

There is no real consideration of climate crisis-mitigating renewable alternatives by the Federal or State agencies.

Additionally, the impact of the NESE Project on climate change effects should be considered in light of the threats facing New Jersey as well as the State's goals to reduce greenhouse gases.

New Jersey and New York are moving quickly to establish our states as leaders in clean renewable energy for use and jobs by enacting ambitious clean energy goals that will lower demand for natural gas by increasing renewables, energy storage, and energy efficiency. The NESE Project threatens attainment of those goals. Building and operating the NESE Project would guarantee increased GHG and other dangerous, highly polluting emissions and increase our region's dependence on fossil fuels well into the future.

Under the Murphy administration, New Jersey has joined the U.S. Climate Alliance and is working to return to the Regional Greenhouse Gas Initiative (RGGI). There is funding for a workforce initiative to expand clean energy job training and workforce development. There are goals for generating 3,500 MW of offshore wind energy by 2030 as well as energy storage of 600 MW by 2021 and 2,000 MW by 2030. A contract was awarded in June 2019 for 1,100 MW of offshore wind. There are requirements for utility energy efficiency, plans to support community solar, and a position favoring a ban on all fracking-related activities in the Delaware River Basin. In June 2019, the Draft Energy Master Plan was published. On July 23, 2019, Governor Murphy signed the Global Warming Response Act (GWRA).

According to a 7/24/19 article by Ed Potosnak, Executive Director of New Jersey League of Conservation Voters, **accessed at** <https://www.nj.com/opinion/2019/07/new-legislation-will-help-nj-meet-its-aggressive-clean-energy-goals.html>, the amendments to the GWRA require NJDEP and other agencies to establish interim benchmarks and to take sensible steps forward to achieve our 2050 goals. It also now requires New Jersey to reduce short-lived climate pollutants like methane (the primary component of natural gas), which can have a dramatic warming effect much greater than carbon dioxide. Within 12 months, DEP will publish a report detailing measures to accomplish the economy-wide goal of the GWRA, and 18 months thereafter, move forward with regulating greenhouse gas emissions to reach our goal.

NESE and Impacts in NJ – Severe Weather Events and Other Harmful Consequences

Climate change is harming and will continue to harm New Jersey and New York waters.

- The NY/NJ Harbor and Estuary Program (HEP), established under the Clean Water Act, recently issued a report noting that climate change will impair the ability of the program to meet its goals, which means failing to maintain best usages of New Jersey and New York waters as required by 401 Water Quality Certification.

Source: <https://www.hudsonriver.org/NYNJHEPClimateVulnerability.pdf>

- The HEP report found 17 risks to the NY/NJ estuary related to climate change. These will be caused by climate change-related sea level rise, increased precipitation, extreme weather events, temperature increases, increased drought, and increased acidification of the water.
- Kate Boicourt, co-author of the HEP report and director of resilience at Waterfront Alliance, stated: “We’re already having trouble meeting water quality standards. Climate change will only exacerbate this challenge, with increasing annual precipitation and record-setting storms adding stress to our aging infrastructure, putting both people and habitat at risk.”

Construction and operation of the compressor station and pipelines that are part of the NESE Project will increase greenhouse gases in New Jersey that lead to significant weather events and other harmful effects. Compressor stations and gas pipelines leak methane – the most potent short-term greenhouse gas.

New Jersey is already in an ozone-compromised region. Though the Marcellus Shale region has a lot of gas, New Jersey should not bear the safety and health risks of company profits to become the Pipeline State.

- Climate change-fueled natural disasters have led to exceedingly high costs, and these costs don't even begin to consider the costs to human health, both physical and psychological.
- In addition to threats to health from the toxic emissions from the gas-fired compressor station units, the NESE Project's impact on climate change would also harm our health, security and economy from leaking and

burning of natural gas - more significant flooding, hurricanes, heat waves, air and water temperature increases, other health risks and the likelihood of infectious diseases and stress, and displacement.

