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Governor Tom Wolf Office of the Governor 508 Main Capitol Building Harrisburg, PA 17120

October 12, 2020

Dear Governor Wolf,

In April of this year, we sent you a letter signed by several individuals expressing our concern about the New Fortress Energy (NFE), dba Bradford County Real Estate Partners, liquefaction (LNG) plant permitted by DEP.(1) Those concerns remain, as do new concerns.

Most recently, DEP wrongly decided an Air Quality Permit renewal (2)

New Fortress Energy submitted its original Air Quality application to DEP in December 2018. DEP permitted the facility on July 24, 2019, to expire in 18 months on January 23, 2021. NFE applied for an extension on 8/28/20 which DEP granted on 9/15/20, with the 30-day window during which *any person aggrieved by this action may appeal the action to the Environmental Hearing Board*.

In its *justification for an extension request* (3), NFE cites global and local disruptions caused by COVID-19. However, we know that energy markets were already disrupted by changes in consumption patterns for natural gas and a many-years-long worldwide oversupply related to hydraulic fracturing. Many companies have delayed final investment decisions on LNG projects.

Regulators need to take market realities into account, and stop allowing gas companies' volatile financing schedules to dictate permitting.

The purpose of the regulatory process' 18-month limitation is to ensure that a state agency has the opportunity to apply new considerations in a decision to grant an extension. These considerations may involve changes over the 18-month period to air quality or to goals related to pollution controls. DEP did not evaluate such concerns. It is at the discretion of the permitting authority to grant an extension.(3)

In granting the Air Quality permit extension, DEP did not consider:

- The urgency of the need to reduce greenhouse gasses (GHG), now more urgent than in prior years, in order to meet targets for net-zero power emissions by 2035.
- Pennsylvania's commitment to reducing GHG, reflected in RGGI and other initiatives, since the original permit was granted. In your veto of House Bill No. 2025, Printer's No. 3907, you state the imperative: Addressing the global climate crisis is one of the most important and critical challenges we face. ... the Commonwealth has already begun to experience adverse impacts from climate change, The citizens of this Commonwealth cannot afford to wait any longer. Given the urgency of the climate crisis facing Pennsylvania, the Commonwealth must take concrete, economically sound, and immediate steps to reduce greenhouse gas emissions. (4)
- The ongoing work of the Pennsylvania Climate Change Advisory Board.
- The 1,107,670 TPY of greenhouse gases (expressed as carbon dioxide equivalent, CO2e) to be emitted by the facility.(3, 4)

- The GHG footprint from the additional fracking that will be required over several years in order to produce the gas feedstock. (Information not disclosed in the original application reviewed by DEP)
- The GHG footprint of emissions from pipelines and compressor stations in order to bring the gas feedstock to the facility. (Information not disclosed in the original application reviewed by DEP)
- The boil-off-gasses from the transport of LNG over an estimated 170-200 miles. (Information not disclosed in the original application reviewed by DEP)
- The hypocrisy and futility of saying Pennsylvania endeavors to reduce GHG, while exporting large quantities overseas, enabling investors to lock overseas countries and territories into carbon-fueled power generation. Note: When considering the end-to-end footprint of LNG, it will not have a lower carbon footprint than other energy sources, including coal.(6)

Other Issues

Besides GHG emissions, there are many other issues with regard to this facility that we raised in our April letter, as well as in our May testimony to the Citizens Advisory Council and June testimony to the Climate Change Advisory Council (1). To mention a few:

- Insufficient scope of review. DEP's site-specific, fence-line approach to permitting has an insufficient scope for the LNG-for-export industry.
- DEP's scope of review does not even acknowledge the "virtual pipeline" of LNG and CNG that
 has come to Pennsylvania. The NFE "virtual pipeline" jeopardizes communities in 12
 Pennsylvania Counties, who get no impact fee from this project.
- Excessive tanker truck traffic (thirty, 40' tankers per hour) will destroy business districts.
- A truck accident can cause an explosion that could take out an entire city block.(7)
- A 100-rail-car unit train derailment, leaking its LNG, can cause a conflagration like a bomb.(7)

Liability

Who will be liable for the loss of life and property? It is not a matter of if, it is a matter of when there will be a deadly accident. In May, a tanker truck in China exploded on a highway killing 18 and injuring 189.(8) Upon a similar truck accident or upon a much greater rail disaster, how will victims be made whole? We can't seem to find an answer to this question.

