

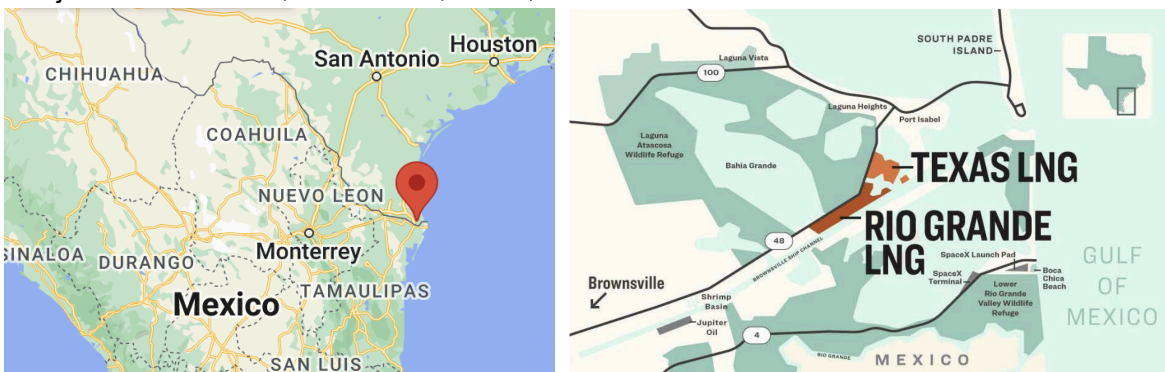
**Fact sheet: Rio Grande LNG project**  
**May 2024**  
**Japan Center for a Sustainable Environment and Society (JACSES)**

## 1. Project Overview

### •Project Details

- At the Rio Grande LNG terminal in South Texas, USA, five LNG trains will be constructed, which are expected to produce 27 million metric tons of LNG per year. A train is also known as a liquefaction unit, used to process, purify, and convert natural gas to LNG. The Rio Grande will receive 100% of its gas supplies from the proposed 137 mile long Rio Bravo Pipeline. The project operator explains it is the first and only U.S. LNG project offering CO<sub>2</sub> emissions reduction of more than 90% via planned carbon capture and storage (CCS), achieving net zero electricity if being used at natural gas-fired power plants located in export destinations.<sup>1</sup>

### •Project Site: 984 acre, Brownsville, Texas, U.S.<sup>2</sup>



Source:

[https://www.sierraclub.org/sites/www.sierraclub.org/files/2022-10/RGV\\_LNG\\_2022\\_FINAL\\_WEB\\_0.pdf](https://www.sierraclub.org/sites/www.sierraclub.org/files/2022-10/RGV_LNG_2022_FINAL_WEB_0.pdf) (Right side)

### •Project Cost

- 1-3 trains (phase 1): US\$18.4 billion<sup>3</sup>

### •Project Operators

- 1-3 trains (phase 1): Rio Grande LNG (financiers: NextDecade 20.79%, Global Infrastructure Partners 46.12%, TotalEnergies 16.67%, Devonshire 9.85%, MIC TI Holding 6.57%)<sup>4</sup>
- 4-5 trains: NextDecade

### •EPC Contractor

- 1-3 trains (phase 1): Bechtel Energy Inc. (providing engineering, procurement and construction services)

### •Financial Institutions

- 1-3 trains (phase 1)  
Lenders: Abu Dhabi Commercial Bank, Banco Santander, Bank of China, HSBC, Intesa Sanpaolo, JP Morgan, MUFG Bank, Mizuho Bank, RBC Capital Markets, Standard Chartered Bank (Each of banks is credited with \$1.08 billion, securing a \$10.8 billion loan)

<sup>1</sup> <https://www.next-decade.com/rio-grande-lng/>

<sup>2</sup> See URL below for a map of LNG projects in the Rio Grande Valley where Rio Grande LNG is located.  
<https://www.google.com/maps/d/u/0/viewer?mid=1xTbSBZkwBtMHC6-EIzImrdWnUSk&ll=26.015518359676992%2C-97.33198620390635&z=11>

<sup>3</sup> <https://www.offshore-energy.biz/nextdecade-reaches-fid-for-rio-grande-lng/>

