III.H

Air Quality

1. Regulatory Framework

National Ambient Air Quality Standards

In accordance with the requirements of the Clean Air Act (CAA), as amended in 1990, the US Environmental Protection Agency (USEPA) has promulgated National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for pollutants considered harmful to public health and the environment.

The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of sensitive populations such as sick, children, and elderly populations. Secondary standards set limits to protect public welfare, including protection against decreased visibility and protections against damage to animals, crops, vegetation, and buildings.

The USEPA Office of Air Quality Planning and Standards has set NAAQS for six principal pollutants, which are called "criteria" pollutants. These six pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). The standards are reviewed periodically and may be revised. The State of New York has adopted similar standards as those set by the USEPA, with the exception of sulfur dioxide, particulates, fluorides, and hydrogen sulfide.

The current NAAQS and the form in which they are compared to the monitored levels to determine conformity with the standards for each pollutant is presented in **Table III.H-1**.

Table III.H-1 National Ambient Air Quality Standards

Pollutant		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3 month average	0.15 µg/m^3 (1)	Not to be exceeded
Nitrogen Dioxide (NO_2)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb (2)	Annual Mean
Ozone (O_3)		primary and secondary	8 hours	0.070 ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12.0 µg/m^3	annual mean, averaged over 3 years
		secondary	1 year	15.0 µg/m^3	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m^3	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards are not revoked and remain in effect for designated areas. Additionally, some areas may have certain continuing implementation obligations under the prior revoked 1-hour (1979) and 8-hour (1997) O_3 standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2)any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is an USEPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

In accordance with the CAA Amendments, counties in each state were designated as attainment and non-attainment areas based on conformity with the NAAQS. Attainment areas are regions where ambient concentrations of a pollutant are below the respective NAAQS; non-attainment areas are those where concentrations exceed the NAAQS. Maintenance areas are former non-attainment that were redesignated to attainment but needed to prove the status to the USEPA for 20 years after redesignation. A single area can be in attainment of the standards for some pollutants while being in non-attainment for others.

The Proposed Project is located in Rockland County, which is designated as a moderate non-attainment area for the 2015 8-hour ozone standard and a serious non-attainment area for the 2008 ozone standard as part of the larger New York-Northern New Jersey-Long Island, NY-NJ-CT metropolitan area. The County has been designated a maintenance area for $PM_{2.5}$ (for the 2006 standard) as of April 18, 2014, also as a part of the large metropolitan area. Rockland County is in attainment for all remaining criteria pollutants (CO, PM_{10}, Pb, NO_2, and SO_2).

The Proposed Project is expected to affect mobile source emissions during operation and construction and stationary source HVAC and construction emissions. As a result, carbon monoxide, particulate matter ($PM_{2.5}$ and PM_{10}), and NO_2 are pollutants of concern and potential impacts of these pollutants on the Proposed Project will be evaluated in this section.

Greenhouse Gases

Increased concentrations of greenhouse gases (GHG) change the global climate and result in wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level.

Contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate change. However, certain projects' contribution of GHG emissions should be assessed to determine their consistency with New York State's GHG reduction goals.

The New York State Department of Environmental Conservation (NYSDEC) Guide for Assessing Energy Use and GHG Emissions in an Environmental Impact Statement[1] (NYSDEC EIS GHG Guide) was established to identity the methods and boundaries for the assessment of energy use, GHG emissions, and mitigation measures for an EIS. The NYSDEC EIS GHG Guide does not create new requirements under the State Environmental Quality Review Act (SEQRA), nor does it establish a threshold for the determination of significance under SEQRA.

