

From: [Francis Eatherington](#)
To: [LNGStudy](#)
Subject: LNG Export Study
Date: Thursday, January 24, 2013 2:12:09 PM
Attachments: [CW cmts on DOE NERA report.docx](#)

Attached are comments on the NERA Report from Cascadia Wildlands. Please confirm receipt of this email.

Francis Eatherington
Conservation Director
Cascadia Wildlands - we like it wild.
www.CascWild.org
Southern Oregon Field Office
541-643-1309

We educate, agitate, and inspire a movement to protect and restore Cascadia's wild ecosystems. We envision vast old-growth forests, rivers full of salmon, wolves howling in the backcountry, and vibrant communities sustained by the unique landscapes of the Cascadia Bioregion. [Join us!](#)

January 23, 2013

U.S. Department of Energy
Office of Natural Gas Regulatory Activities
Office of Fossil Energy
P.O. Box 44375, Washington DC 20026

Emailed to: LNGStudy@hq.doe.gov

RE: LNG Export Study

To Whom It Concerns:

We are concerned the NERA Report on the effects of exporting Natural Gas is inadequate. We are especially concerned about the Department of Energy's (DOE) use of this report when permitting the Jordan Cove proposed LNG terminal on the Oregon coast, and the associated 230-mile Pacific Connector Pipeline across southern Oregon, proposed to supply that terminal.

The Department of Energy is required to grant applications for export authorizations unless the exports will not be consistent with the public interest. The Department is using the 2012 "NERA Report" to determine the public interest of 15 pending export applications, including the Jordan Cove project. Using a flawed report to determine public interest could mean an unnecessary condemnation of family farms for the pipeline, an increase in fracking to produce natural gas for exporting, and an increase in the rate of climate change from the release of methane into the atmosphere.

The NERA report concludes that "benefits that come from export expansion more than outweigh the losses from reduced capital and wage income to U.S. consumers, and hence LNG exports have net economic benefits in spite of higher domestic natural gas prices." This is what the DOE should expect for a company that regularly consults for the American Petroleum Institute and other energy companies. The DOE has a responsibility to make sure the contractor for this report is unbiased, which, in this situation, does not appear to be the case.

The NERA Report found (page 13) that energy companies will "realize additional profits", and that "U.S. Households will benefit from the additional wealth transferred into the U.S.", but, only if "households... hold stock in natural gas producers". The DOE must consider that the NERA Report failed to quantify how many ordinary households hold stock in natural gas companies compared with how many families depend on natural gas for heating and cooking. The NERA Report also found (page 13) that "Households will be negatively affected by having to pay higher prices for the natural gas they use for heating and cooking".

Many households, for many reasons, do not hold stock in fossil fuel companies. The NERA Report automatically classifies these Americans as the “losers”, and has a tough-luck attitude. The DOE must reject this unfair conclusion.

Domestic Jobs vs. Oversea Jobs: The NERA Report disclosed that “Domestic industries for which natural gas is a significant component of their cost structure will experience increases in their cost of production”, which would harm consumers who purchase their goods, and employees who could lose their jobs.

This is a significant flaw in the economy of exporting, and the DOE should give it much more weight than the NERA Report did. The NERA Report failed to fully consider the secondary economic impacts of lost jobs by moving natural-gas dependent production overseas.

Electricity Costs: The NERA report found that natural gas is an important fuel for electricity generation, and thus, in addition to increases in natural gas prices, exporting would also cause an increase in our electric bill.

Here in Oregon, our coal-generation plant, Boardman coal, must stop using coal by 2020 under an agreement with the state of Oregon. There are plans to convert the plant to natural gas before then.¹ Portland General Electric (PGE) states, in their long-term resource plan, that

“The outlook for domestic natural gas supply has dramatically improved compared to just two years ago. With the discovery of vast domestic shale gas deposits, combined with drilling innovations enabling its relatively economic extraction, domestic gas supply is expected to be sufficient through at least 2025 without heavy reliance on liquefied natural gas (LNG).²

The PGE updated 2012 resource plan states:

The natural gas price outlook for 2016 has fallen, from \$5.70/ MMBtu in the 2011 IRP Update to \$4.57/MMBtu in the most current gas forecast, on a levelized basis. All else being equal, the lower gas prices will cause efficient natural gas-fired units to dispatch more frequently, increasing the cost-competitiveness of new gas fired resources versus other types of new generation.³

Northwest Oregon depends on natural gas for electrical generation, and will increase that dependence in the future. Increasing the rates in NW Oregon is not appropriate, simply for the purpose of increasing profits for U.S. and Canadian energy corporations. PGE’s updated resource plan emphasizes:

The current forecast indicates that our portfolio will be roughly in balance as of 2016, as measured against our projected annual average energy requirement and after implementation of the Action Plan. One of the key elements of the Action Plan is the addition of a new, high-efficiency gas-fired Combined-Cycle Combustion Turbine

¹ Portland General Electric Integrated Resource Plan. 11-5-2009

² Portland General Electric Integrated Resource Plan. 11-5-2009 Page 2

³ Portland General Electric Integrated Resource Plan 11-2012. Page 2

(CCCT) of 300 – 500 MW. The Company plans to move forward with its current solicitation for new natural gas-fired generation.⁴

The NERA Report failed to consider the cumulative impact on households of both increased natural gas and grid-electricity costs. Electrical generation would be directly impacted in Oregon because of the proposed Jordan Cove project, which would build a pipeline that directs natural gas away from the area of the Boardman coal plant and other natural gas sources for PGE.

Our local electricity providers are planning for CO² taxes by 2017, and are depending on natural gas to replace coal-fired electric generators. They say:

“... impose a CO² compliance cost such that natural gas continues to result in reduced coal utilization within the electric sector. This approach tends to push out high-CO² coal (less efficient units or units facing other environmental compliance costs) quicker in favor of lower-CO² natural gas.”⁵

If the price of natural gas were to increase, this could mean increased coal burning, and increased global warming. The NERA report failed to consider these environmental and economic impacts to our local energy companies, who plan to use natural gas, with low rates, in the near future. PGE plans to “Acquire approximately 400 MWa of new, high-efficiency natural gas generation by 2015.”⁶

The Department of Energy has a duty to monitor supply and demand conditions to ensure that exporting LNG does not lead to a reduction of natural gas needed to meet essential domestic needs. This includes electrical generation in Oregon and the rest of the United States. This is an essential domestic need. The DOE must find the NERA report inadequate in this regard.

Transportation: The NERA Report failed to accurately determine what constitutes “essential domestic needs” for the transition of transportation-fuel moving away from imported oil and being replaced with natural gas instead. Natural gas is a feasible transportation fuel for railroads, heavy trucks and public transportation, and it will soon be feasible for most personal automobiles.

It is a government priority to increase energy independence. The NERA Report failed to consider increased energy independence as an essential domestic need.

Fracking: The NERA Report found that “Net benefits to the U.S. would be highest if the U.S. becomes able to produce large quantities of gas from shale at low cost”. The NERA Report failed to consider the cost of extracting large quantities of gas from shale rock. DOE must correct this economic oversight. Fracking is controversial and potentially very polluting. The cleanup costs, or substitute water costs, were not considered in the economic report.

⁴ Portland General Electric 2012 Integrated Resource Plan Update 11-2012. Page 4

⁵ Portland General Electric 2012 Integrated Resource Plan Update 11-2012. Page 26.

⁶ Portland General Electric Integrated Resource Plan. 11-5-2009 page 7.

Clean Water: The Jordan Cove export proposal is based on increased fracking of shale gas.⁷ The thousands of existing and new wells that would supply the Jordan Cove and other export projects, each require millions of gallons of water per well. These wells are often in dryer parts of the United States, areas now experiencing drought and stressed aquifers. The DOE must consider this economic impact on water shortages in the total economic impacts of exporting LNG.

The Society for Risk Analysis found “Water Pollution Risk Associated with Natural Gas Extraction from the Marcellus Shale”.⁸ They found that:

“In recent years, shale gas formations have become economically viable through the use of horizontal drilling and hydraulic fracturing. These techniques carry potential environmental risk due to their high water use and substantial risk for water pollution. . . . The potential contamination risk and epistemic uncertainty associated with hydraulic fracturing wastewater disposal was several orders of magnitude larger than the other pathways. Even in a best-case scenario, it was very likely that an individual well would release at least 200 m³ of contaminated fluids.”