<sup>4</sup> <https://www.federalregister.gov/documents/2023/09/05/2023-19051/change-in-control-rio-grande-lng-llc>

in total)<sup>5</sup>

Insurers: Ironshore (Subsidiary of Liberty Mutual), Argonaut, Endurance American Specialty (Subsidiary of SOMPO Holdings), Westchester Surplus Lines (Subsidiary of Chubb) providing liability insurance for Rio Grande LNG<sup>6</sup>

LNG long-term purchase contractors: TotalEnergies SE, Shell NA LNG LLC, ENN LNG Pte. Ltd., Engie SA, ExxonMobil LNG Asia Pacific, Guangdong Energy Group, China Gas Hongda Energy Trading Co., Galp Trading SA, Itochu Corporation<sup>7</sup>

- 4-5 trains

Lender: MUFG Bank

• Date of the start operation

- 1-3 trains (phase 1): 2027 (Initially 2023, but delayed)
- 4-5 trains: November 2029<sup>8</sup>

## 2. Project Background

1-3 trains (phase 1)

March 2015	NextDecade submitted its pre-filing application for Rio Grande LNG with the U.S. Federal Energy Regulatory Commission (FERC). <sup>9</sup>
August 2015	NextDecade appointed SMBC as Financial Advisor and Mandated Lead Arranger. <sup>10</sup> (Retired at the end of its term in 2017)
May 2016	NextDecade submitted a formal application for the construction and operation of the Rio Grande LNG terminal and pipeline with FERC. <sup>11</sup>
May 2017	NextDecade appointed Societe Generale and Macquarie Capital as joint financial advisors of the Rio Grande LNG and Rio Bravo Pipeline projects. <sup>12</sup>
November 2019	FERC approved the construction of Rio Grande LNG, Corpus Christi Midscale LNG, Annova LNG, and Texas LNG. <sup>13</sup>
April 2020	NextDecade announced the delay of a final investment decision until at

<sup>5</sup> [https://www.ran.org/wp-content/uploads/2023/10/RGV\\_LNG\\_2023\\_UPDATE-1.pdf](https://www.ran.org/wp-content/uploads/2023/10/RGV_LNG_2023_UPDATE-1.pdf)

<sup>6</sup>

<https://www.ran.org/press-releases/insurance-certificate-obtained-by-foia-challenges-companies-climate-commitments/>

<sup>7</sup>

[https://www.ojg.com/pipelines-transportation/lng/article/14296358/rio-grande-lng-takes-fid-targeting-2027-commissioning?utm\\_source=OGJ+Transportation+Report&utm\\_medium=email&utm\\_campaign=CPS230725203&o\\_eid=7562E9761501H0L&rdx.ident\[pull\]=omeda|7562E9761501H0L&oly\\_enc\\_id=7562E9761501H0L](https://www.ojg.com/pipelines-transportation/lng/article/14296358/rio-grande-lng-takes-fid-targeting-2027-commissioning?utm_source=OGJ+Transportation+Report&utm_medium=email&utm_campaign=CPS230725203&o_eid=7562E9761501H0L&rdx.ident[pull]=omeda|7562E9761501H0L&oly_enc_id=7562E9761501H0L)

<sup>8</sup> <https://www.sierraclub.org/dirty-fuels/us-lng-export-tracker>

<sup>9</sup>

<https://www.businesswire.com/news/home/20170502005353/en/NextDecade-Engages-Societe-Generale-Macquarie-Capital-Financial>

<sup>10</sup>

<https://www.hydrocarbonengineering.com/gas-processing/05082015/next-decade-and-smbc-to-work-on-rio-grande-lng-export-project-1239/>

<sup>11</sup>

<https://www.businesswire.com/news/home/20170502005353/en/NextDecade-Engages-Societe-Generale-Macquarie-Capital-Financial>

<sup>12</sup>

<https://www.businesswire.com/news/home/20170502005353/en/NextDecade-Engages-Societe-Generale-Macquarie-Capital-Financial>