New York State Energy Plan

The 2015 New York State Energy Plan is "a comprehensive roadmap to build a clean, resilient, and affordable energy system for all New Yorkers." This plan outlined New York State's Reforming the Energy Vision (REV), which aimed to create a stronger and healthier economy by stimulating a vibrant private sector market to provide clean energy solutions to communities and individual customers throughout New York.[2]

The New York State Energy Plan also set forth various initiatives that, along with private sector innovation and investment, would put New York on a path to achieving the following clean energy goals by 2030: a 40 percent reduction in greenhouse gas emissions from 1990 levels; sourcing 50 percent of electricity from renewable energy sources (i.e., solar, wind, hydropower, and biomass); and increasing state-wide energy efficiency by 600 trillion British thermal units (Btus) as compared to 2012 levels. The initiatives are grouped into seven categories, which include: renewable energy, buildings and energy efficiency, clean energy financing, sustainable and resilient communities,

[1] https://www.dec.ny.gov/docs/administration_pdf/eisghgpolicy.pdf

[2] New York State Energy Planning Board. *2015 New York State Energy Plan.* Available at: https://energyplan.ny.gov/. Accessed August 2022.

energy infrastructure modernization, innovation and research and development (R&D), and transportation.

New York State Climate Leadership and Community Protection Act

The New York State Climate Leadership and Community Protection Act (CLCPA) was established in June 2019 to "adopt measures to put the state on a path to reduce statewide greenhouse gas emissions by eighty-five percent by [2050] and net zero emissions in all sectors of the economy."[3] The CLCPA sets new goals for reducing statewide GHG emissions and ultimately aims to achieve net zero GHG emissions by setting emission reduction targets and promoting clean energy.[4] The CLCPA also establishes the Climate Action Council (CAC) to develop strategies to achieve these goals.

The CLCPA also directs the NYSDEC to establish rules and regulations to ensure compliance with statewide emissions reduction limits (40 percent reduction from 1990 emissions levels by 2030, and 85 percent reduction from 1990 emissions levels by 2050). These regulations must include:

> *…legally enforceable emissions limits, performance standards, or measures or other requirements to control emissions from greenhouse gas emissions sources and measures to reduce emissions from greenhouse gas emission sources that have a cumulatively significant impact on statewide greenhouse gas emissions, such as internal combustion vehicles that burn gasoline or diesel fuel and boilers or furnaces that burn oil or natural gas.*

2. Existing Conditions

Monitored Levels

NYSDEC maintains an air quality monitoring system that measures and records concentrations of various air pollutants within the State. These monitoring data are then validated and reported to the USEPA. The USEPA monitoring data site was used to assess the existing air quality levels in the area except for lead. Existing concentrations presented in **Table III.H-2** are in the form of the respective ambient standard as presented in **Table III.H-1**. These concentrations were observed at the monitors (shown on **Figure III.H-1)** as representative of the Project Site.

Rockland County is located in NYSDEC Region 3. The NYSDEC monitor located in Pomona that collects ozone (O_3) concentrations is the only Rockland County monitor reporting to USEPA. The monitor at Pfizer Lab in the New York Botanical Garden is considered representative of the Suffern area. Data obtained from this monitoring location were used to characterize the existing conditions at the Project Site for pollutants (CO, NO_2, $PM_{2.5}$, and SO_2) that are monitored at that location. PM_{10} concentrations that are not observed at the Pfizer monitoring station were collected from the Bronx station at IS52. Lead is monitored only at three locations in New York State and the monitoring location in Wallkill, New York is the closest to the Project Site and more representative, therefore, it

[3] The New York State Senate. *Senate Bill S6599.* Available at: https://www.nysenate.gov/legislation/bills/2019/s6599. Accessed August 2022.

[4] The Natural Resources Defense Council. *Unpacking New York's Big New Climate Bill: A Primer.* Available at: https://www.nrdc.org/experts/miles-farmer/unpacking-new-yorks-big-new-climate-bill-primer-0. Accessed August 2022.

was chosen to represent concentrations of this pollutant. However, the 2021 data for this location is not yet available, therefore, 2018-2020 observations for lead were used to characterize local conditions.