- Extreme weather events not only result in damage to property, businesses, infrastructure and the environment, but also trigger stress and depression in people and are associated with costly health risks like water borne infections as well as increases in dampness and mold that trigger more allergies and respiratory disorders. Milder, shorter winters have increased the population of disease-carrying insects in our area. Longer and wetter seasons lead to more asthma, allergies and respiratory disorders. Flooding events are a pathway for pollution and bacteria to enter our waterways.
- As the climate warms and atmospheric carbon dioxide increases, the amount and potency of the allergens like ragweed and airborne fungi increases, with significant consequences for exacerbating asthma and other forms of respiratory distress.
- Other consequences could include higher cooling costs and a heightened risk of heat stroke and other heat-related health impacts.
- Warmer temperatures will also exacerbate the risk of vector-borne diseases like Lyme and West Nile.

Remember Superstorm Sandy

New Jersey has suffered the effects of severe weather events like Superstorm Sandy and many rain bombs, and the NESE Project would make these worse since the transportation and use of natural gas includes planned and unplanned leaks of methane. Though we did not have a hurricane in 2018, that was the wettest year on record in New Jersey, and fossil fuel use contributes to this.

Many of us remember that Superstorm Sandy destroyed or damaged over 30,000 properties, cost over \$36 billion, and resulted in 37 deaths in NJ alone. Six years after Superstorm Sandy, over 1,000 NJ families were still not back in their homes. Inland flooding from Hurricanes Floyd and Irene showed that it's not just shore towns that are threatened by hurricanes.

In New York, 43 people lost their lives as a result of Superstorm Sandy, transportation systems and Wall Street were closed, homes/businesses were flooded or destroyed by fire, and economic losses were estimated to be \$19 billion with an estimated \$32.8 billion required for restoration.

Greenhouse Gas Emissions

According to NOAA / NASA, 2018 was the 4th warmest year on record (since 1880). "2018 is yet again an extremely warm year on top of a long-term global warming trend," said GISS Director Gavin Schmidt.

Since the 1880s, the average global surface temperature has risen about 2 degrees Fahrenheit (1 degree Celsius).

This warming has been driven in large part by increased emissions into the atmosphere of carbon dioxide and other greenhouse gases caused by human activities, according to Schmidt.

Accessed at: <https://www.nasa.gov/press-release/2018-fourth-warmest-year-in-continued-warming-trend-according-to-nasa-noaa>

In 2016, the average global temperature was 1.69 degrees Fahrenheit above the average temperature for the 20th century, and the *rate* of change has nearly doubled in the past 50 years. A major driver of this rapid rise in global temperatures and the increasing instability of our climate is the use of fossil fuels. Of the fossil fuels we use, methane - the primary constituent of the gas that the NESE would transport - is 84 times more powerful a greenhouse gas in the first twenty years after its release than is the more commonly known greenhouse gas, carbon dioxide. If we are going to prevent the worst-case climate change scenarios, and if we are going to hold the increase in global temperature well below 2 degrees Celsius (3.6 degrees Fahrenheit), we must transition rapidly away from fossil fuels and build our lives around renewable energy.

Impacts from increases in greenhouse gases include, but are not limited to:

- climate change's effect on more frequent and severe weather events and rising sea levels,
- higher rates of flooding & associated diseases, heat-related incidents, mold, and emergency room visits, and

- economic impacts (fishing & tourism industries, lost time at school or work, and impairments to habitats & environment that would affect marinelife)

NESE’s Applications & reviews clearly omitted assessing actual greenhouse gas (GHG) emissions, both initially and cumulatively, for the impact on Central New Jersey from Compressor Station 206 (CS206).