<sup>13</sup>

<https://pjonline.com/news/2019/11-nov/ferc-approves-construction-of-four-lng-export-projects-in-texas>

	least 2021 due to COVID-19. <sup>14</sup>
August 2020	<Activities of civil society> Local residents, the city of Port Isabel, and the Sierra Club filed a lawsuit against FERC for authorizing the construction of the highly polluting Rio Grande LNG and Rio Bravo Pipeline. <sup>15</sup>
March 2021	NextDecade announced the formation of NEXT Carbon Solutions, a wholly owned subsidiary of NextDecade that develops Carbon capture and storage (CCS) projects at Rio Grande LNG. <sup>16</sup>
March 2021	<Related Information> Annova LNG announced cancellations of the Annova LNG project. <sup>17</sup>
April 2021	NextDecade and Mitsubishi Heavy Industries America announced that they have signed an agreement to offer a Process Design Package of carbon capture technology at Rio Grande LNG (Using the KM CDR Process™, jointly developed by Mitsubishi Heavy Industries Engineering and Kansai Electric Power Co.) <sup>18</sup>
August 2021	<Activities of civil society> In response to a legal challenge filed by the Sierra Club, the city of Port Isabel, and groups of local residents, the U.S. Court of Appeals for the District of Columbia ruled that FERC failed to conduct an adequate analysis of the climate and environmental justice impact of under-planned Rio Grande LNG and Texas LNG, violating National Environmental Policy Act (NEPA) and the Natural Gas Act. <sup>19</sup>
October 2022	<Activities of civil society> Sierra Club and South Texas community members delivered over 400 public comments to the FERC, demanding to cancel the project claiming that Rio Grande LNG and Texas LNG will emit harmful pollutants, including volatile organic compounds (VOCs) and particulate matter, and bring disproportionate environmental injustice for local low-income and Latino communities. <sup>20</sup>
March 2023	Societe General pulled out of the Rio Grande LNG project. <sup>21</sup> (SMBC Group and BNP Paribas have already withdrawn as of October 2022) <sup>22</sup>

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<https://www.houstonchronicle.com/business/energy/article/NextDecade-pushes-back-financial-decision-on-Rio-15277618.php>

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<https://www.sierraclub.org/texas/blog/2020/02/rio-grande-valley-residents-sue-ferc-for-approving-fracked-gas-facility>

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<https://investors.next-decade.com/news-releases/news-release-details/nextdecade-launches-next-carbon-solutions>

<sup>17</sup> <https://pgjonline.com/news/2021/march/annova-cancels-texas-lng-export-facility-project>

<sup>18</sup> <https://www.mhi.com/jp/news/21041501.html>

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<https://www.sierraclub.org/environmental-law/court-sides-rio-grande-valley-communities-fight-against-brownsville-fracked-gas>

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<https://www.sierraclub.org/press-releases/2022/10/south-texas-communities-tell-ferc-rio-grande-lng-and-texas-lng-are>

<sup>21</sup> <https://www.reuters.com/business/energy/socgen-confirms-it-pulled-out-texas-lng-project-2023-03-28/>

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<https://insideclimatenews.org/news/18102022/indigenous-leaders-in-texas-target-global-banks-to-keep-lng-export-off-of-sacred-land-at-the-port-of-brownsville/>

April 2023	FERC suspended the Environmental Assessment (EA) schedule of the Carbon Capture Sequestration System Amendment at Rio Grande LNG due to insufficient data collection. <sup>23</sup>
April 2023	FERC grants new approval for the construction and operation of Rio Grande LNG, Texas LNG, and Rio Bravo Pipeline with 3 in favor and 1 against. <sup>24</sup>
July 2023	NextDecade announced its final investment decision (FID) <sup>25</sup> and closed a joint venture agreement that included approximately \$5.9 billion of financial commitments from Global Infrastructure Partners (GIP), GIC, Mubadala Investment Company, and TotalEnergies. NextDecade signed a \$12 billion EPC contract with Bechtel. <sup>26</sup>
October 2023	NextDecade started construction of phase 1 of the Rio Grande LNG terminal. <sup>27</sup>
November 2023	<Activities of civil society> Sierra Club, the Carrizo Comecrudo Tribe of Texas, and the City of Port Isabel filed two federal lawsuits challenging the decision by the FERC to approve Rio Grande LNG and Rio Bravo Pipeline (April 2023), claiming that FERC failed to measure the environmental impacts of projects properly. <sup>28</sup>
February 2024	<Activities of civil society> Sierra Club, the Carrizo Comecrudo Tribe of Texas, and the City of Port Isabel filed a motion to stay with the D.C. Circuit Court to prevent construction from happening at the proposed Rio Grande LNG facility site. <sup>29</sup>
February 2024	<Activities of civil society> Rainforest Action Network and Public Citizen published a report on insurance underwriters of Gulf Coast LNG projects including Rio Grande LNG, obtained through a Freedom of Information Act request, entitled Risk Exposure: The Insurers Secretly Backing the Methane Gas Boom in the US Gulf South. <sup>30</sup>