Table III.H-2 represents the existing concentrations monitored in 2019-2021, the most recent full three calendar years of observations. These concentration levels were below all respective pollutant

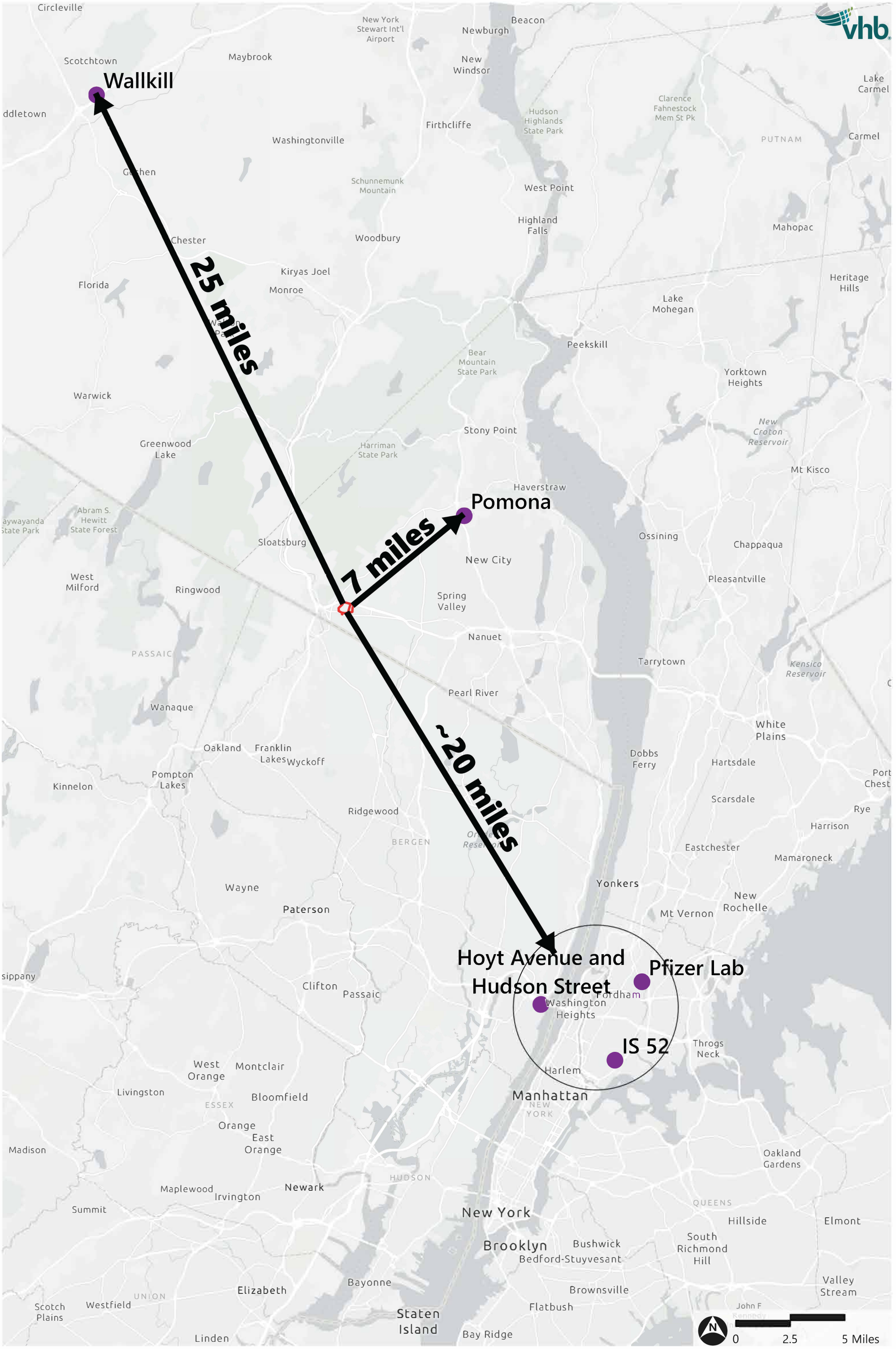


Figure III.H-1
Air Monitoring Stations

standards. Even ozone levels were below the 8-hour ozone standard, despite the fact that Rockland County is part of a larger New York-Northern New Jersey-Long Island, NY-NJ-CT ozone non-attainment area. Concentrations presented in Table III.H-2 constitute fractions of the health-based national ambient standards. This is an indication of good air quality conditions in the area.

