The Cove Point LNG explosion in 1979, in Maryland. A leak from an LNG pump in southern Maryland ignited, causing an explosion that resulted in one fatality and injuries. Link: https://www.washingtonpost.com/archive/local/1979/10/07/worker-killed-in-blast-at-gas-processing-plant/9b0678aa-6de0-4d63-9261-4e9680daa097/

[37] Environmental Integrity Project, "EPA Enforcement Could Drop Sharply in Second Trump Administration, After Improvements Under Biden," December 16, 2024. Link: https://environmentalintegrity.org/news/report-epa-enforcement-could-be-cut-sharply-by-second-trump-administration/

[38] Maxine Joselow and Harry Stevens, "Civil Cases Against Major Polluters Plummet Under Trump," *The New York Times*, August 8, 2025. Link: https://www.nytimes.com/2025/08/08/climate/pollution-civil-cases-epa-trump.html

[39] Environmental Integrity Project, "The Thin Green Line," December 5, 2019. Link: https://environmentalintegrity.org/reports/the-thin-green-line/

[40] Compliance Order & Notice of Potential Penalty, AE-CN-22-00833 (April 12, 2023). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG, LP and Sabine Pass Liquefaction, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13765734

[41] Amended Compliance Order & Notice of Potential Penalty, AE-CN-22-00833A (April 19, 2024). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG, LP and Sabine Pass Liquefaction, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14263860

[42] According to the final settlement agreement for Enforcement Order AE-CN-16-00183 (issued March 18, 2024), Sabine Pass LNG was required to pay $225,000. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14222863

[43] Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-22-00367 (June 29, 2023). Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13873284. Amended Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-22-00367A (May 9, 2025). Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14762198.

[44] Four enforcement orders have been issued to the Freeport LNG Pretreatment facility since July 2020, resulting in $330,228 in penalties: 2020-1417-AIR-E (issued 8/25/2021), 2021-0203-AIR-E (issued 11/16/2021), EPA Case No. CAA-06-2024-3307 (issued 12/11/2023), and 2022-0058-AIR-E (issued 10/1/2024). As of July 29, 2025, penalties from formal enforcement actions displayed in ECHO excluded $12,375 in penalties from Order No. 2020-1417-AIR-E and $152,173 in penalties from Order No. 2022-0058-AIR-E. Three enforcement orders have been issued to the Freeport LNG Liquefaction Facility & Export Terminal since July 2020, resulting in $339,376 in penalties: 2021-0284-AIR-E (issued 12/14/2021), 2021-0917-AIR-E (issued 3/29/2022), and 2023-1670-AIR-E (issued 8/28/2024).

[45] TCEQ Enforcement Order No. 2023-1670-AIR-E (issued 8/28/2024) and EPA Case No. CAA-06-2024-3307 (issued 12/11/2023). On December 20, 2024, the Pipeline and Hazardous Materials Safety Administration (PHMSA) proposed a $1.5 million fine for probable violations of the Pipeline Safety Regulations (Title 49 of the Code of Federal Regulations) in response to the June 2022 explosion at the Freeport LNG terminal. See: Amended Notice of Probable Violation and Proposed Civil Penalty, CPF 4-2024-033-NOPV. Link: https://primis.phmsa.dot.gov/enforcement-documents/42024033NOPV/42024033NOPV_PCP%20(AMENDED)_12202024_(22-245663)_text.pdf

[46] See Endnote 43 for more details.

[47] Our analysis is based on a review of emergency and non-emergency air incident reports available through Louisiana's Electronic Document Management System (EDMS) as of May 2025. Please see the methods section for more information.

[48] Criteria and hazardous air pollutants (HAPs) data are from state air emission inventories (accessed May 30, 2025). Benzene and formaldehyde emissions were not available for two facilities: the Elba Liquefaction terminal in Savannah, Georgia, and the Cove Point LNG terminal in Lusby, Maryland. For more information, see: https://environmentalintegrity.org/state-emissions-inventory/

[49] Greenhouse gas emissions are from EPA's Greenhouse Gas Reporting Program (GHGRP) (accessed May 30, 2025. Link: https://ghgdata.epa.gov/ghgp/main.do). Emissions are presented as carbon dioxide equivalents and reflect the global warming potentials used by the GHGRP. We adjusted metric tons to short tons. Coal plant equivalencies were calculated using EPA's Greenhouse Gas Equivalencies Calculator (Link: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator).