- As of this writing, we are awaiting a call back from the PHMSA Chief Counsel, phone, 202.366.4400. Perhaps the Office of the Governor could get an answer.
- Who would DEP be able to fine for an aspect of a project that they did not regulate?
- Will the harmed community bring a unique tort case against the Commonwealth of Pennsylvania?
- Do billionaire investors ever go to jail?

Communities in northern Pennsylvania, afraid for their safety, have taken a stand against the NFE project. Several municipalities have passed non-binding resolutions asking for action by the Delaware River Basin Commission to disapprove the docket for NFE's "Dock 2" export terminal.(9,10)

The project has no known completion date. NFE is asking DEP to hold open a permit for purely speculative reasons.

In its Schedule for Completion and Construction (3), New Fortress Energy states that it may not foresee completion before January 2023. (Note: DEP awarded a six-month Air Quality extension through July 22, 2021.) In SEC reporting, the company cannot predict when the project will actually come to fruition.(11)

Nationwide, there are several stalled LNG projects. These are described in a report released this week by the Environmental Integrity Project.(4) The report describes an industry that is overbuilt and speculative, yet poised to release massive amounts of GHG. The LNG-export industry, overall, endeavors to build a

capacity of 41.88 bcf/d. (See the following table.) The Energy Information Agency (EIA) forecasts that U.S. dry natural gas production will average 90.6 Bcf/d in 2020.(12) So, the exporters want to export half of U.S. production? This will surely drive up the price of gas for U.S. homeowners, power producers and manufacturers. The investors profit at the expense of Americans.

The hypocrisy of any Pennsylvania attempt to reduce GHG is glaring, given that Pennsylvania is a leading producer of fracked gas and much of the gas delivered to the following LNG terminals arrives by interstate pipeline.

The following table shows the status of LNG export facilities in the U.S.. In this table, the NFE project is labeled as *Marcellus LNG (Bradford, PA).(8)*

Terminal Name (County/Parish, State)	Capacity (bcf/d)	Potential Annual GHG Emissions	Federal Authorization Type (issuance date)	Initial Clean Air Act Permit No. (issuance date)	Operating or Expected Operating Year(s)
LNG terminals that are fully- or partial	ly-operating, o	r under constru	ction		
Cove Point LNG (Calvert, MD)	0.69	2,030,998	NGA §3 & 7 (9/29/2014)	9318 (5/30/2014)	2018
Elba LNG (Chatham, GA)	0.46	378,453	NGA §3 & 7 (6/1/2016)	4922-051-0263-V-01-0 (6/23/2015)	2020
Sabine Pass LNG (Cameron, LA)	3.55	10,707,668	NGA §3 (2/20/2014)	PSD-LA-703(M3) (12/6/2011)	2016-2023
Cameron LNG, (Cameron, LA)*	2.96	9,029,617	NGA §3 (6/19/2014)	PSD-LA-766 (10/1/2013)	2019-2026
Corpus Christi LNG (San Patricio, TX)*	3.09	4,314,030	NGA §3 (12/30/2014)	GHGPSDTX123 (2/27/2015)	2018-2024
Freeport LNG (Brazoria, TX)*	2.63	2,037,896	NGA §3 (7/30/2014)	100114 (7/16/2014)	2019-2026
Calcasieu Pass LNG (Cameron, LA)	1.31	3,970,601	NGA §3 & 7 (2/21/2019)	PSD-LA-805 (9/21/2018)	2022
Golden Pass LNG (Jefferson, TX)	2.05	4,940,072	NGA §3 & 7 (12/21/2016)	GHGPSDTX100 (9/11/2015)	2024-2026
LNG terminals that have not commend	ed constructio	n			
Alaska LNG (Kenai Peninsula, AK)	2.63	8,572,968	NGA §3 (5/21/2020)	AQ1539CPT01 (draft, 9/11/2020)	2025
Annova LNG (Cameron, TX)	0.79	353,072	NGA §3 (11/22/2019)	144829 (4/16/2020)	2025
Eagle LNG (Duval, FL)	0.13	74,511	NGA §3 (9/19/2019)	0310623-001-AC (5/8/2019)	2021-2023
Gulf LNG (Jackson, MS)	1.32	2,885,787	NGA §3 (7/16/2019)	1280-00132 (submitted 9/30/2015)	2024
Marcellus LNG (Bradford, PA)	0.29	1,107,679	N/A	08-00058A (7/24/2019)	2021
Plaquemines LNG (Plaquemines, LA)	2.63	8,144,463	NGA §3 & 7 (9/30/2019)	PSD-LA-808 (4/25/2019)	2023
Texas LNG (Cameron, TX)	0.53	604,087	NGA §3 (11/22/2019)	139561 (5/12/2020)	2025
Delfin LNG (Gulf of Mexico, LA)*	1.71	4,958,424	MARAD License (3/13/2017) NGA §7 (9/28/2017)	0560-00990-V0 (7/18/2016)	2023
Driftwood LNG (Calcasieu, LA)*	3.63	9,513,442	NGA §3 (4/18/2019)	PSD-LA-824 (7/10/2018)	2023
Jordan Cove LNG (Coos, OR)*	1.03	1,969,795	NGA §3 & 7 (3/19/2020)	Type B State NSR (submitted 9/2017)	2025
Lake Charles LNG (Calcasieu, LA)*	2.16	4,321,253	NGA §3 & 7 (12/17/2015)	PSD-LA-785 (5/1/2015)	2025
Magnolia LNG (Calcasieu, LA)*	1.16	2,506,994	NGA §3 (4/15/2016)	PSD-LA-792 (3/21/2016)	2024
Port Arthur LNG, (Jefferson, TX)*	3.55	7,741,200	NGA §3 (4/18/2019)	GHGPSDTX134 (2/17/2016)	2023-2025
Rio Grande LNG (Cameron, TX)*	3.55	8,198,227	NGA §3 & 7 (11/22/2019)	GHGPSDTX158 (12/17/2018)	2023
TOTAL:	41.88	98,361,237			