Table III.H-2 Representative Existing Concentrations (2019-2021)

Pollutant	Location	Averaging Time	Highest Pollutant Concentration	NAAQS	Existing Concentration vs NAAQS (%)
Carbon Monoxide (CO)	Pfizer Lab	8-Hour	1.3 ppm	9 ppm	14%
	Pfizer Lab	1-Hour	1.9 ppm	35 ppm	5%
Nitrogen Dioxide (NO_2)	Pfizer Lab	Annual	12.6 ppb	53 ppb	24%
	Pfizer Lab	1-Hour	48.5 ppb	100 ppb	49%
Ozone (O_3)	Pomona	8-Hour	0.064 ppm	0.07 ppm	91%
Lead	Wallkill	3 Month	0.01 µg/m³	0.15 µg/m³	7%
Particulate Matter (PM_{10})	IS 52	24-Hour	32 µg/m³	150 µg/m³	21%
Particulate Matter ($PM_{2.5}$)	Pfizer Lab	Annual	7.6 µg/m³	12.0 µg/m³	63%
	Pfizer Lab	24-Hour	19.5 µg/m³	35 µg/m³	56%
Sulfur Dioxide (SO_2)	Pfizer Lab	1-Hour	4 ppb	75 ppb	5%

Sources:
USEPA, Outdoor Air Quality Data, Monitor Values Report: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report
NYSDEC, 2020 New York State Ambient Air Quality Report: https://www.dec.ny.gov/docs/air_pdf/2020airqualreport.pdf
Notes:
ppm = parts per million; ppb = parts per billion; µg/m³= micrograms per cubic meter

Greenhouse Gases

The main sources of GHG in New York State are transportation, building's heating and cooling, use of electricity, waste processing, and industrial sources. Over the past decade, efforts to reduce GHG emissions from the New York State power sector have made New York's electricity some of the cleanest in the nation. Buildings and transportation are now the largest sources of GHG emissions in New York[5].

To further reduce New York's GHG emissions, the New York State Energy Plan calls for a 40 percent State-wide reduction of GHG emissions (from 1990 levels) by 2030. To do so, the New York State Energy Plan plans to use the renewable energy sources to supply 50 percent of the State's energy, and, as compared to 2012 levels, requires a 23 percent decrease in building energy consumption

[5] New York State Department of Environmental Conservation. Reducing Greenhouse Gas Emissions. Available from: https://www.dec.ny.gov/energy/99223.html. Accessed August 2022

levels. According to the CLCPA, the ultimate goal of the State is to reduce GHG emissions (from 1990 levels) by 85 percent by 2050.

To achieve the goals and standards outlined above, the State has created numerous initiatives aimed at reducing emissions from the transportation sector, one of the largest contributor of GHG emissions in the State, and from buildings, the largest consumers of energy. New York State is also working to reduce methane emissions, as well as hydrofluorocarbons, potent GHGs.

With regard to the transportation sector, State initiatives include the widespread installation of electric vehicle charging infrastructure and investments in cleaner transportation. With regard to building energy consumption (both electrical and thermal), the State has established several programs geared towards improving energy efficiency, including the New York Power Authority's BuildSmart Program and New York State Energy Research and Development Authority (NYSERDA) home and commercial energy efficiency programs.

According to the latest, 2021 NYS GHG Inventory, total gross GHG emissions in New York State were 194.56 million metric tons of carbon dioxide equivalents ($MMtCO_2e$) in 2019 and net of 165.46 $MMtCO_2e$. There was a 21 percent decrease in net GHG emissions from 1990 to 2019.

