February 11th, 2020

To the U.S Department of Energy (FE-34), Attn: Term Extension – Proposed Policy Statement, Office of Regulation, Analysis, and Engagement, Office of Fossil Energy, P.O. Box 44375, Washington, DC 20026-4375.

Regarding the Proposed rule "Extending Natural Gas Export Authorizations to Non-Free Trade Agreement Countries Through the Year 2050".

From Morgan Schmitz

Thank you for the opportunity to comment on this proposed policy. I am currently an undergraduate at the University of Minnesota. I appreciate the sentiment going into expansions within the energy sector both in terms of expected increases in consumption, domestic and international; and job growth created by this policy. However, I believe that attempting these things through the usage of Liquified Natural Gas, Compressed Natural Gas, and Compressed Gas Liquid is not the correct path. The expansion and protection of fossil fuel expansions violates United States responsibilities that include:

- Environmental Sustainability
- Economic Growth (As well as the sustainability of said growth.)

Our responsibilities are not limited to these; however, these are the ones that are not being followed through this policy that calls for the extension of LNG export authorizations from 20 years to 30 or more years.

Responsibility to the Environment

When talking about Natural Gas it is important to understand its effect on the environment, specifically through climate change. The US has acknowledged the impact that carbon dioxide has on the atmosphere in terms of global warming and its subsequent effects. However, one of the main

components of Natural Gas is Methane. Methane is similar to Carbon Dioxide in that it is also a Greenhouse Gas. However, Methane is much worse for the atmosphere than Carbon Dioxide. Although it has a shorter lifespan in our atmosphere, when compared over a 100-year period Methane is 34 times stronger than Carbon Dioxide as a greenhouse gas. Methane currently is responsible for roughly 60% of radiative forcing all while having a 200 times lower atmospheric concentration than CO_2. It Is important to acknowledge how heavily Methane effects the atmosphere as the processes for recovering, shipping, etc. for Natural Gas are known to not be completely efficient. Anywhere from 1%-9% of all natural gas produced escapes into the atmosphere.[1] Expanding the time frame for the production and subsequent usage of natural gas only amplifies a growing problem that will have lasting negative effects. Although the US pulled out of it, the Paris Climate Agreement called for a methane emission reduction of 35% between 2010 and 2050 for a reason. The expansion of trade authorization will only increase the amount of Methane released into the atmosphere.

The production of natural gas also involves an already heavily debated process, fracking. Fracking itself brings up several concerns when it comes to the quality of both air and water. Air pollution from fracking has been linked to respiratory problems, cancer, and birth defects. This effect not only those working the sites but also the communities surrounding it which are often rural and have less access to pollution control. When it comes to water there are two main issues. First, the amount of water needed for fracking is extensive and can strain local water reserves. Secondly, the process creates large amounts of contaminated wastewater that puts waterways and drinking supplies at risk.[2] Cleaning contaminated water sources is a long, expensive, and arduous process that smaller communities are

[1] Dean, Joshua. "Methane, Climate Change, and Our Uncertain Future." *Eos*, 11 May 2018.

[2] "Fracking Threatens Our Health, Communities, and Climate." *NRDC*, Jan. 2015.

often unable to afford and don't have proper alternatives for the residents. Fracking also allows for higher percentages of escaped methane, the impacts of which are discussed above.

Responsibility to US Economic Stability

One of the main reasons I am hesitant on any policy that wishes to extend fossil fuels in general, not just natural gas, is because it is a finite resource. As we continue to use more the harder it will be to produce and the larger extents, we will have to go to in order to justify systems put into place today. Although it may seem abundant now studies have shown that at the current rate of consumption in the US there is enough technically recoverable resources of dry natural gas to last 92 years.[3] That is not a large amount of time, and it will become increasingly more difficult to obtain. It is worrisome to me that we are basing a large part of the economy on a resource that will run out. We should also take into account the cost analysis of creating and maintaining energy systems. Projections show that by 2025 almost every currently existing coal plant in the US will cost more to operate than building a replacement wind of solar plant within 35 miles of said plant.[4] Natural gas is expected to follow that trend as well. Putting the money, energy, policy, etc. into expanding renewable energy sources that can continued to be used and expanded on for a longer amount of time makes much more sense to me. The Brundtland report is often quoted based upon its definition of sustainability. Its basic concept is ensuring success of future generations by not over consuming and creating the framework for sustainable growth across generations. Natural gas does not provide this framework.