Expecting and facilitating the completion of these projects is wholly inconsistent with the worldwide need to reduce GHG. Why would we hold out an indefinite welcome mat?

Recommendations

The Environmental Integrity Report recommends that now is the time to cancel permits for stalled LNG projects.(4) We fully agree. We must all acknowledge that the world has moved on to a lower carbon future.

"Federal and state agencies should withdraw permit approvals for these projects, since they look increasingly speculative, we have cleaner energy choices, and these projects would dump tons of additional pollution on communities that are already struggling," said Eric Schaeffer, Executive Director of EIP and former Director of Civil Enforcement at EPA. "Once a company receives a Clean Air Act permit, the law says they are supposed to begin construction within a reasonable period of time, usually 18 months. But many of these plants got their original permits three or more years ago and have yet to break ground."(4)

There can be several practical benefits of cancelling the permit of this project:

- You will save NFE from building a white elephant. NFE has spent about \$155 of the \$800 million it plans to spend.(11) Allow them to cut their losses. By cancelling the permit, the company:
 - need not place factory equipment orders simply to keep the air quality permit extension going,
 - need not commence further earthmoving under permit E08-506 to build its pipeline from the plant area, southward to the Susquehanna River. The money not spent on completing the work of E08-506 can, instead, be spent restoring the property. (Note: DEP has not received a completion report for this permit.)
 - Appalachian Midstream need not build its pipeline south of the Susquehanna River and under the Susquehanna River.(2)
- Give the people of northern Pennsylvania the ability to develop the Wyalusing Township property consistent with sustainable rural development.
- We do not wish to lock northern Pennsylvania into the economy of a mineral-export colony, given its inherent pollution, as documented by the recent Attorney General publication of the Pennsylvania 43rd Statewide Investigating Grand Jury Report #1.

Could we have appealed to the Environmental Hearing Board by October 15th the wrongful decision by DEP to grant the Air Quality extension? Yes, we could have. But that path would be arduous and uncertain. But you have executive order pursuant to the authority of the Air Pollution Control Act to abate, control, or limit carbon dioxide emissions from fossil-fuel-fired electric power generators. (5)

We respectfully ask you to cancel the Air Quality permit for this facility, 08-00058A.(2)

Pennsylvania must acknowledge that it was caught off-guard by the LNG-for-export "virtual pipeline" industry and has no adequate permitting program.