Rockland County accounted for 6.8 $MMtCO_2e$ in 2010, about 22 tons of CO_2e per capita, while the Village of Suffern accounted for 14 tons of CO_2e per capita. GHG emissions in Rockland County is reduced because of the use of "green" power, wind energy. In fact, Rockland County is listed number 15 in the USEPA list of top 30 local governments nationwide in the Green Power Partnership USEPA's program. The county contracted for 35,301,479 kWh of annual wind power usage according to the data on July 28, 2022.[6]

Criteria Pollutants of Concern

Air pollution is of concern because of its demonstrated effects on human health. Of special concern are the respiratory and cardiovascular effects of pollutants and their potential toxic effects, as described below.

Carbon monoxide (CO) is a colorless and odorless gas that is a product of incomplete combustion. Carbon monoxide is absorbed by the lungs and reacts with hemoglobin to reduce the oxygen carrying capacity of the blood. At low concentrations, CO has been shown to aggravate the symptoms of cardiovascular disease. It can cause headaches, nausea, and at sustained high concentration levels, can lead to coma and death.

Particulate matter is made up of small solid particles and liquid droplets. PM_{10} refers to particulate matter with a nominal aerodynamic diameter of 10 micrometers or less, and $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter of 2.5 micrometers or less. Particulates can enter the body through the respiratory system. Particulates over 10 micrometers in size are generally captured in the nose and throat and are readily expelled from the body. Particulates smaller than 10 micrometers, and especially particles smaller than 2.5 micrometers, can reach the air ducts (bronchi) and the air sacs (alveoli) in the lungs. Particulates are associated with increased incidence of respiratory diseases, cardiopulmonary disease, and cancer.

Nitrogen oxides (NO_X), the most significant of which are nitric oxide (NO) and nitrogen dioxide (NO_2), can occur when combustion temperatures are extremely high (such as in engines) and atmosphere

[6] Green Power Partnership Top 30 Local Government | US EPA

nitrogen gas combines with oxygen gas. NO is relatively harmless to humans but quickly converts to NO_2. Nitrogen dioxide has been found to be a lung irritant and can lead to respiratory illnesses. Nitrogen oxides, along with VOCs, are also precursors to ozone formation.

Sulfur Dioxide (SO_2) emissions are the main components of the "oxides of sulfur," a group of highly reactive gases from fossil fuel combustion at power plants, other industrial facilities, industrial processes, and burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment. High concentrations of SO_2 will lead to formation of other sulfur oxides. By reducing the SO_2 emissions, other forms of sulfur oxides are also expected to decrease. When oxides of sulfur react with other compounds in the atmosphere, small particles that can affect the lungs can be formed. This can lead to respiratory disease and aggravate existing heart disease.

Greenhouse Gases of Concern

GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. This property causes the general warming of the Earth's atmosphere, or the "greenhouse effect." Some GHGs, such as carbon dioxide (CO_2), occur both naturally and are emitted into the atmosphere through human activities. According to the *NYSDEC EIS GHG Guide*, there are six main greenhouse gases (GHGs), including carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[7]

GHGs differ in their ability to trap heat. To compare emissions of GHGs, compilers use a weighting factor called a Global Warming Potential (GWP), where the heat-trapping ability of 1 metric ton (1,000 kilograms) of CO_2 is taken as the standard, and emissions are expressed in terms of CO_2 equivalents (CO_2e) but can also be expressed in terms of carbon equivalents. The GHGs which are emitted as a result of human activities and their GWPs are presented in **Table III.H-3** below.

[7] NYSDEC. *Assessing Energy Use and Greenhouse Gas Emissions in Environmental Impact Statements.* Available from: https://www.dec.ny.gov/docs/administration_pdf/eisghgpolicy.pdf. Accessed August 2022.

