

There is a Questionable “Need” for additional natural gas in National Grid’s NY area.

Williams/Transco and National Grid have not provided data to support the “need” for extra gas supply in New York even though National Grid has subscribed to the gas. Though FERC has declared that the NESE Project is needed, and Williams/Transco asserts that this conclusion -- based on incomplete and misleading information -- overrules the requirement for the NJDEP to enforce the Freshwater Wetlands Protection Rules, the fact that the NESE Project will harm the health and safety of residents and wildlife cannot be ignored.

- Williams/Transco used old 2014 NYSERDA data on the capacity of energy efficiency to claim that natural gas demand must increase, and the U.S. Energy Information Administration (EIA) and the New York Independent System Operator (NYISO) project a flat or declining need for natural gas in that area over the next ten years.
- There was a gross overestimation of the required oil-to-gas conversions in New York City that formed the basis for the purported need from more gas.
- Their assertions that the NESE Project would aid National Grid in converting a specified number of boilers from oil to gas avoids truthful revelation of the possible number of boilers that might convert to gas (though this might not happen) as well as the finding that use of No. 2 oil in NYC is required to be mixed with at least 10% biodiesel by 2025 which essentially renders the CO₂ emissions from both fuel sources as equal. Williams/Transco claims that National Grid could convert 8,000 oil-burning boilers to gas each year, but there are fewer than 450 oil-burning boilers in National Grid’s service area.
- National Grid claims that it needs more access to gas because of ongoing boiler conversions from heating oil to natural gas, but this is overstated. In the short term, New York City regulations requiring building boilers to convert from No. 6 and No. 4 heating oil to a less polluting fuel, and Williams/Transco claims that this will continue to encourage conversions to natural gas. However, even if every boiler so affected were to convert to natural gas, this would only raise demand by 6% - and many of these are in Con Ed’s service area, not National Grid’s. Moreover, NYC is moving ahead with plans to mandate building retrofits to improve energy efficiency. In addition, New York State is now encouraging the conversion of fossil fuel heating systems to ground-source heat pumps, a development particularly relevant to areas with stand-alone homes and commercial buildings like much of Staten Island, Brooklyn, Queens, and Long Island. All of these factors translate into only a modest increase in demand for natural gas, if at all.
- There is no proof that converting from dirty oils to natural gas provides climate benefits, since even small amounts of methane leakage (which exists in all natural gas pipelines) erodes the benefits of switching from oil to natural gas.

Source: The greenhouse gas impacts of proposed pipeline buildout in New York. (28 February 2018). PSE Healthy Energy. **Accessed at:**
<https://earthworks.org/cms/assets/uploads/2018/02/NY-Pipelines-PSE-TECHNICAL-REPORT.pdf>

- NESE is not needed to replace the most polluting No.6 fuel oil as they originally claimed. The No.6 oil furnaces in NYC have already been removed as part of the NYC DEP OneNYC goals of an 80 percent reduction in greenhouse gas emissions by 2050. Accessed at: <https://www1.nyc.gov/office-of-the-mayor/news/152-16/mayor-de-blasio-dep-that-all-5-300-buildings-have-discontinued-use-most-polluting>
- Despite threats of moratoriums on new gas hookups in New York and the inaccurate assertions of Williams/Transco that the natural gas is needed in New York and would reduce greenhouse gases, studies, Executive Orders and other legislation have shown that both states are committed to addressing the threats to the economy, health, safety and well-being of their environments and people by investing in plans to decrease fossil fuel use and increase use of clean, renewable energy.
- In the notes from a 6/20/19 meeting with Williams/Transco, NJDEP and others, it is noted that National Grid claimed they would need to move on to other options if they did not get the gas from NESE by December 2020.
- The questionable need for the gas in New York was documented in the following reports that have already been submitted to NJDEP. Furthermore, the New York City Council questioned the need for NESE in a recently adopted Resolution opposing the Project – See: Resolution No. 0845, New York City Council, **available at**

<https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=3913765&GUID=E13F1BA3-7EB8-420F-BDEE-FB142E95BE4C&Options=&Search=>

Aucott, Michael. (10 May 2018). Report by M. Aucott of Environmental Science and Energy Consulting to EELC that was submitted to FERC on 5/14/18 as Exhibit B. For CP17-101, see FERC Accession No. 20180514-6168(32885359) – see *pages 3-6 of the report*.