[50] Our analysis of emission events data in Texas is based on reports that companies filed with the State of Texas Electronic Emissions Reporting System (STEERS) between January 1, 2018 and May 1, 2025. The data were current as of June 9, 2025. Our analysis of emission events data in Louisiana is based on a review of emergency and non-emergency air incident reports available through the state's Electronic Document Management System (EDMS) as of May 2025. Please see the methods section for more information.

[51] Texas Commission on Environmental Quality, "Reports of Air Emissions Events," Last Modified on May 13, 2025. Link: https://www.tceq.texas.gov/airquality/emission-events/eventreporting

[52] Louisiana Administrative Code Title 33, Part I, Subpart 2. Link: https://deq.louisiana.gov/resources/category/regulations-lac-title-33

[53] Corey Paul, "Calcasieu Pass LNG starts commercial operations, three years after beginning exports," *S&P Global*, April 15, 2025. Link: https://www.spglobal.com/commodity-insights/en/news-research/latest-news/lng/041525-calcasieu-pass-lng-starts-commercial-operations-three-years-after-beginning-exports

[54] Incident No. 429132. Data was accessed on June 9, 2025. Because this is an initial report, data is subject to change. Link: https://www2.tceq.texas.gov/oce/eer/index.cfm?fuseaction=main.getDetails&target=429132

[55] Defined here as 28 days.

[56] Penalty information comes from detailed facility reports available on EPA's ECHO database as of July 29, 2025, and covers the time period between July 1, 2020 and September 30, 2025. Penalty amounts were validated using final administrative orders and other public records available through state air agencies. Please see the methods section in Appendix A for more information.

[57] Cheniere Energy financial figures from the company's annual reports, which are posted on the company's website at https://lngir.cheniere.com/sec-filings/annual-reports.

[58] Agreed Order, Docket No. 2021-1033-AIR-E (March 8, 2023). Issued by the Texas Commission on Environmental Quality to Corpus Christi Liquefaction, LLC. Link:
https://www14.tceq.texas.gov/epic/CIO/index.cfm?fuseaction=search.download&AGY_DKT_NUM_TXT=2021-1033-AIR-E

[59] See TCEQ Docket Nos. 2020-1417-AIR-E, 2021-0203-AIR-E, 2021-0284-AIR-E, 2021-0917-AIR-E, and 2022-0058-AIR-E. Link: https://www14.tceq.texas.gov/epic/CIO/index.cfm. The TCEQ and EPA issued an additional $493,804 in fines for the June 2022 explosion.

[60] Texas law provides four criteria for asserting the "affirmative defense": 1) The pollution release was beyond the control of the operator and it could not have been avoided or mitigated by better operation or maintenance; 2) All possible steps were taken to mitigate air quality impacts of the illegal pollution; 3) The illegal emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

4) That unauthorized pollution did not cause or contribute to an exceedance of any federal health and welfare-based National Ambient Air Quality Standards (NAAQS). See: 30 Tex. Admin. Code § 101.222(b). For more information, please see: Environmental Integrity Project, "The Polluter's Playbook," March 23, 2023. Link: https://environmentalintegrity.org/wp-content/uploads/2023/03/TX-Polluters-Playbook-final-report-3.23.23.pdf

[61] Environmental Integrity Project: Oil & Gas Watch, "Golden Pass LNG Export Terminal," Accessed August 26, 2025. Link: https://oilandgaswatch.org/facility/883

[62] Permit 0560-00987-V5 (March 10, 2025) Issued by the Louisiana Department of Environmental Quality to Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14705484

[63] Sabine Pass LNG LP, Sabine Pass Liquefaction LLC, and Sabine Pass Liquefaction Expansion LLC, "Response to Warning Letter: AE-L-17-00506," July 11, 2017. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=10787373

[64] Sabine Pass LNG Terminal, Title V Permit Modification/Reconciliation Application, October 2016. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=10386912

[65] PSD Permit PSD-LA-703 (M6) (September 20, 2017). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG LP, Sabine Pass Liquefaction LLC, and Sabine Pass Liquefaction Expansion LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=10799840

[66] Variance (June 16, 2017). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG LP, Sabine Pass Liquefaction LLC, and Sabine Pass Liquefaction Expansion LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=10661190

[67] Data was obtained from Louisiana's Electronic Document Management System (EDMS), accessed July 24, 2025. Link: https://edms.deq.louisiana.gov/edmsv2/quick-search (AI 119267, Document Subtype Variances/Exemptions).