Table III.H-3 Global Warming Potential for Primary Greenhouse Gases

Greenhouse Gas	Common Sources	Global Warming Potential
CO_2 - Carbon Dioxide	Fossil fuel combustion, forest clearing, cement production	1
CH_4 - Methane	Landfills, production and distribution of natural gas and petroleum, anaerobic digestion, rice cultivation, fossil fuel combustion	21-25
N_2O - Nitrous Oxide	Fossil fuel combustion, fertilizers, nylon production, manure	280-310
HFCs - Hydrofluorocarbons	Refrigeration gases, aluminum smelting, semiconductor manufacturing	140–11,700
PFCs - Perfluorocarbons	Aluminum production, semiconductor manufacturing	6,500–9,200
SF_6 - Sulfur Hexafluoride	Electrical transmissions and distribution systems, circuit breakers, magnesium production	23,900

This analysis focuses on CO_2, N_2O, and CH_4 (collectively as CO_2e) as there are no significant direct or indirect sources of HFCs, PFCs, or SF_6 associated with the Proposed Project. The USEPA 2022 GHG Inventory[8] used the following GWPs - 25 for CH_4 and 298 for N_2O - which are used in this analysis.

3. Potential Impacts - Operations

Criteria Pollutants

HVAC

It is conservatively assumed for the purpose of this analysis that heating, air conditioning and ventilation (HVAC) systems and hot water units in the proposed warehouse buildings would use natural gas. Pollutants of concern from natural gas combustion are particulate matter, mostly $PM_{2.5}$, and nitrogen dioxide, NO_2. Existing concentrations of these pollutants in the Study Area are below the respective NAAQS, at approximately 50-60 percent of the respective standard level, and even lower for the annual NO_2. This leaves a large margin for any project-related impact to reach the level of standard that demarks a concentration that could potentially affect public health.

In addition, the closest sensitive land uses to the Proposed Project's potential HVAC and hot-water exhaust stack locations are at approximately 250-300 feet to the south. Esther Gitlow Towers and Cedar Lane residencies are the closest residences, while the Suffern Free Library and the Tagaste Monastery are the closest public spaces (see **Figure III.H-2**). A screening procedure using a nomograph derived from modeling commercial and other non-residential buildings using natural gas for their HVAC and hot water systems and of various square footage was performed for the

[8] USEPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks:1990-2020 (published in April, 2022) https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2020

Proposed Project. The nomographic screening is presented in **Appendix U**. The screening demonstrates that the proposed warehouses are located much further from the sensitive land uses than the distance at which there is a potential for an air quality impact. Sensitive land uses that are located even further than these closest to the Proposed Project would experience even smaller impact from the Proposed Project's HVAC and hot water system emissions.

North of the Project Site (see **Figure III.H-2**) are residences located over 600 feet away from the Project Site warehouses on the other side of the New York State Thruway (the "Thruway"). The most sensitive land uses on the other side of the Thruway are two schools, Suffern Middle School and Montebello Elementary School, which are more than 1,900 feet away from the Project Site buildings. It is highly unlikely that the Proposed Project would produce any significant adverse air quality impact at any of these receptors.

Additionally, the HVAC and hot water systems are likely to be electrical (and not burn natural gas). In the case of electric systems, no emissions would be generated by the HVAC and hot-water systems and no impacts are anticipated on any of the surrounding land uses.

Parking

Emissions from vehicles parked at the Project Site near the proposed warehouses would be generated by both employee vehicles and trucks. The anticipated volume of project-generated trucks is smaller than project-generated autos (see **Table III.F-4** in the Traffic and Transportation section), ranging from 12 to 16 percent of the total trips by building.

On-site emissions would result from starting, moving, and idling vehicular activity. It is anticipated that impacts from the emissions associated with these vehicular activities at the closest sensitive land uses to the south of the Project Site, which are over 200 feet away from the closest parking lot edge, the western parking lot associated with Building 2 (see **Figure III.H-2**) would not be significant. This is because the closest parking lots to the south receptors are small parking facilities associated with Buildings 2 and 3 (compared to the parking lots associated with Building 1) with low vehicular activity (see **Table III.F-4** in the Traffic and Transportation section..

As shown on see **Table III.F-4** in the Traffic and Transportation section, for Building 2, the highest number of total vehicles is 47 for the PM peak hour and the highest number of trucks is seven (7) for the PM peak hour. CO emissions from 47 vehicles (the highest hourly volume) would make almost no impact at the distance of over 200 feet because all of the intersections analyzed for the Intersection Hotspot Analysis below had much higher volumes than 47 and all of those intersections passed the screening criteria. PM emissions from 7 trucks (the highest truck volume per hour) are also small and not likely to generate a 24-hour standard exceedance especially considering that the background concentrations are at approximately half of the 24-hour $PM_{2.5}$ standard.