Mattei, Suzanne. (19 March 2019). False Demand: The case against the Williams fracked gas pipeline. 350.org. **Available at:**
http://350.org/wp-content/uploads/2019/03/Stop_Williams_False_Demand.pdf

- Many studies (including Skipping Stone, "Analysis of Regional Pipeline System's Ability to Deliver Sufficient Quantities of Natural Gas During Prolonged and Extreme Cold Weather (Winter 2017-2018)") indicate that any issues the city might have with insufficient gas supply (and thus the ability to convert boilers more quickly) stem from the distribution networks within the city, not with the amount of gas available to them via pipelines like the Williams NESE. To claim that Williams/Transco's NESE will help to mitigate climate change and help NYC meet its emissions goals by expediting boiler conversions is thus highly misleading, since Williams/Transco's NESE will have little to do with those conversions. Even if it did, its contributions would be minuscule—particularly compared to the damages that will be done by the overall warming produced over the decades-long, methane-releasing lifespan of this pipeline.

Though the NJDEP is not required to **determine if there is a need for the gas in New York**, misleading information is being published that should not sway decisions about meeting the regulations for NJ's Freshwater Wetlands Act Protection Rules.

On June 11, 2019, the consulting firm M.J. Bradley & Associates published a report commissioned by National Grid that claims that building the NESE would be better for the climate than if it were not built. National Grid is the sole customer for the gas that would flow through the NESE pipeline, having signed a 15-year contract. The Bradley report compares the release of greenhouse gases (GHG) with and without the construction of the NESE for ten years, from 2020 to 2030. It claims to take all components into consideration: the production and distribution of fuel, as well as its transformation into energy. The report concludes that building the NESE would yield 32-37% less GHG emissions over 10 years than would be emitted if the pipeline were not built.

Source: M.J. Bradley & Associates. (11 June 2019). Life Cycle Analysis of the Northeast Supply Enhancement Project. **Accessed at:** <https://www.mjbradley.com/reports/life-cycle-analysis-northeast-supply-enhancement-project> or https://www.mjbradley.com/sites/default/files/MJBA_NESE_LCA_06112019.pdf

HOWEVER ...

The report systematically underestimates the climate impacts of natural gas and the pipeline in general, relying on misleading assumptions and omitted and incorrect data to make its claims.

- **The report underestimates the climate impact of the NESE by using the wrong calculation for methane.** The gas that would flow through this pipeline is primarily methane, and methane is an extremely potent greenhouse gas (GHG). Notably, methane is particularly potent when it first reaches the atmosphere. In the first twenty years after its release, it is 86 times more potent a greenhouse (heat-trapping) gas than carbon dioxide. A hundred years after its release, methane's potency declines to roughly 34 times as powerful as carbon dioxide. The Bradley report recognizes this, but its calculations of this 10-year period use the 100-year potency of methane instead of the 20-year figure. Since methane virtually disappears from the atmosphere after twelve years, and since there is widespread agreement that we have only until 2030 to make the changes that will prevent a two degree Celsius elevation in global mean temperature (or worse), the 20-year figure more accurately measures these effects in the first decade of the proposed pipeline's use. The Bradley report thus seriously underestimates the impact of methane as a greenhouse gas.
- **The report chose to largely ignore the most recent research on "upstream" methane emissions despite expert advice.** The authors had available to them research from the Environmental Defense Fund that shows that upstream contributions to global heating, i.e. the methane released into the atmosphere from fracked wells, compressor stations, and long-distance pipelines, are 24% higher than the contributions reported by industry to the Department of Energy. The Bradley report buried this alternative calculation in the appendix. Moreover,

Professor Robert Howarth of Cornell has recently published evidence that the upstream leakage of natural gas is on the order of 12%, not the 3% figure used by the EPA.