Yearly Emission Estimates for Compressor Station 206	
Greenhouse Gas Equivalent (CO ₂ e)	136,143 tons per year
• Methane (CH ₄ , most impacting GHG)	more than 33.41 tons every year *
• Carbon dioxide (CO ₂)	claimed est. 130,943 tons every year
• Nitrous oxide (N ₂ O)	claimed est. 3.29 tons every year

* Note: Any accounting for fugitive emissions (leaks) is likely grossly underestimated.

The threshold for comparing this to the Prevention of Significant Deterioration (PSD) threshold of 75,000 tons per year of emissions of 132,720 tons of Greenhouse Gas Equivalent per year (as noted in the application) was not triggered because CS206 was not considered a major source for the NJDEP.

- **Exhaust Temperature & Velocity:** Compressor Station 206 would have two smokestacks, each emitting exhaust at a rate of 210,000 cubic feet per minute at a temperature greater than 849° Fahrenheit. There were no available studies of the impact of exhaust at this velocity, amount or temperature on the environment.
- **It’s old technology** and, as confirmed by the manufacturer, combustion exhaust temperature increases at lower than 100% load along with emitting more unburned fuel and chemical byproducts.

Reported emissions estimates for the Solar Mars 100 turbines proposed for Compressor Station 206 are not warranted by the turbine manufacturer, and they were not validated by FERC or NJDEP.

- As stated by the manufacturer of the Solar Mars 100 turbines - “non-warranted emissions of SO₂, PM_{10/2.5}, VOC, and formaldehyde.”
- VOC emissions are not warranted due to erratic operation turbine as confirmed by: “Any emissions warranty is applicable only for steady-state conditions.” This actually refers to all emissions, and changes in turbine load produce erratic chemical emissions.

Williams/Transco noted that they have never used Selective Catalytic Reduction (SCR) technology on a Solar Mars 100 before, so the impact on pollution reduction cannot be adequately assessed.

- In the application to NJDEP for a Freshwater Wetlands Individual Permit (June 12, 2019), the Factsheet document (page 14) notes: “Compressor Station 206 will be Transco’s first natural gas transmission compressor station to utilize SCR on the turbine driven compressors.”

Northeast Supply Enhancement Project - Application to FERC – 3/27/17 (Resource Report 9) FERC Accession No. 20170327-5102(32053902) Pages 9-30 & 9-31						
Table 9.2-14: Operational Potential to Emit – Tons per Year (tpy) – Compressor Station 206						
Pollutant	Gas Compressor Turbines (tpy) ^a	Emergency Generator	Condensate Tank	Fugitive ^b	Blowdown	Total
CO	56.86	0.52	N/A	N/A	N/A	57.38
NO _x	22.74	0.26	N/A	N/A	N/A	23.00
VOC	8.35	0.13	1.00	0.43	0.26	10.17
PM ₁₀	18.94	0.004	N/A	N/A	N/A	18.94
PM _{2.5}	18.94	0.004	N/A	N/A	N/A	18.94
SO ₂	3.07	0.0002	N/A	N/A	N/A	3.07
GHG as CO₂e	132,720	53	N/A	456	2,914	136,143*
Ammonia	14.79	0.00	N/A	0.00	N/A	14.79

Formaldehyde (largest single HAP emitted from gas turbines)	0.33	0.02	N/A	0.00	0.00	0.35
Total HAPs	0.68	0.02	N/A	0.01	0.00	0.71

^a Includes annual PTE for two gas turbines in normal operational mode, sub-zero mode and startup/shutdown mode
^b Fugitive emissions from pipeline valves and flanges within Compressor Station 206.

Key:

CO	=	Carbon monoxide
CO ₂ e	=	Carbon dioxide equivalent
GHG	=	Greenhouse gas
HAPs	=	Hazardous air pollutants
N/A	=	Not applicable – pollutant not produced by this source
NO _x	=	Nitrogen oxide
PM ₁₀	=	Particulate matter less than or equal to 10 microns in diameter
PM _{2.5}	=	Particulate matter less than or equal to 2.5 microns in diameter
PSD	=	Prevention of significant deterioration
SO ₂	=	Sulfur dioxide
tpy	=	Tons per year
VOC	=	Volatile organic compound

* In the FEIS (1/25/19), FERC's Table 4.10.1-5 listed the total GHG as CO₂e as 140,935 ton per year.