The closest sensitive land uses to the north are over 500 feet away from proposed parking lots. In addition, the Thruway is located between the Proposed Project and the residential and other sensitive receptors to the north. Vehicle activity on the Thruway is more likely to have a larger emissions impact at the closest receptors than the Proposed Project.

To demonstrate the potential air quality impacts of parking emissions, impacts of emissions similar in nature (but from a much larger source) were compared to the background and to the relevant standard. Emissions from the George Washington Bridge toll traffic was considered as a proxy, for several reasons explained below to the parking lot activity at the Proposed Project. Similar to the

Figure III.H-2
Sensitive Land Uses

Project Site
Proposed Buildings
Proposed Parking Areas
Approx. Distance (feet)

Sensitive Land Uses for Air Quality Analysis

1. Suffern Free Library
2. Esther Gitlow Towers
3. Tagaste Monastery
4. Good Samaritan Hospital
5. Residential Neighborhood Along Hillcrest Road
6. Salvation Army College for Officer Training
7. Knolls at Ramapough
8. Ramapo Cirque
9. Suffern Middle School
10. Montebello Elementary School

0 500 US Feet

Proposed Project's vehicular emissions sources, the toll traffic also includes starting, moving and idling vehicular activity. The New Jersey Department of Environmental Protection maintains a $PM_{2.5}$ air quality monitor in Fort Lee, which is at a similar distance to the toll traffic as the Proposed Project is to its sensitive receptors.

Table III.H-4 compares $PM_{2.5}$ concentrations at the Fort Lee monitor, which considers the impact of the toll traffic, to the monitor at the Pfizer Lab, which is more representative of background concentrations without a highway nearby. Concentrations in **Table III.H-4** indicate that concentrations near the toll plaza at Fort Lee are elevated relative to the background concentrations measured at Pfizer Lab, likely due to the emissions from the toll traffic and increased development. However, all monitored concentrations, both near the toll plaza and at the Pfizer Lab, are below the respective NAAQS. As such, the intensive emissions associated with the George Washington Bridge toll traffic do not result in a significant adverse air quality impact.

By comparison to the George Washington Bridge toll traffic, the parking facilities at the Proposed Project would generate only a small fraction of idling and starting emissions, based on the traffic volumes. This means that any impacts from the Proposed Project on its receptors would be less than the George Washington Bridge toll traffic on the Fort Lee air quality monitor. Since the emissions sources and receptor distances from the proposed parking facility are similar to the toll traffic but vehicle activity at the proposed parking facility would be far less than the activity at George Washington Bridge, the Proposed Project is similarly not expected to result in significant adverse air quality impacts or exceedances of the NAAQS.

Table III.H-4 Comparison of Concentrations at Pfizer Lab and Fort Lee Stations

Pollutant	Averaging Time	Highest Pollutant Concentration at Fort Lee Monitor	Highest Pollutant Concentration at Pfizer Lab Monitor	NAAQS
Particulate Matter ($PM_{2.5}$)	Annual	9.6 µg/m³	7.6 µg/m³	12.0 µg/m³
	24-Hour	23.3 µg/m³	19.5 µg/m³	35 µg/m³

Sources:
USEPA, Outdoor Air Quality Data, Monitor Values Report: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report
NYSDEC, 2020 New York State Ambient Air Quality Report: https://www.dec.ny.gov/docs/air_pdf/2020airqualreport.pdf
Notes:
ppm = parts per million
µg/m³= micrograms per cubic meter

Intersection Hotspot Analysis

The Proposed Project would generate vehicular trips that would affect local roadways and have a potential to impact localized air quality levels. Since project-related traffic is expected to be predominantly gasoline-fueled, it is anticipated that it would potentially impact the local CO levels. The highest CO impacts from the local traffic usually come from the intersections. The localized intersection hot-spot analysis followed the guidelines described in the USEPA's modeling guidance[9] and the New York State Department of Transportation (NYSDOT) Environmental Procedures Manual

[9] United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Technical Support Division. *Guideline for Modeling Carbon Monoxide from Roadway Intersections*. Research Triangle Park, NC; USEPA-454/R-92-006 (Revised); September 1995.