[68] Louisiana Department of Environmental Quality, Air Permits Division, "Louisiana Guidance for Air Permitting Actions," June 12, 2024. Link: https://www.deq.louisiana.gov/assets/docs/Air/Air_Permit_Applications/r06_LouisianaGuidanceforAirPermittingActions.pdf

[69] Cheniere Energy, "Managing emissions in our operations and supply chain," Accessed August 26, 2025. Link: https://www.cheniere.com/our-responsibility/climate/managing-emissions-in-our-operations-and-supply-chain

[70] See Permit Nos. 105710, PSDTX1306, GHGPSDTX123 (September 12, 2014, July 20, 2018, November 4, 2020, and March 18, 2025). Issued by the Texas Commission on Environmental Quality to Corpus Christi Liquefaction LLC. Link: https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ_SEARCH (Central Registry RN RN104104716)

[71] Nichola Groom and Valerie Volcovici, "Insight: Texas repeatedly raises pollution limits for Cheniere LNG plant," *Reuters*, June 25, 2022. Link: https://www.reuters.com/business/environment/texas-repeatedly-raises-pollution-limits-cheniere-lng-plant-2022-06-24/

[72] Ibid.

[73] Cameron LNG, "LPDES Permit Renewal Application, Cameron LNG Facility, LPDES Permit Number LA0123455." March 16, 2022. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13215032; Sabine Pass LNG, "LPDES Permit Renewal Application, LPDES Permit Number LA012244." February 2024. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14212812.

[74] Wastewater discharge permits refer to National Pollutant Elimination Discharge System permits, or "NPDES" permits.

[75] U.S. Environmental Protection Agency, "Industrial Effluent Guidelines." Accessed June 10, 2025. Link: https://www.epa.gov/eg/industrial-effluent-guidelines.

[76] Some states, like Louisiana, issue separate general permits for wastewater streams like hydrostatic test water, in addition to a facility's individual wastewater permit. In addition to the wastewater regulated by wastewater discharge permits, LNG terminals may also dump dredged or fill materials into waterways and wetlands, which is regulated by separate Clean Water Act permits - often referred to as wetland permits or "404" Clean Water Act permits. This report focuses only on Clean Water Act compliance associated with wastewater discharge permits, not wetland permits. For more information on the permitting process and the specific permit approvals required for LNG terminals, please see "The Advocate's Guide to Effective Participation in Environmental Permit Proceedings for New and Expanded Liquefied Natural Gas Export Facilities" (April 2022). Link: https://environmentalintegrity.org/advocates-guide-for-challenging-lng-projects/

[77] U.S. Environmental Protection Agency, "Enforcement and Compliance History Online (ECHO)" database. Accessed July 29, 2025. Link: https://echo.epa.gov.

[78] According to a 2022 permit fact sheet for the Maryland Cove Point LNG terminal, "the export of LNG is achieved with processes that do not discharge," and process wastewater is only produced when the facility imports LNG.

[79] Bloomberg News, "Freeport LNG Blast Created 450-Feet-High Fireball, Report Shows," July 14, 2022. Link: https://energynow.com/2022/07/freeport-lng-blast-created-450-feet-high-fireball-report-shows/

[80] See: Notices of Violation issued to the Freeport LNG Liquefaction Plant (RN103196689) under Operating Permit No. O2878 on November 20, 2020, and Notices of Violation issued to the Freeport LNG Pretreatment Facility (RN106481500) under Operating Permit No. O3958 on November 23, 2020, as well as Enforcement Orders 2020-1417-AIR-E (August 25, 2021) and 2021-0203-AIR-E (November 16, 2021) issued to the Pretreatment Facility and Enforcement Orders 2021-0284-AIR-E (December 14, 2021) and 2021-0917-AIR-E (March 29, 2022) issued to the Liquefaction Plant. TCEQ Central Registry Query, Accessed January 16, 2025. Link: https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

[81] Ibid.