This is a prudent action in order to avoid potentially enormous climate and safety disasters imposing major costs to taxpayers. DEP has a duty of care.

Thank you for your consideration of this matter.

Diana G. Dakey and David A. Buck

On behalf of Protect Northern PA

Working together to protect our communities from fracked-gas industrialization

Protect Northern PA is an alliance of community members, environmental groups, civic organizations, and local businesses formed to critically examine potential air, water, public health, safety, and climate threats from the natural gas industry in the Marcellus Shale region of Pennsylvania. We share a concern that a gas-related industrial buildout will negatively and irreversibly change the environment and character of the region.

ProtectNorthernPA.org

cc.

DEP Secretary, Patrick McDonnell Attorney General, Josh Shapiro

- 1. <u>Previous letters to Governor Wolf, DEP Citizens Advisory Council, DEP Climate Change Advisory</u> Council
 - All links: https://protectnorthernpa.org/contact-elected-officials
 - Governor Wolf, 4.8.20:
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ee276abd4614529ac35
 708d/1591899820722/ProtectNorthernPA Letter to Gov Wolf 4-8-20.pdf
 - <u>Citizens Advisory Council, 5.14.20:</u>
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
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 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
 <a href="https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5ed6bf01cd55b623032b
 <a href="https://static1.squarespace.com/static1.squarespace.co
 - <u>Climate Change Advisory Council:</u>
 https://static1.squarespace.com/static/5ecd81ee88c3341ed9eaf6e1/t/5efb883dc36dbd0d0485
 9987/1593542720411/ProtectNorthernPA to ClimateChangeAdvisoryCommittee 6.30.20.pdf

2. DEP permits

Air Quality. https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleAuth.aspx?AuthID=1326328
Site Permits. https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleSite.aspx?SiteID=833372
08-00058A Minor Facility Plan Approval New Source Performance Std
E08-506 Water Obstruction & Encroachment Permit

Appalachian Midstream (Williams) pipeline across the Susquehanna River and under the Susquehanna River:

Permitted as of April 2020: New Fortress Energy (NFE) Pipeline, Site ID 841143
https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleAuth.aspx?AuthID=1302279

Pending permits: New Fortress Energy Pipeline, Site ID 841380
https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults_singleAuth.aspx?AuthID=1303797

https://www.ahs.dep.pa.gov/eFACTSWeb/searchResults singleAuth.aspx?AuthID=1303798

Information obtained from parmits on file with DED
3. Information obtained from permits on file with DEP
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- 4. <u>Environmental Integrity Project Report: *Troubled waters for LNG*, Oct. 5, 2020 https://environmentalintegrity.org/news/ten-Ing-projects-delayed-because-of-pandemic-and-market-drop/</u>
- p. 12/30. New Source Review permitting requirements are triggered by any project likely to increase greenhouse gas emissions by more than 75,000 tons per year, while also significantly increasing emissions of certain criteria pollutants known to harm public health. Under federal regulation, the largest pollution sources are required to commence construction within 18 months after receiving the necessary permitting approvals. The permittee must provide satisfactory showing that an extension to the initial 18-month deadline is justified, and it is under the discretion of the permitting authority to grant the extension. This regulatory process has been established to ensure that air quality considerations and emissions limits remain current. It also allows for state agencies to reevaluate the best available control technology requirements and to update permitting conditions if advancements have been made.

5. Governor Wolf Veto HB 2025

https://www.governor.pa.gov/wp-content/uploads/2020/09/20200924-TWW-HB-2025-Veto-Message.pdf

6. By Many Calculations, LNG Is a Fail for BC: Report

The math for liquefied natural gas is bad on emissions, revenues, jobs, even offsetting coal in China, finds a new study.

https://thetyee.ca/Analysis/2020/07/09/LNG-Fail-For-

BC/?fbclid=IwAR36xrRHIkMHx1IIU6hmaD6zultgdbueBxKHIJmuxJnKoq7e52zHZlyXpMo

7. Overland Transport of LNG Hazards:

International Association of Firefighters

https://downloads.regulations.gov/PHMSA-2018-0025-0110/attachment_1.pdf

"The IAFF strongly opposes the proposed changes to hazardous materials regulations allowing transportation of LNG by rail car.