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January 2024	NextDecade made a credit agreement with MUFG Bank that provides for \$62.5 million (\$50 million senior secured revolving credit facility and a
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<sup>23</sup>

<https://www.federalregister.gov/documents/2023/04/20/2023-08353/rio-grande-lng-llc-notice-suspending-environmental-review-schedule-of-the-proposed-carbon-capture>

<sup>24</sup>

<https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/042023-divided-us-ferc-grants-new-approval-for-nextdecades-rio-grande-lng-project>

<sup>25</sup>

<https://investors.next-decade.com/news-releases/news-release-details/nextdecade-announces-positive-final-investment-decision-rio/>

<sup>26</sup>

<https://www.constructiondive.com/news/bechtel-begin-rio-grande-lng-plant-construction-brownsville-texas/687421>

<sup>27</sup>

<https://www.offshore-energy.biz/watch-nextdecade-breaks-ground-on-rio-grande-lng/>

<sup>28</sup>

<https://www.sierraclub.org/press-releases/2023/07/rio-grande-valley-lng-projects-hit-legal-challenges-over-ferc-s-f-lawed>

<sup>29</sup>

<https://www.sierraclub.org/press-releases/2024/02/sierra-club-presses-court-prevent-lng-construction-wetlands>

<sup>30</sup>

[https://www.ran.org/wp-content/uploads/2024/02/RAN\\_LNG\\_2024\\_vF.pdf](https://www.ran.org/wp-content/uploads/2024/02/RAN_LNG_2024_vF.pdf)

	\$12.5 million interest term loan). <sup>31</sup>
January 2024	U.S. President Biden announced a temporary pause on LNG export permits. However, the specific projects subject to suspension are unknown.

Other Schedule:

- A final investment decision on Train 4 is expected in late 2024.

### 3. Major Problems

#### 3.1 Atmospheric and climate impact due to massive CO2 emissions and methane gas spills

Rio Grande LNG's annual lifecycle CO2 emissions are estimated to be 163 million tonnes, equivalent to 44 coal-fired power plants.<sup>32</sup> Methane, a primary component of natural gas, is more than 28 times as potent as carbon dioxide at trapping heat in the atmosphere<sup>33</sup>, and can easily leak into the atmosphere during the production and supply of LNG, which would exacerbate air pollution and climate change.<sup>34</sup> The negative climate impact of methane gas is estimated to be 24 times greater than that of coal when emissions from methane gas spills and transport are taken into account.<sup>35</sup>

#### 3.2 Use of CCS whose effectiveness as a decarbonization technology has been questioned

Rio Grande LNG claims a 90% reduction in CO2 emissions in the gas cooling process via the use of carbon capture and storage. However, it is said that emissions during the gas cooling process account for only 6-7% of the total lifecycle CO2 emissions, including emissions during power generation<sup>36</sup>, and therefore the emissions mitigated by CCS are only a fraction of the total lifecycle emissions. The International Energy Agency (IEA) estimates that the history of CCS "has largely been one of unmet expectations,"<sup>37</sup> and the effectiveness of CCS as a decarbonization technology in the energy sector has been questioned.

