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ONE HUNDRED FIFTEENTH CONGRESS

Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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WASHINGTON, DC 20515-6115

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MEMORANDUM

June 24, 2018

To: Subcommittee on Energy Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on "The Shifting Geopolitics of Oil and Gas"

On **Tuesday, June 26, 2018, at 1:00 p.m. in room 2123 of the Rayburn House Office Building**, the Subcommittee on Energy will hold a hearing entitled, "The Shifting Geopolitics of Oil and Gas."

I. BACKGROUND

Since 2011, the U.S. has been the world's top producer of oil and gas hydrocarbons.[1] The Energy Information Administration (EIA) expects that the U.S. will become a net energy exporter by 2022, due in large part to continued net exports of natural gas. Growth in domestic oil and gas production has been driven by increased use of hydraulic fracturing in tight rock formations, growing global demand, and supportive policies, including approval of liquefied natural gas (LNG) export terminals and removal of the crude oil export ban.[2] These trends are likely to promote continued fossil fuel extraction for the foreseeable future, despite the need for decarbonization to avoid the worst effects of climate change.

[1] Energy Information Administration, *United States remains the world's top producer of petroleum and natural gas hydrocarbons* (May 21, 2018) (www.eia.gov/todayinenergy/detail.php?id=36292).

[2] Energy Information Administration, *The United States is projected to become a net energy exporter in most AEO2018 cases* (Feb. 12, 2018) (www.eia.gov/todayinenergy/detail.php?id=34912).

II. LIQUEFIED NATURAL GAS EXPORTS

U.S. LNG exports nearly quadrupled from 0.5 billion cubic feet per day (Bcf/d) in 2016 to 1.94 Bcf/d in 2017, driven by two new LNG export terminals (Sabine Pass in Louisiana and Cove Point in Maryland).[3] Four additional export projects will be completed by the end of 2019, increasing total domestic export capacity to 9.6 Bcf/d.[4] Meanwhile, global LNG trade hit an all-time high of 38.2 Bcf/d in 2017 due to growing Asian demand.[5] For additional information, refer to the Committee's January 19, 2018, hearing memo on "Legislation Addressing LNG Exports and PURPA Modernization."

A 2017 peer-reviewed study estimated that U.S. LNG exports would likely increase global greenhouse gas (GHG) emissions over the long term.[6] The study estimated that U.S. export projects with "some level of federal approval" (as of late 2017) have the potential to increase annual U.S. emissions by up to 353 million metric tons of CO_2-equivalent.

The study also found that high methane leak rates and increased energy demand would likely offset any climate benefits associated with natural gas. Methane is a potent GHG with 80 times the global warming potential of carbon dioxide over a 20 year period. The study also stressed that there will probably be a lower than expected displacement of coal by a number of Asian countries, as it is not expected that they would substitute all coal, used for power generation, with LNG. Such decisions, according to the study, are likely to contribute to an overall increase in global GHG emissions. Another study published in *Science* this month found the rate of methane emissions is 2.3 percent of total annual production of methane emissions from domestic oil and gas operations – that figure is 60 percent higher than the EPA's current estimate.[7]

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[3] Energy Information Administration, *U.S. liquefied natural gas exports quadrupled in 2017* (Mar. 27, 2018) (www.eia.gov/todayinenergy/detail.php?id=35512).

[4] Energy Information Administration, *U.S. liquefied natural gas exports have increased as new facilities come online* (Dec. 7, 2017) (www.eia.gov/todayinenergy/detail.php?id=34032).

[5] Energy Information Administration, *Global LNG trade continues to grow, especially from Australia and the United States* (Jun. 11, 2018) (www.eia.gov/todayinenergy/detail.php?id=36452).

[6] Alexander Q. Gilbert and Benjamin K. Sovacool, Energy, *US liquefied natural gas (LNG) exports: Boom or bust for the global climate?* (Dec. 15, 2017) (doi.org/10.1016/j.energy.2017.11.098).