In the DEIS, it is also noted that the Potential to Emit for Carbon Dioxide (CO₂) is 130,943 tons per year, based on continuous operation of 8,760 hours per year (365 days/year). (Table 3.5-2, page 3-41)

Methane is the main component of natural gas, and its impact on the climate is more severe than that of carbon dioxide.

It is argued that methane is a short-lived pollutant and therefore should be treated differently. However, "short-lived" is relative. Methane stays in the atmosphere for an average of nine years, which, according to the latest IPCC report, is about the timeframe humanity has to stabilize greenhouse gas emissions in order to avoid the worst impacts of global climate change. Additionally, methane is a much more potent greenhouse gas than CO₂, producing 84 times the global warming potential (GWP) of an equivalent weight of CO₂ over a 20-year period.

Even over CO₂'s average 100-year lifetime in the atmosphere, methane yields 25 to 32 times the global warming potential of CO₂. Nitrous oxide is worse still, creating 298 times the global warming potential of CO₂ over a 100-year period, as well as causing depletion of stratospheric ozone, leading to more sun burns and skin cancer.

In short, methane and nitrous oxide are much worse greenhouse gases than CO₂, especially when we consider the speed with which we need to act. CO₂ is only the most damaging greenhouse gas emission because there is so much more of it emitted worldwide.

Also to note - Natural gas is not the "transition" fuel that some think it is. It emits half the amount of carbon as coal, but if as little as 3.5 percent of its methane is released, it pollutes worse than coal. Also - data on methane release are scarce due to weaknesses in monitoring and reporting requirements.

Methane Leaks are not accounted for in the NESE application documents.

- Methane leaks from compressor station + pipelines (unintentional equipment malfunctions & intentional releases from valves) are not monitored carefully, or reported. Without use of infrared camera surveying / optical gas imaging / special sensors, the real amount will likely never be known. EPA estimates a 1.4% leak rate, but a recent actual study found that the methane leak rate is 2.3%.
- A new study, [published on June 21, 2018 in the journal Science](#), puts the rate of methane emissions from domestic oil and gas operations at 2.3 percent of total production per year, which is 60 percent higher than the current estimate from the Environmental Protection Agency. That might seem like a small fraction of the total, but it represents an estimated 13 million metric tons lost each year, or enough natural gas to fuel 10 million homes. It would be worth an estimated \$2 billion. This much leaked methane would have roughly the same climate impact in the short-term as emissions from all U.S. coal-fired power plants, the authors found.

Source: R. A. Alvarez et al., Science 10.1126/science.aar7204 (2018 June 21). Assessment of methane emissions from the U.S. oil and gas supply chain. **Accessed at:**
<http://science.sciencemag.org/content/early/2018/06/20/science.aar7204/tab-pdf>

- [An earlier EDF study](#) showed that a methane leak rate of greater than 3 percent would result in no immediate climate benefits from retiring coal-fired power plants in favor of natural gas power plants.

Source: Ramón A. Alvarez, Stephen W. Pacala, James J. Winebrake, William L. Chameides, and Steven P. Hamburg. Greater focus needed on methane leakage from natural gas infrastructure. PNAS April 24, 2012 109 (17) 6435-6440. **Accessed at:** <https://doi.org/10.1073/pnas.1202407109>

- A 2014 study by EDF and Google used Google’s Street View mapping cars that were fitted with methane sensing technology that traveled roads to document and map methane leaks on Staten Island. This revealed one leak every mile in this exclusively National Grid distribution area. As reported by them, over one-quarter of National Grid’s pipelines here were cast iron or other corrosive and leak-prone materials, and over one-half of their pipelines were 50+ years old. This study took place between January and April 2014. **Accessed at:** <https://www.edf.org/climate/methanemaps/city-snapshots/staten-island>
- There should be an emphasis on measuring methane emissions (not just carbon dioxide) in our state’s efforts to reduce greenhouse gas.
- We are in an ozone nonattainment zone, and methane leaks contribute to ozone.