Public Health: The DOE must also consider the economic impacts to public health in determining the costs of exporting LNG. For instance: The TEDX, The Endocrine Disruptor Exchange, 9-2011, “Natural Gas Operations from a Public Health Perspective”⁹. This peer-reviewed study found that of the 632 chemicals used to recover natural gas:

“More than 75% of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems. Approximately 40-50% could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37% could affect the endocrine system; and 25% could cause cancer and mutations. These results indicate that many chemicals used during the fracturing and drilling stages of gas operations may have long-term health effects that are not immediately expressed.”

Earthquakes: The water and chemicals used for fracking are highly contaminated when returned to the surface and must be disposed of safely. The current practice is to inject it back into the earth, but this practice has caused earthquakes.¹⁰ The University of Texas’ Institute for Geophysics released “A two-year survey comparing earthquake activity and injection well locations in the Barnett Shale, Texas”¹¹ They found that most earthquakes in the Barnett Shale region of North Texas occur within a few miles of one or more injection wells used to dispose of wastes associated with petroleum production such as

⁷ JCEP LNG Terminal Project Resource Report 1.

⁸ Published in *Risk Analysis: An International Journal*. August 2012.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1539-6924.2011.01757.x/full>

⁹ Published in *Human and Ecological Risk Assessment : An International Journal*.

<http://www.endocrinedisruption.com/chemicals.journalarticle.php>

¹⁰ <http://www.greatenergychallengeblog.com/2012/01/04/tracing-links-between-fracking-and-earthquakes/>

¹¹ Referenced in *Scientific American*. Published in “Proceedings of the National Academy of Sciences. August 6, 2012. <http://www.utexas.edu/news/2012/08/06/correlation-injection-wells-small-earthquakes/>

hydraulic fracturing fluids. Cliff Frohlich, senior research scientist, said: “It’s obvious that wells are enhancing the probability that earthquakes will occur.”

The National Geographic Society reports on the fracking wastewater disposal that caused the 4.0 earthquake outside of Youngstown, Ohio. They say: “In the past two years, there have been three other cases in the United States and one in England where regulators or scientists traced links between seismic activity and fracking, or the disposal of briny and polluted fracking wastewater through underground injection.”¹²

DOE should consider the environmental impacts of earthquakes from the increased fracking needed for exporting LNG, and economic costs of earthquakes.

Climate Change: The NERA Report failed to mention the economic impacts from climate change, even though the economic conclusions depend on vast increases in drilling for methane. The DOE must consider these related and cumulative economic impacts.

Methane is often cited as a green alternative for other fossil fuels as it contributes less green house gases to the atmosphere when it is burned. The NERA Report alludes to these benefits in the discussion on the Waxman-Markey bill. However, methane is also 20+ times more polluting than carbon when leaked to the atmosphere.

A recent study found in *Nature* found that up to 9% of the natural gas drilled from wells escapes into the atmosphere. “That figure is nearly double the cumulative loss rates estimated from industry data — which are already higher in Utah than in Colorado. “We were expecting to see high methane levels, but I don’t think anybody really comprehended the true magnitude of what we would see,” says Colm Sweeney, who led the aerial component of the study”.¹³

The NERA Report estimates of profitability depend on a vast number of new methane wells. The DOE must consider the impacts to the climate, and the cost of aberrant weather caused by climate change, such as storms like Sandy and Katrina, along with the record heat waves and droughts of 2012.

Thank you for considering these comments, and finding the NERA Report inadequate. To move forward, please hire an unbiased contractor to re-do the report.

Francis Eatherington
Cascadia Wildlands
P.O. Box 10455, Eugene Oregon, 97440

541-643-1309 francis@cascwild.org

¹² <http://www.greatenergychallengeblog.com/2012/01/04/tracing-links-between-fracking-and-earthquakes/>

¹³ <http://www.nature.com/news/methane-leaks-erode-green-credentials-of-natural-gas-1.12123>