#### 3.3 Ecosystem destruction in a national wildlife refuge

Approximately half of the proposed Rio Grande LNG sites are wetlands, and coastal grasslands and native forests will be bulldozed due to the construction of the facility. Moreover, the proposed Rio Grande LNG and Texas LNG terminal sites are situated on a greenfield opposite the Bahia Grande Unit of the Laguna Atascosa National Wildlife Refuge, which is one of the most successful coastal wetland restoration projects in the United States. The wildlife refuge is a treasure of diverse native fauna and flora, and construction of the Rio Grande LNG terminal could cause irreversible damage to the ecosystem, due to high levels of pollution, including light and air pollution, tall structures, and ship and vehicle traffic.<sup>38</sup>

<sup>31</sup> <https://www.offshore-energy.biz/nextdecade-enters-62-5m-credit-deal-as-work-on-rio-grande-lng-progresses/>

<sup>32</sup>

<https://www.theguardian.com/environment/2023/feb/03/carbon-capture-gas-exports-rio-grande-lng-nextdecade#:~:text=And%20that%20impact%20could%20be.or%20more%20than%2035m%20cars.>

<sup>33</sup>

<https://www.epa.gov/gmi/importance-methane#:~:text=Methane%20is%20more%20than%2028.due%20to%20human%2Drelated%20activities.>

<sup>34</sup>

<https://www.transportenvironment.org/challenges/ships/liquefied-natural-gas-lng/#:~:text=LNG%20is%20primarily%20made%20up.warming%20at%20a%20significant%20pace.>

<sup>35</sup>

[https://www.research.howarthlab.org/publications/Howarth\\_LNG\\_assessment\\_preprint\\_archived\\_2023-1103.pdf](https://www.research.howarthlab.org/publications/Howarth_LNG_assessment_preprint_archived_2023-1103.pdf)

<sup>36</sup> <https://www.netl.doe.gov/energy-analysis/details?id=9459c46c-bb24-44bc-be35-483cd660e862>

<sup>37</sup> IEA. September 2023. Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach. 2023 Update.

<sup>38</sup> [https://www.ran.org/wp-content/uploads/2023/10/RGV\\_LNG\\_2023\\_UPDATE-1.pdf](https://www.ran.org/wp-content/uploads/2023/10/RGV_LNG_2023_UPDATE-1.pdf)

### 3.4 Destroying indigenous heritage and residents' consultation not yet implemented

The proposed Rio Grande LNG site is adjacent to the Garcia Pasture, which is sacred to the Carrizo Comecrudo Tribe. Indigenous artifacts or burial grounds that might be present in the ground would be affected if the full construction of the LNG terminal goes ahead. The National Park Service (NPS) has shared its concerns about LNG construction and operation activities and the potential of disturbing unexcavated Indigenous artifacts. Indigenous and local civil society groups called for the need to conduct cultural heritage data collection and archaeological surveys before the construction of Rio Grande LNG began, however, no surveys were carried out and Rio Grande LNG began clear-cutting with heavy machinery in October 2023.<sup>39</sup> According to local civil society groups, NextDecade has never held a consultation meeting with Indigenous Peoples on the Rio Grande LNG project and has not obtained Free, Prior, and Informed Consent (FPIC).<sup>40</sup>

### 3.5 Health impacts on local population brought by hazardous substances emissions

94% of the population of the Laguna Madre communities and Brownsville in Texas, where LNG terminals including Rio Grande LNG are concentrated, are Hispanic or Latinx, and it is expected that many people in these areas might have Indigenous ancestors. In Brownsville, 29.9% of the population live in poverty. There is a risk that residents within a three mile radius of the proposed construction site will be exposed to long-term health impacts such as asthma, heart disease, lung inflammation, and premature death due to the Rio Grande LNG terminal and its emissions of PM2.5 and other hazardous substances.<sup>41</sup>

### 3.6 Impact on local tourism and fisheries

The massive coastal development associated with the Rio Grande LNG project will cause air and water pollution, the destruction of wildlife habitats, and bring significant damage to the local economy, including commercial fishing, shrimping, and ecotourism, which creates thousands of jobs.<sup>42</sup>

### 3.7 Debris scattering from the adjacent SpaceX launch site

The proposed Rio Grande LNG construction site is located within nine miles of the SpaceX launch site. When the SpaceX Starship rocket was launched in April 2023, the rocket exploded and debris scattered to areas 6.5 miles away, including the city of Port Isabel and the area around the launch site and wildlife habitat. Before the first official SpaceX Starship launch, eight out of 15 prototype tests also exploded, and there are likely to be problems with SpaceX's environmental review process.<sup>43</sup> In response to the Federal Energy Regulatory Commission's (FERC) request for safety assessment submissions in 2017, Rio Grande LNG responded that there was a 1-in-100,000 chance that debris from a launch's flight would strike areas of the LNG construction site, however, this result relies on data based on smaller rockets than that of the actual Starship rocket and it therefore lacks reliability.<sup>44</sup> If a rocket explosion happens again near