Methane leakage has been underestimated in reports by industry.

See, for example:

R. A. Alvarez et al., Science 10.1126/science.aar7204 (2018 June 21). Assessment of methane emissions from the U.S. oil and gas supply chain. Accessed at: <http://science.sciencemag.org/content/early/2018/06/20/science.aar7204/tab-pdf>

Voiland, A. (2016 March 8). Methane matters: Scientists work to quantify the effects of a potent greenhouse gas. Accessed at: <https://earthobservatory.nasa.gov/Features/MethaneMatters/printall.php>

Impacts of increased greenhouse gas emissions were not accounted for by any agency reviewing NESE’s application and environmental impact documents.

- NESE would significantly worsen climate change impacts in the region due to greenhouse gas emissions from drilling, producing, transporting and burning of natural gas. It is apparent from recent global and U.S. reports, listed below, that consideration of impacts from greenhouse gases is urgent.
- Recent reports have clearly shown how emissions from natural gas-fired compressors are dangerous, toxic and highly damaging to the environment and our health, and impacts from the NESE Project were not identified or independently examined by FERC as long-term or cumulative health impacts in the EISs.
- FERC acknowledged the **specific vulnerability of New York City to climate change** by listing projected changes on page 4-388 in the FEIS for the NESE Project (1/25/19):

	By 2020	By 2050
average temperature would increase from 54 °F	to 57 °F	To 61 °F
Coastal flooding would increase by up to	1.5 percent	3.6 percent
100-year flood heights		reaching 13.8 feet
number of days per year with rainfall exceeding 2 inches would increase from 3 to	up to 5 days	Up to 4 days
Precipitation would increase	up to 10 percent	up to 13 percent
Sea level rise would increase by as much as	10 inches	30 inches

And yet, FERC refuses to connect the NESE Project to the risk of climate change even though they note, in the FEIS, that “Construction and operation emissions from the NESE Project would increase the atmospheric concentration of GHGs, in combination with past and future emissions from all other sources, and contribute incrementally to future climate change impacts.” FERC lists many documented impacts of climate change in the FEIS. However, in the FEIS, FERC claims that, “there is no widely accepted standard, per international, federal, or state policy, or as a matter of physical science, to determine the significance of the Project’s GHG emissions.” In other words, FERC has declined to weigh climate change in the balance when deciding whether or not to grant Williams/Transco a certificate to proceed.

FERC's claim that there is no standard for determining a project's greenhouse gas emissions is false. Three peer-reviewed, well-cited Integrated Assessments Models (IAMs) for determining the social cost of carbon exist. After the DEIS was released, FERC was informed about these models by a detailed report co-authored by leading environmental and legal authorities. Moreover, the report also made it clear that FERC has a legal obligation to weigh the impact of climate change under the National Environmental Policy Act (NEPA). The report stresses that the "uncertainty about the full effects of climate change raises the social cost of greenhouse gases and warrants more stringent climate policy." There are methods for determining the impact of greenhouse gas emissions, and FERC must use them when weighing whether or not to permit a project like NESE to go forward. Indeed, in *Sierra Club v. FERC*, a recent D.C. Circuit Court affirmed that FERC *must* evaluate the impacts of greenhouse gas emission when assessing a project.

Source: FERC Accession Nos. 20180514-6016(32884460) & (32884461) by New York University School of Law's Institute for Policy Integrity with the Environmental Defense Fund, National Resources Defense Council, Sierra Club, and the Union of Concerned Scientists.

The cost of weather/climate-related disasters is mostly borne by taxpayers and people who are directly impacted but not involved in decision-making policies about the production and transportation of carbon-intensive goods.