- **The Bradley report may well underestimate the climate impact because it relies on data furnished by National Grid to estimate how much gas is lost through leaks from local distribution networks.** This data is not publicly available but is likely based on whatever large leaks National Grid has responded to. In NYC, half of the distribution pipelines under the streets are more than 50 years old and many of them are made of cast iron or other corrodible material. While large leaks can be detected by their odor, and are always addressed because of the risks to the public, the detection of moderate and small leaks requires specialty equipment. In 2014, the Environmental Defense Fund, Google Street View, and Colorado State University teamed up to map methane emissions on every street on Staten Island. They found an average of one leak per mile in that borough. These were overwhelmingly all previously undetected moderate and small leaks. The study “conservatively” estimated that they added up to 1,000 tons of methane per year seeping from the local distribution system into the atmosphere, a significant driver of climate change. The NYC City Council has recently recognized the need for such complete and systematic surveys of methane leaks in all boroughs. Data that only takes large leaks seriously underestimates the GHG emissions from a distribution system.
- **The report does not acknowledge the emissions impact of the pipeline construction itself.** The NYSDEC estimates that construction would generate 99,781 tons of carbon dioxide equivalent (CO₂e) emissions (the equivalent of burning 50,000 tons of coal). In addition, National Grid says that a major purpose of the NESE would be to serve new building construction in the region, which may require new distribution pipelines. This is also not accounted for in the report.
- Having underestimated the GHG emissions that would stem from the construction of the NESE, the report overestimates the GHG emissions that would stem from not building it.
- **The report overestimates the emissions it predicts for the “No NESE” path by erroneously including No.4 heating oil in its calculations.** The report mentions, correctly, that NYC regulations require that the use of No.4 heating oil be phased out by 2030. But a scrutiny of the chart where the authors show their calculations demonstrates that they assumed that the use of No.4 oil will continue and indeed *rise* through 2030, thus bolstering their claim that the “No NESE” option leads to a worse climate outcome.
- **The report also overestimates emissions from the “No NESE” path by failing to mention the fact that, when combined with biodiesel, emissions from No.2 oil are comparable to those of gas.** In New York City, all public and private buildings burning No.2 oil will be required to use a blend of at least 10% biodiesel by 2025. The blending of No. 2 oil with biodiesel substantially improves emissions.
- A major contribution to the overestimation of emissions from the “No NESE” path are **flawed assumptions about electricity’s contribution to GHG emissions.** The report assumes that without NESE, New Yorkers will use more electricity, which is entirely possible (and, in fact, desirable from a climate perspective.) But the study uses 2018 data on emissions from local power plants as if those emissions would remain constant through 2030. The report acknowledges that NYS and NYC are currently working on significant renewable energy projects such as offshore wind, more solar installations, and battery storage that will generate no emissions, as well as mandating energy efficiency that will decrease demand. But the report dismisses this work as “uncertainties,” thus allowing it to find a greater climate impact for the “No NESE” option.

The report undercuts its own agenda by showing the alarming global heating potential of the use of more methane.

- In the main body of the Bradley report text, it is noted that the GHG emissions attributable to the increased use of gas if NESE were to be built shows an increase in emissions from roughly 125,000 metric tons of carbon dioxide-equivalent in 2020 to an astonishing 1,270,000 metric tons by 2030. Using the EDF calculations, building the NESE would generate an even more stunning 1,318,000 metric tons of carbon-dioxide-equivalent by 2030.
- The extraction, transportation, and burning of gas is currently responsible for 20% of the contribution to fueling the climate crisis. The use of fossil fuel in all its forms - coal, petroleum, gas - needs to decline rapidly if we are to meet the Paris Agreement target of less than 2 degrees centigrade (3.6° F) of global heating by 2100.
- Note, too, that the NESE pipeline is intended to last 50-60 years, that is, until 2070 or 2080. The Bradley report only considers the first ten years of the life of the pipeline although National Grid has signed a fifteen-year contract for this gas. The graphs of GHG emissions, whether using the DoE-based figures or the EDF-based figures, shows a

steady rise in emissions, which leaves the question open about how serious the impact of this pipeline would be in the years following 2030.

The report tries to claim that National Grid is aligned with NYS and NYC climate goals but has to slant its presentation in order to do so while presenting completely contradictory information on heat pumps.