Another important aspect of providing for future generations is with job growth. Market results from 2018 showed that Americans working in green energy outnumbered fossil fuel workers 3 to 1.[5]

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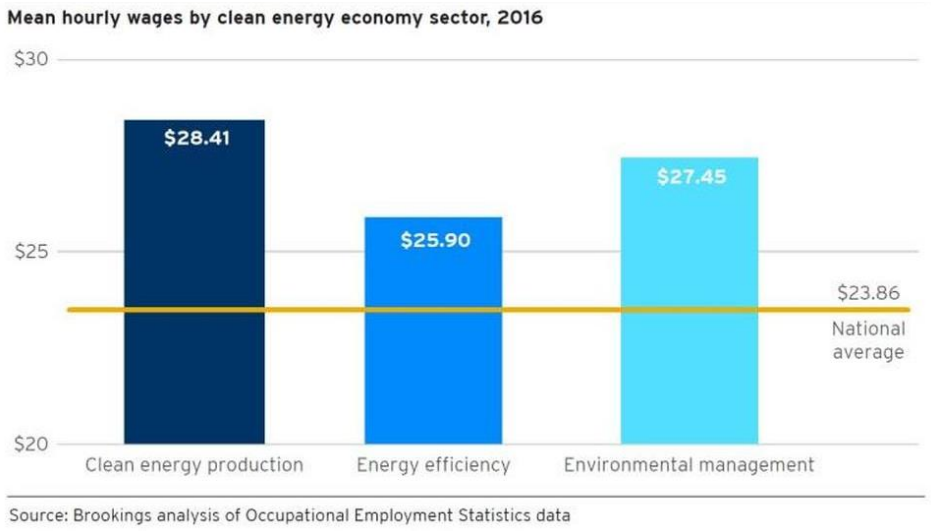
[3] "How Much Natural Gas Does the United States Have, and How Long Will It Last? ." *Frequently Asked Questions*, U.S. Energy Information Administration (EIA).

[4] Marcacci, Silvio. "Renewable Energy Job Boom Creates Economic Opportunity As Coal Industry Slumps." *Forbes*, Forbes Magazine, 22 Apr. 2019.

[5] Marcacci, Silvio. "Renewable Energy Job Boom Creates Economic Opportunity As Coal Industry Slumps." *Forbes*, Forbes Magazine, 22 Apr. 2019.

Also, when looking at careers with the highest potential growth rate from 2018-2028 according to the US Bureau of Labor Statistics, solar photovoltaic installers and wind turbine service technicians are both at the top of the list. There are also some notable statistics in the 2019 U.S energy and Employment Report when comparing just the electric power generations and the fuels sectors. There was a reported loss of around 1% in jobs in this sector, most of which was within the solar industry. It is important to note that a large part of this loss was due to increased import costs because of trade tariffs that current legislation (including this proposed policy) allow fossil fuels to get around for exports. The energy field faces the disadvantages that the fuels field does not. Even so projected job growth for 2019 in the electric power generation field was around 7.1% whereas fuels was around 3%. Even with a larger current number of jobs, this projected fuel-based job growth is roughly 28,000 less than in green energy generation. There is also a lot of evidence showing that electric energy jobs are more spread throughout almost the entirety of the United States, whereas natural gas production in limited in its potential positive effects.[6] The figure below also shows that electric energy jobs continue to produce wages above the national average.



[6] "Fastest Growing Occupations : Occupational Outlook Handbook." *U.S. Bureau of Labor Statistics*, U.S. Bureau of Labor Statistics, 4 Sept. 2019.

The listed negative effects on the current climate and environmental crisis as well as current and future negative economic effects are real pressing issues. And it is because of these reasons that I believe this proposal should not continue to implementation. Thank you again for the opportunity to comment.

Sincerely,

Morgan Schmitz

References:

Dean, Joshua. "Methane, Climate Change, and Our Uncertain Future." *Eos*, 11 May 2018, eos.org/editors-vox/methane-climate-change-and-our-uncertain-future.

"Division of Natural Gas Regulation." *Energy.gov*, Office of Fossil Energy, 2020, www.energy.gov/fe/services/natural-gas-regulation.

"Fastest Growing Occupations : Occupational Outlook Handbook." *U.S. Bureau of Labor Statistics*, U.S. Bureau of Labor Statistics, 4 Sept. 2019, www.bls.gov/ooh/fastest-growing.htm.

"Fracking Threatens Our Health, Communities, and Climate." *NRDC*, Jan. 2015, www.nrdc.org/sites/default/files/fracking-threatens-health-fs.pdf.

"How Much Natural Gas Does the United States Have, and How Long Will It Last? ." *Frequently Asked Questions*, U.S. Energy Information Administration (EIA), www.eia.gov/tools/faqs/faq.php?id=58&t=8.

"Infographic: The Climate Risks of Natural Gas." *Union of Concerned Scientists*, 3 Feb. 2014, www.ucsusa.org/resources/climate-risks-natural-gas.

Marcacci, Silvio. "Renewable Energy Job Boom Creates Economic Opportunity As Coal Industry Slumps." *Forbes*, Forbes Magazine, 22 Apr. 2019, www.forbes.com/sites/energyinnovation/2019/04/22/renewable-energy-job-boom-creating-economic-opportunity-as-coal-industry-slumps/#63e8a2ba3665.

Morton, Adam. "Booming LNG Industry Could Be as Bad for Climate as Coal, Experts Warn." *The Guardian*, Guardian News and Media, 2 July 2019, www.theguardian.com/environment/2019/jul/03/booming-lng-industry-could-be-as-bad-for-climate-as-coal-experts-warn.

"The 2019 U.S. Energy and Employment Report." *Energy Futures Initiative*, National Association of State Energy Officials, 2019, www.usenergyjobs.org/2019-report.