According to the National Oceanic and Atmospheric Administration (NOAA), economic costs in the U.S. from the 16 weather/climate-related disasters in 2017 were \$309.5 billion. This exceeded the previous record by over \$100 billion - For 2005, from Hurricanes Dennis, Katrina, Rita & William, CPI-adjusted costs to present dollars were \$219.2 billion. The number of weather/climate-related disasters in the U.S. in 2017 tied the number from 2011, but the actual isolated events in 2017 were arguably more because wildfires were counted as regional-scale, seasonal events and not as multiple isolated events.

In 2018, there were 14 weather and climate disaster events with losses exceeding \$1 billion each across the United States. These events included 1 drought event, 8 severe storm events, 2 tropical cyclone events, 1 wildfire event, and 2 winter storm events. Overall, these events resulted in the deaths of 247 people and had significant economic effects on the areas impacted. The 1980–2018 annual average is 6.2 events (CPI-adjusted); the annual average for the most recent 5 years (2014–2018) is 12.6 events (CPI-adjusted).

During 2018, the U.S. experienced an active year of billion-dollar disaster events including the 4th highest total number of events, only behind the years 2017, 2011 and 2016. In 2018, the U.S. also experienced the 4th highest total costs (\$91 billion) only behind the years 2017, 2005 and 2012.

Source: NOAA National Centers for Environmental Information (NCEI) U.S. Billion-Dollar Weather and Climate Disasters (2019). <https://www.ncdc.noaa.gov/billions/>

In New York, the situation is critical. New York has experienced a foot (30.48cm) of sea-level rise since 1900, due to expansion of warming ocean water and glacial melt. Additionally, New York is locked into additional sea-level rise for centuries to come because of heat-trapping greenhouse gases already in the atmosphere. Increased CO₂ emissions will only expedite and exacerbate escalating sea level rise. Sea-level rise impacts include: inundation of low-lying areas and the erosion of beaches and bluffs, saltwater infiltration of surface waters and aquifers as well as the possible compromise of low-lying sewage, wastewater, transportation, communication, and energy infrastructure and systems.

Greenhouse Gas Emissions - Relevant Reports:

- October 7, 2018 - Comprehensive assessment by the Intergovernmental Panel on Climate Change (IPCC) released in Incheon, South Korea. **Accessed at:** <https://www.ipcc.ch/report/sr15/>

IPCC, 2018: *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. In Press.

- November 23, 2018 - A new federal report finds that climate change is affecting the natural environment, agriculture, energy production and use, land and water resources, transportation, and human health and welfare across the U.S. and its territories. **Accessed at:** <https://nca2018.globalchange.gov/>

Volume II of the Fourth National Climate Assessment (NCA4), released Nov. 23, 2018 by the United States Global Change Research Program (USGCRP -- <http://www.globalchange.gov/about>), focuses on climate change impacts, risks and adaptations occurring in the U.S. The report contains supporting evidence from 16 national-level topic chapters (e.g., water, oceans, energy, and human health), 10 regional chapters and two chapters that focus on societal responses to climate change. NOAA is one of 13 federal agencies that contributed significantly to the Fourth National Climate Assessment. USGCRP also released the Second State of the Carbon Cycle Report (SOCCR2 -- <https://carbon2018.globalchange.gov/>).