[82] See: Notices of Violation issued to the Freeport LNG Pretreatment Facility (RN106481500) under Operating Permit No. O3958 on August 29, 2022, August 23, 2023, January 12, 2024, and November 20, 2024, and Administrative Order 2022-0058-AIR-E, issued October 1, 2024. Notices of Violation issued to the Freeport LNG Liquefaction Plant (RN103196689) under Operating Permit No. O2878 on November 30, 2023 and April 8, 2025. TCEQ Central Registry Query, Accessed July 9, 2025. Link: https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

[83] TCEQ Central Registry Query (RN103196689 and RN106481500), Accessed January 16, 2025. Link: https://www15.tceq.texas.gov/crpub/index.cfm?fuseaction=regent.RNSearch

[84] Proposed Agreed Order, Freeport LNG Development, L.P.; RN103196689, Docket No. 2022-0031-AIR-E; Enforcement Case No. 61728. Accessed January 16, 2025. Link: https://records.tceq.texas.gov/cs/idcplg?IdcService=TCEQ_EXTERNAL_SEARCH_GET_FILE&dID=7341512&Rendition=Web&SearchID=14396526&searchType=External

[85] IFO Group, "June 8, 2022 - Loss of Primary Containment Incident Investigation Report," October 30, 2022. Link: https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2022-11/IFO-Group-RCFA-Report-final-redacted.pdf

[86] Ibid.

[87] Mike Soraghan, Mike Lee, and Carlos Anchondo, "Fatigue contributed to Texas LNG explosion, probe says," *E&E News*, November 16, 2022. Link: https://www.eenews.net/articles/fatigue-contributed-to-texas-lng-explosion-probe-says/

[88] PR Newswire, "Freeport LNG Provides Summary of Root Cause Failure Analysis Report on June 8 Incident," November 15, 2022 (accessed August 7, 2025). Link: https://www.prnewswire.com/news-releases/freeport-lng-provides-summary-of-root-cause-failure-analysis-report-on-june-8-incident-301679343.html

[89] Ella Nilsen, "Natural gas exports have lax oversight that experts say could lead to a devastating explosion. It's happened before," *CNN*, March 20, 2024. Link: https://www.cnn.com/2024/03/20/climate/natural-gas-export-vapor-cloud-explosion

[90] Jaime E. Galvan, "Quintana plant to shut down for about 3 weeks after small plant explosion," *KHOU11*, June 8, 2022. Link: https://www.khou.com/article/news/local/explosion-at-freeport-lng-plant-in-quintana-texas/285-416ce07c-f92c-4ca1-aaba-edb6232d48e6

[91] Freeport LNG Development, L.P., Letter Order Granting Approval to Return to Service Phase 3 Facilities, Docket Nos. CP03-75-000, et al. (May 21, 2025). This authorization was preceded by FERC staff's partial in-service approvals for Freeport LNG's first phase of restoration on February 21, 2023, and its second phase of restoration on November 22, 2023. See Freeport LNG Development, L.P., Letter Order Granting Approval to Return to Service Certain Phase 1 Facilities, Docket Nos. CP03-75-000, et al. (Feb. 21, 2023) & Freeport LNG Development, L.P., Letter Order Granting Approval to Return to Service Phase II Facilities, Docket Nos. CP03-75-000, et al. (Nov. 22, 2023). Link: https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20250618-5262&optimized=false&sid=440928d6-61d9-488d-b8af-2efd097caf47

[92] Ella Nilsen, "Natural gas exports have lax oversight that experts say could lead to a devastating explosion. It's happened before," *CNN*, March 20, 2024. Link: https://www.cnn.com/2024/03/20/climate/natural-gas-export-vapor-cloud-explosion

[93] Mike Soraghan and Mike Lee, "LNG explosion shines light on 42-year-old gas rules," *E&E News*, June 28, 2022. Link: https://subscriber.politicopro.com/article/eenews/2022/06/28/lng-explosion-shines-light-on-42-year-old-gas-rules-00040771

[94] Ibid.