The proposal would allow for transportation of LNG using the Department of Transportation's (DOT) 113 rail tank cars, each with a capacity of 30,680 gallons. With an expansion ratio of 600 to one, the contents of a single tank car that is punctured would expand to cover over 2,500,000 cubic feet. Assuming dispersion evenly in all directions, it would encompass an area 135 feet in all directions from the contents of a single tank car. As the liquid boils and converts to the gaseous form, the expanding vapor cloud would encompass an extensive area. With the growth of a gaseous cloud, a very significant portion would be within the flammable range, thus creating a substantial hazard of an explosion. Further, in the event of a puncture and fire involving even a single car, the exposed tank cars would be at great risk of a boiling liquid expanding vapor explosion (BLEVE). Estimating a typical train consists of one-hundred rail cars, this would result in over three-million gallons of LNG exposed to fire, leading to a blast potential in a populated area that would create a high risk of danger to the population, emergency responders and property."

Martin County's Vulnerability Analysis of Florida East Coast Rail's Transportation of Liquefied Natural Gas (LNG), Martin County Fire Rescue, December 2015 https://www.martin.fl.us/sites/default/files/meta page files/Presentation Report%20AAF%20LNG%20

1987 Nevada Desert Falcon Tests (video)

Vulnerability%20Final 12 15 15.pdf

http://www.safetybeforelng.ie/pressreleases/pressrelease20200910FalconTestVideo1987-LNGEasilylgnitable.html

Sandia National Laboratories: LNG Use and Safety Concerns. November 2014. https://www.osti.gov/servlets/purl/1367739

Comment from **National Transportation Safety Board** https://www.regulations.gov/document?D=PHMSA-2018-0025-0078

Comment from National Association of State Fire Marshals (NASFM) https://www.regulations.gov/document?D=PHMSA-2018-0025-0096

The EAST OHIO GAS CO. EXPLOSION AND FIRE took place on Friday, 20 Oct. 1944, when a tank containing liquid natural gas equivalent to 90 million cubic feet exploded, setting off the most disastrous fire in Cleveland's history.

https://case.edu/ech/articles/e/east-ohio-gas-co-explosion-and-fire

8. Explosion in China, 2020

18 dead, 189 hurt as tanker truck explodes on China highway https://abcnews.go.com/International/wireStory/18-dead-189-hurt-tanker-truck-explodes-china-71245847%C2%A0

9. Press coverage:

- About the project in Bradford County: https://www.thetimes-tribune.com/news/construction-paused-on-liquefied-natural-gas-plant-concerns-linger/article_51dea664-6e34-557e-8cfe-fd6e62305690.html
- About DRBC: https://www.thetimes-tribune.com/news/clarks-summit-council-votes-in-opposition-of-liquefied-natural-gas-plants-plans/article-b4b40259-f4ee-57b4-b247-1081a3d6bd93.html
- Clarks Summit resolution: https://www.thetimes-tribune.com/news/commission-tables-decision-for-liquefied-natural-gas-project-with-nepa-shipping-route/article_9a7aba96-9ba7-5593-9afd-c1c1ce25269a.html
- Scranton resolution: https://www.thetimes-tribune.com/eedition/page-a1/page 0029f191-fc6c-55fb-a114-1d02509482ef.html
- Note: Resolutions were also passed by Clarks Green Borough, Jessup Borough, Kutztown Borough, and Lehigh County. Other municipalities have resolutions under consideration.

Editorials:

- https://www.thetimes-tribune.com/opinion/editorial/lng-plant-isnt-just-local-matter/article 27362aa2-3a1e-5739-a939-47e423eff197.html
- https://www.thetimes-tribune.com/opinion/editorial/suspend-permits-for-wyalusing-lng-project/article 7f4afcbb-c172-5877-8813-024309777593.html
- https://www.thetimes-tribune.com/opinion/editorial/lng-plan-reveals-folly-of-gas-policy/article e1c1bd80-ac4d-5e99-ae05-9d5f4a07746b.html

LNG plan reveals folly of gas policy, The Times-Tribune, 7 Oct 2020

A plan to ship explosive liquefied natural gas by rail or truck across congested Northeast and Southeast Pennsylvania is preposterous in its own right. But it's also a reminder of the degree to which the Pennsylvania government has sold itself out to fossil fuel industries across multiple generations.