Some Other Relevant Resources & References about Greenhouse Gas Emissions:

The greenhouse gas impacts of proposed natural gas pipeline buildout in New York – PSE for Earthworks (February 2018). **Accessed at:** <https://www.psehealthyenergy.org/wp-content/uploads/2018/02/NY.Pipelines-1.pdf>

Ridlington, E. (Frontier Group) and Madsen, T. (Environment America Research & Policy Center). (Spring 2017) Our Health at Risk – Why are millions of Americans still breathing unhealthy air? Environment New Jersey Research & Policy Center. **Accessed at:** <https://environmentnewjersey.org/sites/environment/files/reports/Our%20Health%20at%20Risk%20vNJ%20web.pdf>

Shankman, S. and Horn, P. (3 October 2017) The most powerful evidence climate scientists have of global warming. **Accessed at:** https://insideclimatenews.org/news/03102017/infographic-ocean-heat-powerful-climate-change-evidence-global-warming?utm_source=Inside+Climate+News&utm_campaign=31b399ba86-Weekly+Newsletter&utm_medium=email&utm_term=0_29c928ffb5-31b399ba86-327817337

NATIONAL SECURITY: Long-Range Emerging Threats Facing the United States As Identified by Federal Agencies. (December 2018) GAO-19-204SP, a report to congressional committees from the US Government Accountability Office. **Accessed at:** <https://www.gao.gov/assets/700/695981.pdf>

When Williams/Transco re-applied on May 17, 2019 to the NYSDEC, it responded that, “without agreeing that this comment is relevant to the Water Quality Certification,” building the NESE would reduce GHG emissions. To make this claim, Williams hypothesized that if all 400,000 dekatherms of the gas delivered through the pipeline in an entire year were burned in boilers that would otherwise burn No.2 fuel oil, 2.80 million metric tons less carbon dioxide equivalents would be emitted in a year.

- **Construction Emissions:** The NYSDEC estimates 99,781 tons of carbon dioxide equivalent (CO₂e) emissions (the equivalent of burning 50,000 tons of coal) resulting from the construction of the NESE project alone.
- **Upstream Emissions:** Gas leakage would contribute substantially to emissions well before the gas is actually burned. Natural gas is mostly methane, a greenhouse gas that, when it leaks, is 86 times more powerful in the short term than CO₂. When just 3.2% of methane leaks—and gas infrastructure is known to leak as much as 11%—methane is as bad for the climate as burning coal.
- Williams/Transco doesn’t account for the fact that all No.2 oil in NYC is mixed with biodiesel by law. This makes the emissions of No.2 oil comparable to gas.
- **In sum: The NESE pipeline would not substantially reduce emissions in New York — a fact corroborated by a recent report by OilChange International. Williams/Transco manipulates the facts by leaving out crucial information about methane leakage and biodiesel that render its claims false.**
- Yet studies show that the energy the pipeline is to provide could easily be met by renewable technologies like ground- and air-source heat pumps, which would drastically reduce emissions and help to reduce the effects of climate change on New York waters.

- Further reductions in gas demand in New York will come from building retrofits as mandated by the recently passed Climate Mobilization Act, which will dramatically cut energy use in big buildings, and is yet another reason the pipeline isn't needed.

Climate change impacts from NESE would threaten the existence of several fragile species already noted to be endangered by the NESE Project.

Hurricane Sandy showed how vulnerable the Bayshore communities are to storms. To remove shellfish communities, which provide a natural and effective way to protect from future storm surges, is irresponsible.

1. **Atlantic Sturgeon:** Warming waters have made it difficult to determine migration windows for the sturgeon, adding to the concerns about construction timing. In addition, a 2013 study noted that "increased salt-water intrusion from the marine environment [into freshwater spawning territory] is likely to occur under predicted scenarios of climate change and sea level rise, markedly constrain[ing] areas of suitable habitat for Atlantic sturgeon."
2. **Winter Flounder:** HEP noted that populations of Winter flounder off the Atlantic coast had declined by as much as 90% due to warming waters. "An increase in winter water temperatures in estuaries supporting winter flounder populations is potentially a critical threat to recruitment, because of increased susceptibility to predation."
3. **Clams:** HEP noted that ocean acidification may make it more difficult for clams and other calcifying species to make their shells and exoskeletons and is a threat to the development of sensitive fish and oyster larvae.

HEP Report Source: <https://www.hudsonriver.org/NYNJHEPClimateVulnerability.pdf>