[95] Pipeline and Hazardous Materials Safety Administration, "Trump's Transportation Secretary Sean P. Duffy Announces Effort to Update Outdated Liquefied Natural Gas Regulations," April 29, 2025. Link: https://www.phmsa.dot.gov/news/trumps-transportation-secretary-sean-p-duffy-announces-effort-update-outdated-liquefied

[96] U.S. Environmental Protection Agency, "Monitoring by Control Technique - Thermal Oxidizer," Accessed July 31, 2025. Link: https://www.epa.gov/air-emissions-monitoring-knowledge-base/monitoring-control-technique-thermal-oxidizer

[97] Data is taken from LDEQ incident reports. For more information on how these events are defined and quantified, as well as data sources and caveats, please see the methodology section.

[98] Louisiana Department of Environmental Quality, "Unauthorized Discharge Notification Report – 60 Day Follow-up," November 15, 2019. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=11981899

[99] Train 1 Refrigeration Compressor Turbine (EQT0071) is permitted to release 0.02 lbs/hr of benzene and 0.06 tons/year of benzene under Permit No. 0560-00184-V9 (issued February 5, 2019). See the January 6, 2021, incident investigation for more details: https://edms.deq.louisiana.gov/app/doc/view?doc=12565419

[100] Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-23-00091 (April 25, 2024). Issued by the Louisiana Department of Environmental Quality to Cameron LNG, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14265367

[101] Cameron LNG reported emitting 1,825 pounds of benzene between January 2019 and April 2024, according to EIP's review of incident reports available in LDEQ's EDMS as of May 21, 2025. The company reported emitting an additional 109 pounds of benzene during six incidents that occurred between May 2024 and January 2025. For more information on how these events are defined and quantified, as well as data sources and caveats, please see the methodology section.

[102] U.S. Environmental Protection Agency, "Enforcement and Compliance History Online (ECHO) database, Detailed Facility Report: Venture Global Calcasieu Pass LLC - Calcasieu Pass LNG Project." Accessed July 29, 2025. Link: https://echo.epa.gov/detailed-facility-report?fid=110070627918

[103] Under the Clean Air Act, a "deviation" is defined as any situation in which an emission unit fails to meet a permit term or condition. A deviation is not always a violation. Please see 40 CFR 71.6 (a)(3)(iii)(C) for more information.

[104] 2022 Revised Title V 1st Semiannual Monitoring Report; Title V Air Permit No. 0560-00987-V4 (March 30, 2023). Submitted by Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13795262

[105] 2022 Title V 2nd Semiannual Monitoring Report; Title V Air Permit No. 0560-00987-V4 (March 30, 2023). Submitted by Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13795260

[106] Some deviations that occurred in 2022 were reported in the second half of 2023. See: 2023 TV Second Semi-Annual Compliance Certification; Title V Air Permit No. 0560-00987-V4 (March 27, 2024). Submitted by Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14297575

[107] See Endnotes 103, 104, 105

[108] Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-22-00367 (June 29, 2023). Issued by the Louisiana Department of Environmental Quality to Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13873284

[109] Amended Consolidated Compliance Order & Notice of Potential Penalty, AE-CN-22-00367A (May 9, 2025). Issued by the Louisiana Department of Environmental Quality to Venture Global Calcasieu Pass, LLC and TransCameron Pipeline, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14762198

[110] It's important to note that self-reported deviations can be underestimated and underreported. For example, Venture Global submitted a revised semi-annual monitoring report for the first half of 2022 after discovering that some deviations were incorrectly reported or omitted from the original submission. This information was submitted six months late, delaying LDEQ's ability to carry out timely enforcement actions and restricting public access to key compliance records needed to assess potential health risks and the facility's adherence to the law. Although companies are required to notify the state when emission exceedances last for more than a week, Venture Global only submitted three "unauthorized discharge reports" to the LDEQ between 2022 and 2024, despite recording hundreds of deviations, and potentially thousands of violations, over 562 days.

[111] Under the Clean Air Act, a "deviation" is defined as any situation in which an emission unit fails to meet a permit term or condition. A deviation is not always a violation. Please see 40 CFR 71.6 (a)(3)(iii)(C) for more information.