- The report devotes a full page to describing NYS and NYC's climate plans. It says that the NESE "can help meet these goals . . . by allowing for continued oil-to-gas conversions and preventing new construction from relying on heating oil." This echoes National Grid's major public relations claim that "natural gas is clean energy." But it is not clean energy - it is the powerful GHG methane, whose climate impacts the report grossly underestimates.
- As for heat in new buildings or in buildings converting from reliance on fossil fuels, the future lies with heat pump technology. Currently, New York State is focusing on supporting the adoption of air source and ground source heat pumps by small residential buildings. Its goal is to have this technology heat *half* these buildings by 2025. Builders of new homes no longer have to choose between oil and gas; heat pumps are the better option. A state analysis of and program for larger buildings, both multifamily and residential, is in development.
- **National Grid's emphasis in this report on oil to gas conversions also exaggerates the likelihood of buildings that currently heat with oil converting to gas.** The experience of the last ten years in NYC has shown that owners of boilers with No.6 oil often chose the cheaper option of converting to No.4, rather than buying a new gas boiler. There are less than 450 No.4 oil boilers in National Grid's service area, so the market for converting them to gas is similarly likely to be small.
- National Grid also seeks to present itself as a company with a plan to address climate change, but has to omit key policies to do so. This report devotes a full page to National Grid's "80 x 50 Pathways" plan. In it, National Grid says, for example, that it aims for 28% of residents in its American service areas to have heat pumps for space heating by 2030. In areas where National Grid supplies electricity, it makes business sense for National Grid to encourage heat pumps, as adopters would remain or become its customers. And, indeed, National Grid is encouraging heat pump adoption in Rhode Island. But National Grid is not encouraging heat pump adoption in NYC or on Long Island since it only provides gas service there and would lose customers as a result of such conversions. Consequently, the report is completely contradictory in its assessment of heat pumps. In order to make the case that the NESE pipeline is the best climate solution, it frames heat pumps in our area as part of the problem even as it touts them as the solution in the "Pathways" plan.

Sources:

For the NYSDEC's concern with climate change: Notice of Denial of Water Quality Certification, May 15, 2019. <https://www.dec.ny.gov/press/117017.html>

The report: M.J. Bradley & Associates. (11 June 2019). "Life Cycle Analysis of the Northeast Supply Enhancement Project", <https://www.mjbradley.com/reports/life-cycle-analysis-northeast-supply-enhancement-project>.

Recognition of difference in potency: Bradley, "Life Cycle", p. A-11 (though the table has numbers reversed, presumably a typo); for the report's use of 100-year Global Warming Potential in its calculations: see graph description, p. 7; for the importance of using the 20-year time scale, see: Robert Howarth, "Methane emissions and climatic warming risk from hydraulic fracturing and shale gas development: implications for policy," *Energy and Emission Control Technologies*, 2015: 3, p. 45.

Decision to use the DoE's data: A-4; for higher upstream emissions: Howarth, "Methane emissions," p. 49.

Reliance on National Grid Data for estimates of leaks: Bradley, "Life Cycle," p. A-4; the Staten Island study can be found by following links from this site: <https://www.edf.org/climate/methanemaps>.

For climate impact of NESE construction: Karen Gaidasz, "DEC public comments on FERC, NESE Draft Environmental Impact Statement", May 14, 2018.

Charts showing methodology that has New Yorkers using more #4 oil in 2030 than they use in 2020: Bradley, "Life Cycle", Appendix B.

For #2 blended with biodiesel's emissions compared to gas: Suzanne Mattei, "False Demand: The Case Against the Williams Fracked Gas Pipeline," 350.org, March 2019, p. 10-11. <https://350.org/press-release/stop-williams-false-demand/>

For the assumption that 2018 power plant emissions will remain constant through 2030: Bradley, "Life Cycle," p. A-7.

For volume of GHG emissions if NESE were to be built: Bradley, "Life Cycle," p. 7; graph of GHG emissions using the EDF "upstream" calculation: A-5

For the global carbon budget and Paris Agreement targets: <https://www.globalcarbonproject.org/>

For National Grid's 15-year contract: Bradley, "Life Cycle", pg. 4.

National Grid's claim that NESE will help with NYS/NYC climate goals: Bradley, "Life Cycle," p. 11.

For NYS support for heat pumps: <https://www.nyserda.ny.gov/ny/pumped>; see also: NYSERDA, "New Efficiency: New York--Analysis of Residential Heat Pump Potential and Economics," January 2019, <https://www.google.com/search?client=firefox-b-1-d&q=nyserda+heat+pump+report>

For the low conversion rate of #6 boilers and the small number of #4 boilers: Mattei, "False Demand," 9-10.

National Grid's "80 x 50 Pathways", <https://news.nationalgridus.com/wp-content/uploads/2018/06/80x50-White-Paper-FINAL.pdf>; Bradley, "Life Cycle," p. 12.; an example of National Grid's support for heat pumps in Rhode Island, a service area where National Grid is both the gas and the electric utility: <https://www.nationalgridus.com/RI-Mini-split-Heat-Pump>