[7] Ramon Alvarez, et al., Science, *Assessment of methane emissions from the U.S. oil and gas supply chain* (Jun. 21, 201) (science.sciencemag.org/content/early/2018/06/20/science.aar7204); *The Natrual Gas Industry Has a Leak Problem*, New York Times (Jun. 21, 2018)(www.nytimes.com/2018/06/21/climate/methane-leaks.html?smid=tw-nytclimate&smtyp=cur).

III. CRUDE OIL EXPORTS

In December 2015, Congress lifted the crude oil export ban that had been in place since 1975.[8] Successive administrations eased certain export restrictions over the years, but lifting the ban boosted exports from 465,000 barrels per day (bpd) in 2015 to 1,118,000 bpd in 2017.[9]

The Trump Administration's escalating trade war with China may slow this growth. The Chinese government recently responded to the President's newest tariff announcement with its own 25 percent tariff on U.S. crude oil. The tariffs are likely to reduce the amount of crude oil exported to China, currently valued at nearly $1 billion per month.[10]

IV. IMPACTS ON DECARBONIZATION EFFORTS

Continued development and export of domestic fossil fuel resources will undermine the Paris Agreement goal of limiting temperature rise to 1.5 to 2 degrees Celsius by 2100. Current global climate policies are already expected to exceed that goal and increase temperatures by 3.4 degrees Celsius. That gap is partly influenced by the Trump Administration's intended withdrawal from the Paris Agreement, which is estimated to contribute 0.3 degrees Celsius to overall warming.[11] A May 2018 study found that failure to meet the Paris Agreement goals would be a missed economic opportunity: limiting warming to 1.5 degrees Celsius would most likely yield at least $20 trillion in cumulative global benefits by 2100.[12]

In the absence of federal climate leadership, states, cities, companies, universities, tribes, and faith-based organizations have stepped in to fill the void. More than 2,800 U.S. leaders – including 1,900 businesses and investors, 271 cities and counties, 345 colleges and universities, and 11 states – have committed to the Paris Agreement goals. These signatories to the "We Are Still In" pledge represent 159 million Americans, $6.2 trillion in gross domestic product (GDP),

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[8] *See* Energy and Commerce Committee consideration of H.R. 702 (democrats-energycommerce.house.gov/committee-activity/bills/hr-702-a-bill-to-adapt-to-changing-crude-oil-market-conditions).

[9] Energy Information Administration, *U.S. Exports of Crude Oil* (May 31, 2018) (www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=mcrexus1&f=a).

[10] Henning Gloystein, Reuters, China's tariffs on U.S. oil would disrupt $1 billion monthly business (Jun. 18, 2018) (www.reuters.com/article/us-usa-trade-china-oil-graphic/chinas-tariffs-on-u-s-oil-would-disrupt-1-billion-monthly-business-idUSKBN1JE0CD).

[11] Climate Action Tracker, *Improvement in warming outlook as India and China move ahead, but Paris Agreement gap still looms large* (Nov. 2017) (https://climateactiontracker.org/documents/61/CAT_2017-11-15_ImprovementInWarmingOutlook_BriefingPaper.pdf).

[12] Marshall Burke, et al., Nature, *Large potential reduction in economic damages under UN mitigation targets* (May 23, 2018) (www.nature.com/articles/s41586-018-0071-9).

and 35 percent of U.S. GHG emissions.[13] Meanwhile, 137 companies and 71 U.S. cities have committed to transition to 100 percent clean energy. By one estimate, non-state and subnational actions collectively bring the U.S. halfway to meeting its original commitment under the Paris Agreement.[14]

V. WITNESSES

The following witnesses have been invited to testify:

Harold Hamm
Chief Executive Officer
Continental Resources

Kevin Kennedy
Deputy Director, U.S. Climate Initiative
World Resources Institute

Daniel Yergin
Vice Chairman
IHS Markit

Dennis Arriola
Chief Strategy Officer
Sempra Energy

[13] America's Pledge, *One Year Later* (oneyearlater.americaspledgeonclimate.com) (accessed Jun. 24, 2018).

[14] Next Climate Institute, *The impact of subnational and non-state climate action in the Trump era* (Jul. 2017) (newclimateinstitute.files.wordpress.com/2017/07/the-impact-of-subnational-and-non-state-action-in-the-era-of-trump-draft-for-review-2.pdf).