First it was coal, which the state government heavily subsidized for more than a century by allowing the industry to pollute at will and then walk away from the environmental disaster it created.

Now it's natural gas, which the state government coddles in multiple ways. The plan to construct a liquefied natural gas plant in Bradford County is the most recent in a series by which the state creates new gas markets while declining to demand fair value for taxpayers while risking the state's environment and, in the LNG case, public safety.

New Fortress Energy's \$800 million plant in Wyalusing Twp. would liquefy enough natural gas every day to fill 400 10,000-gallon trucks or 100 30,700-gallon rail cars. Since empty trucks would return to the plant, that would put 800 more trucks a day on Routes 6 and 11. They also would travel through heavily congested parts of Southeast Pennsylvania en route to a proposed LNG export terminal on the Delaware River in New Jersey.

The state's willingness to allow that at no cost to the industry is a massive subsidy. It further reveals the state's folly in not establishing a fair gas extraction tax. Such taxes are assessed in every other gas-producing state, and a company would not build an \$800 million plant without locking down contracts for the gas to feed it. The situation also makes a mockery of the local impact fee, which is supposed to compensate areas adversely affected by gas drilling but does not include the impact of LNG truck congestion or the potential for a catastrophe.

The Wolf administration should preclude the shipment, especially by truck, of LNG through any congested area. Gas shipment is the appropriate province of pipelines. And, since the New Jersey export terminal requires approval by the Delaware River Basin Commission, Gov. Tom Wolf should use the state's vote on that body to oppose the project.

10. About the Gibbstown, NJ terminal:

Fact sheet:

https://www.delawareriverkeeper.org/sites/default/files/Fact%20Sheet%20Gibbstown%20Proposed%20LNG%20Export%20Terminal%20%282020-08%29.pdf

• Webpage: https://www.delawareriverkeeper.org/ongoing-issues/gibbstown-logistics-center-lng-ngl-exports-proposed

11. New Fortress Energy

https://www.sec.gov/cgi-bin/browse-edgar?company=new+fortress+energy&match=&filenum=&State=&Country=&SIC=&myowner=exclude &action=getcompany

Form 10-Q, June 30, 2020

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We have assumed total expenditures for all completed and existing projects to be approximately \$855 million, with approximately \$724 million having already been spent through June 30, 2020. This estimate represents the expenditures necessary to complete the San Juan Facility and the La Paz Terminal, as well as expected expenditures to serve new industrial end-users. We expect to be able to fund all such committed projects with a combination of cash on hand, as well as the proceeds from the Credit Agreement, Senior Secured Bonds, and Senior Unsecured Bonds. Through June 30, 2020, we have spent approximately \$155 million to develop the Pennsylvania Facility. Approximately \$20 million of construction and development costs have been expensed as we have not issued a final notice to proceed to our engineering, procurement, and construction contractors. Cost for land, as well as engineering and equipment that could be deployed to other facilities and associated financing costs of approximately \$135 million, has been capitalized.

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Our ability to implement our business strategy may be materially and adversely affected by many known and unknown factors.

Our business strategy relies upon our future ability to successfully market natural gas to end-users, develop and maintain cost-effective logistics in our supply chain and construct, develop and operate energy-related infrastructure in the U.S., Jamaica, Mexico, Puerto Rico, Ireland, Angola, Nicaragua and other countries where we do not currently operate. Our strategy assumes that we will be able to expand our operations into other countries, including countries in the Caribbean, enter into long-term GSAs and/or PPAs with end-users, acquire and transport LNG at attractive prices, develop infrastructure,

including the Pennsylvania Facility, as well as other future projects, into efficient and profitable operations in a timely and cost-effective way, obtain approvals from all relevant federal, state and local authorities, as needed, for the construction and operation of these projects and other relevant approvals and obtain long-term capital appreciation and liquidity with respect to such investments.