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[https://interfaithearthkeepers.org/f/stop-insuring-rio-grande-lng-now?fbclid=IwAR11F6YkWP20FjQx8EI0CjSYre5o\\_8cIlgjibvNndRxpPbyHXXTNwOMRMs&blogcategory=Indigenous+Communities](https://interfaithearthkeepers.org/f/stop-insuring-rio-grande-lng-now?fbclid=IwAR11F6YkWP20FjQx8EI0CjSYre5o_8cIlgjibvNndRxpPbyHXXTNwOMRMs&blogcategory=Indigenous+Communities)

<sup>40</sup>

[https://interfaithearthkeepers.org/f/stop-insuring-rio-grande-lng-now?fbclid=IwAR11F6YkWP20FjQx8EI0CjSYre5o\\_8cIlgjibvNndRxpPbyHXXTNwOMRMs&blogcategory=Indigenous+Communities](https://interfaithearthkeepers.org/f/stop-insuring-rio-grande-lng-now?fbclid=IwAR11F6YkWP20FjQx8EI0CjSYre5o_8cIlgjibvNndRxpPbyHXXTNwOMRMs&blogcategory=Indigenous+Communities) FPIC is a right recognised in the UN Declaration on the Rights of Indigenous Peoples.

<sup>41</sup> [https://www.sierraclub.org/sites/www.sierraclub.org/files/2022-10/RGV\\_LNG\\_2022\\_FINAL\\_WEB\\_0.pdf](https://www.sierraclub.org/sites/www.sierraclub.org/files/2022-10/RGV_LNG_2022_FINAL_WEB_0.pdf)

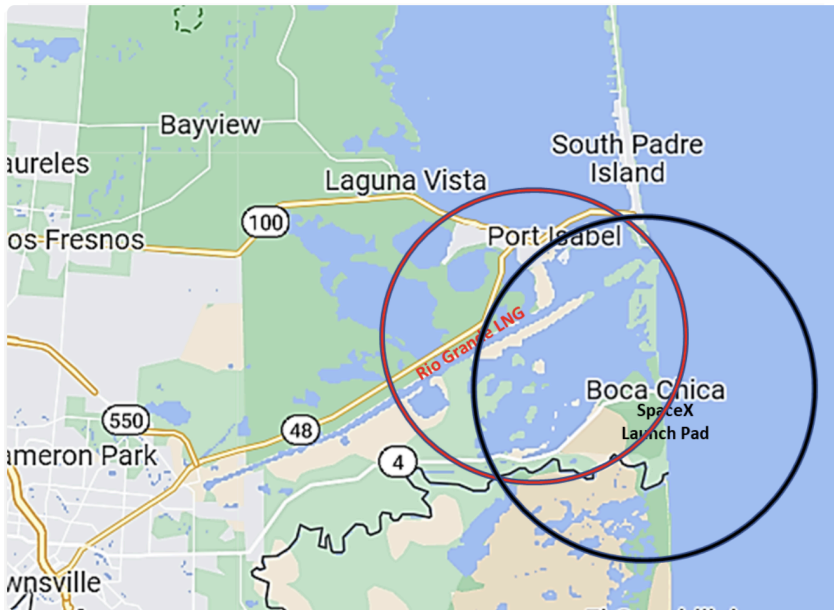
<sup>42</sup> <https://www.saverqv.org/rio-grande-lng>

<sup>43</sup>

<https://www.npr.org/2023/04/26/1172290009/spacex-is-grounded-after-rocket-explosion-caused-extensive-environmental-damage>

<sup>44</sup> <https://ieefa.org/resources/building-lng-terminal-close-rocket-launches-could-prove-costly>

the launch site, there is a risk of debris striking the LNG tanks and terminal, causing extensive damage.



The black circle indicates the area where debris from the explosion was scattered.

Source:

<https://ieefa.org/resources/building-lng-terminal-close-rocket-launches-could-prove-costly>