[112] Interviews with John Allaire and shrimpers in Cameron, Louisiana, on July 23, 2025.

[113] Environmental Integrity Project: Oil & Gas Watch, "Commonwealth LNG Terminal," Accessed August 14, 2025. Link: https://oilandgaswatch.org/facility/809

[114] Environmental Integrity Project: Oil & Gas Watch, "Venture Global CP2 LNG Terminal," Accessed August 14, 2025. Link: https://oilandgaswatch.org/facility/4556

[115] Environmental Integrity Project: Oil & Gas Watch, "Venture Global CP3 LNG Export Terminal," Accessed August 14, 2025. Link: https://oilandgaswatch.org/facility/rec_cudov7b3jqnbec7tq9m0

[116] Environmental Integrity Project: Oil & Gas Watch, "Woodside Louisiana LNG (formerly Driftwood LNG)," Accessed August 14, 2025. Link: https://oilandgaswatch.org/facility/845

[117] Environmental Integrity Project: Oil & Gas Watch, "Magnolia LNG Facility," Link: https://oilandgaswatch.org/facility/951

[118] EPA ECHO database page for Calcasieu Pass LNG terminal. LInk: https://echo.epa.gov/detailed-facility-report?fid=110070627918

[119] Devin Cruice, "Dredging accident in Cameron Parish leaves fishermen angry and with questions," *KPLC-TV*. August 8, 2025. Link: https://www.kplctv.com/2025/08/09/dredging-accident-cameron-parish-leaves-fishermen-angry-with-questions/

[120] Environmental Integrity Project: Oil and Gas Watch, "Oil and Gas Watch Database." Accessed August 4, 2025. Link: https://oilandgaswatch.org/

[121] U.S. Energy Information Administration, "US Liquefaction Capacity" dataset. June 30, 2025. Link: https://www.eia.gov/naturalgas/importsexports/liquefactioncapacity/U.S.liquefactioncapacity.xlsx

[122] U.S. Environmental Protection Agency, "Enforcement and Compliance History Online (ECHO)." Accessed July 29, 2025. Link: https://echo.epa.gov/

[123] U.S. Environmental Protection Agency, "Detailed Facility Report Data Dictionary." Accessed June 2025. Link: https://echo.epa.gov/help/reports/dfr-data-dictionary#CWAComp.

[124] U.S. Environmental Protection Agency, "Enforcement and Compliance History Online (ECHO) database, Detailed Facility Report: Sabine Pass LNG LP - Sabine Pass LNG Import Terminal." Accessed July 29, 2025. Link: https://echo.epa.gov/detailed-facility-report?fid=110017761322

[125] Compliance Order & Notice of Potential Penalty, AE-CN-22-00833 (April 12, 2023). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG, LP and Sabine Pass Liquefaction, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=13765734

[126] Amended Compliance Order & Notice of Potential Penalty, AE-CN-22-00833A (April 19, 2024). Issued by the Louisiana Department of Environmental Quality to Sabine Pass LNG, LP and Sabine Pass Liquefaction, LLC. Link: https://edms.deq.louisiana.gov/app/doc/view?doc=14263860

[127] U.S. Environmental Protection Agency, "Risk Evaluation for Formaldehyde." Accessed July 28, 2025. Link: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-evaluation-formaldehyde

[128] Louisiana Administrative Code Title 33, Part I, Subpart 2. Link: https://deq.louisiana.gov/resources/category/regulations-lac-title-33

[129] Louisiana Department of Environmental Quality, "Electronic Document Management System (EDMS)." Accessed May 21, 2025. Link: https://edms.deq.louisiana.gov/edmsv2/quick-search

[130] For more information on reportable quantities, please refer to Louisiana Administrative Code Title 33, Part I, Subpart 2, Chapter 39, Subchapter E. Link: https://deq.louisiana.gov/resources/category/regulations-lac-title-33

[131] 30 Tex. Admin. Code § 101.1(28). An "upset" is defined as an "unplanned and unavoidable breakdown or excursion of a process or operation that results in unauthorized emissions."

[132] Id. at § 101.1(110)

[133] In total, our dataset contains six initial reports for which data is subject to change.