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Recently, the LNG industry has experienced increased volatility. If market disruptions and bankruptcies of third-party LNG suppliers and shippers negatively impacts our ability to purchase a sufficient amount of LNG or significantly increases our costs for purchasing LNG, our business, operating results, cash flows and liquidity could be materially and adversely affected. There can be no assurances that we will complete the Pennsylvania Facility or be able to supply our facilities with LNG produced at our own facilities. Even if we do complete the Pennsylvania Facility, there can be no assurance that it will operate as we expect or that we will succeed in our goal of reducing the risk to our operations of future LNG price variations.

We face competition based upon the international market price for LNG or natural gas.

Our business is subject to the risk of natural gas and LNG price competition at times when we need to replace any existing customer contract, whether due to natural expiration, default or otherwise, or enter into new customer contracts. Factors relating to competition may prevent us from entering into new or replacement customer contracts on economically comparable terms to existing customer contracts, or at all. Such an event could have a material adverse effect on our business, contracts, financial condition, operating results, cash flow, liquidity and prospects. Factors which may negatively affect potential demand for natural gas from our business are diverse and include, among others:

- increases in worldwide LNG production capacity and availability of LNG for market supply;
- increases in demand for natural gas but at levels below those required to maintain current price equilibrium with respect to supply;
- increases in the cost to supply natural gas feedstock to our liquefaction projects;
- increases in the cost to supply LNG feedstock to our facilities;
- decreases in the cost of competing sources of natural gas, LNG or alternate fuels such as coal, heavy fuel oil and ADO;
- decreases in the price of LNG; and
- displacement of LNG or fossil fuels more broadly by alternate fuels or energy sources or technologies (including but not limited to nuclear, wind, solar, biofuels and batteries) in locations where access to these energy sources is not currently available or prevalent.

In addition, we may not be able to successfully execute on our strategy to supply our existing and future customers with LNG produced primarily at our own facilities upon completion of the Pennsylvania Facility. See "—We have not yet completed contracting, construction and commissioning of all of our Terminals and Liquefaction Facilities. There can be no assurance that our Terminals and Liquefaction Facilities will operate as expected, or at all."

Technological innovation may impair the economic attractiveness of our projects.

The success of our current operations and future projects will depend in part on our ability to create and maintain a competitive position in the natural gas liquefaction industry. In particular, although we plan to build out our delivery logistics chain in Northern Pennsylvania using proven technologies such as those currently in operation at our Miami Facility, we do not have any exclusive rights to any of these technologies. In addition, such technologies may be rendered obsolete or uneconomical by legal or regulatory requirements, technological advances, more efficient and cost-effective processes or entirely different approaches developed by one or more of our competitors or others, which could materially and adversely affect our business, ability to realize benefits from future projects, results of operations, financial condition, liquidity and prospects.

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There can be no assurance that we will complete the Pennsylvania Facility or be able to supply our facilities and the CHP Plant with LNG produced at our own facilities. Even if we do complete the Pennsylvania Facility, there can be no assurance that it will operate as expected or that we will succeed in our goal of reducing the risk to our operations of future LNG price variations.

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Many of these laws and regulations, such as the CAA and the CWA, and analogous state laws and regulations, restrict or prohibit the types, quantities and concentrations of substances that can be emitted into the environment in connection with the construction and operation of our facilities, and require us to obtain and maintain permits and provide governmental authorities with access to our facilities for inspection and reports related to our compliance. For example, the Pennsylvania Department of Environmental Protection laws and regulations will apply to the construction and operation of the Pennsylvania Facility. Relevant local authorities may also require us to obtain and maintain permits associated with the construction and operation of our facilities, including with respect to land use approvals. Failure to comply with these laws and regulations could lead to substantial liabilities, fines and penalties or capital expenditures related to pollution control equipment and restrictions or curtailment of our operations, which could have a material adverse effect on our business, contracts, financial condition, operating results, cash flow, liquidity and prospects.

12. Energy Information Agency (EIA)

https://www.eia.gov/outlooks/steo/report/natgas.php#:~:text=EIA%20forecasts%20U.S.%20dry%20natural,May%202021%2C%20before%20increasing%20slightly.

EIA forecasts U.S. dry natural gas production will average 90.6 Bcf/d in 2020, down from an average of 93.1 Bcf/d in 2019. In the forecast, monthly average production falls from a record 97.0 Bcf/d in December 2019 to 85.9 Bcf/d in May 2021, before increasing slightly.