(EPM)[10]. A CO screening analysis was conducted to determine which of the affected intersections would be significantly impacted, if any. This analysis followed the EPM three-step process, as follows:

Level of Service Screening

Step one is the level of service (LOS) screening analysis, which identifies the signalized and unsignalized intersections affected by the project and excludes intersections with the LOS A, B and C under Build conditions from the further analysis unless there are specific sensitive land uses nearby. A total of 4 signalized and 3 unsignalized intersections were analyzed for the two weekday peak periods, AM and PM. Two different intersections in two time periods failed the LOS level of screening (i.e., they were LOS D, E, or F) and were carried to the next level of screening (see **Table III.H-5**).

Table III.H-5 Intersections with LOS D or Worse

Intersection	Time Period	Level of Service
Lafayette Avenue (NY 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday AM Peak	D
Lafayette Avenue (NY 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday PM Peak	D
Lafayette Avenue (NY 59) & Airmont Road (CR 89)	Weekday AM Peak	E
Lafayette Avenue (NY 59) & Airmont Road (CR 89)	Weekday PM Peak	E

Source: Dynamic Traffic, 2022

Capture Criteria Screening

For step two of the EPM process, intersections with LOS D, E and F were analyzed to screen against the following criteria:

1. 10 percent decrease in source-receptor distances;
2. 10 percent or more increase in traffic volume;
3. 10 percent increase in vehicle emissions from the No Build to Build condition;
4. Increase in number of queue lanes;
5. A 20 percent reduction in speed, when the estimated Build speed is at or less than 30 mph.

Table III.H-6 presents the results of the capture criteria screening. All intersections passed this level of screening, and therefore, the CO emissions at these intersections would not result in a significant adverse air quality impact.

Truck traffic volume generated by the Proposed Project at these same intersections would not increase by more than approximately one percent and would constitute at most 7.4 percent of total traffic. Therefore, truck $PM_{2.5}$ emissions would not affect the local $PM_{2.5}$ levels significantly.

[10] NYSDOT Environmental Procedures Manual Air Quality Chapter: https://www.dot.ny.gov/divisions/engineering/environmental-analysis/manuals-and-guidance/epm/chapter-1

In conclusion, the hot spot intersection analysis resulted in no significant adverse air quality impacts from the Proposed Project.

Table III.H-6 Capture Criteria Screening Analysis

Intersection	Time Period	Level of Service	Volume Increase (>10%)	Speed Decrease (>20 %)	Decreased Receptor Distance (Y/N)	Increase in Queue Lanes (Y/N)	Increase in Emissions (>10%)
Lafayette Avenue (NY 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday AM Peak	D	No – 6.6% (+ 131 veh)	No	No	No	No
Lafayette Avenue (NY 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday PM Peak	D	No – 5.6% (+ 140 veh)	No	No	No	No
Lafayette Avenue (NY 59) & Airmont Road (CR 89)	Weekday AM Peak	E	No – 1.6% (+ 51 veh)	No	No	No	No
Lafayette Avenue (NY 59) & Airmont Road (CR 89)	Weekday PM Peak	E	No – 1.4% (+ 56 veh)	No	No	No	No

Source: Dynamic Traffic, 2022

Greenhouse Gases

Emissions

GHGs are not considered by the USEPA to be "criteria pollutants," nor are NAAQS established for them. Similarly, NYSDEC does not establish impact thresholds of significance for GHG emissions for evaluating proposed projects in accordance with SEQRA. However, NYSDEC has issued a policy for the assessment of GHG emission impacts, which sets forth guidance procedures for NYSDEC staff to utilize in reviewing EISs.

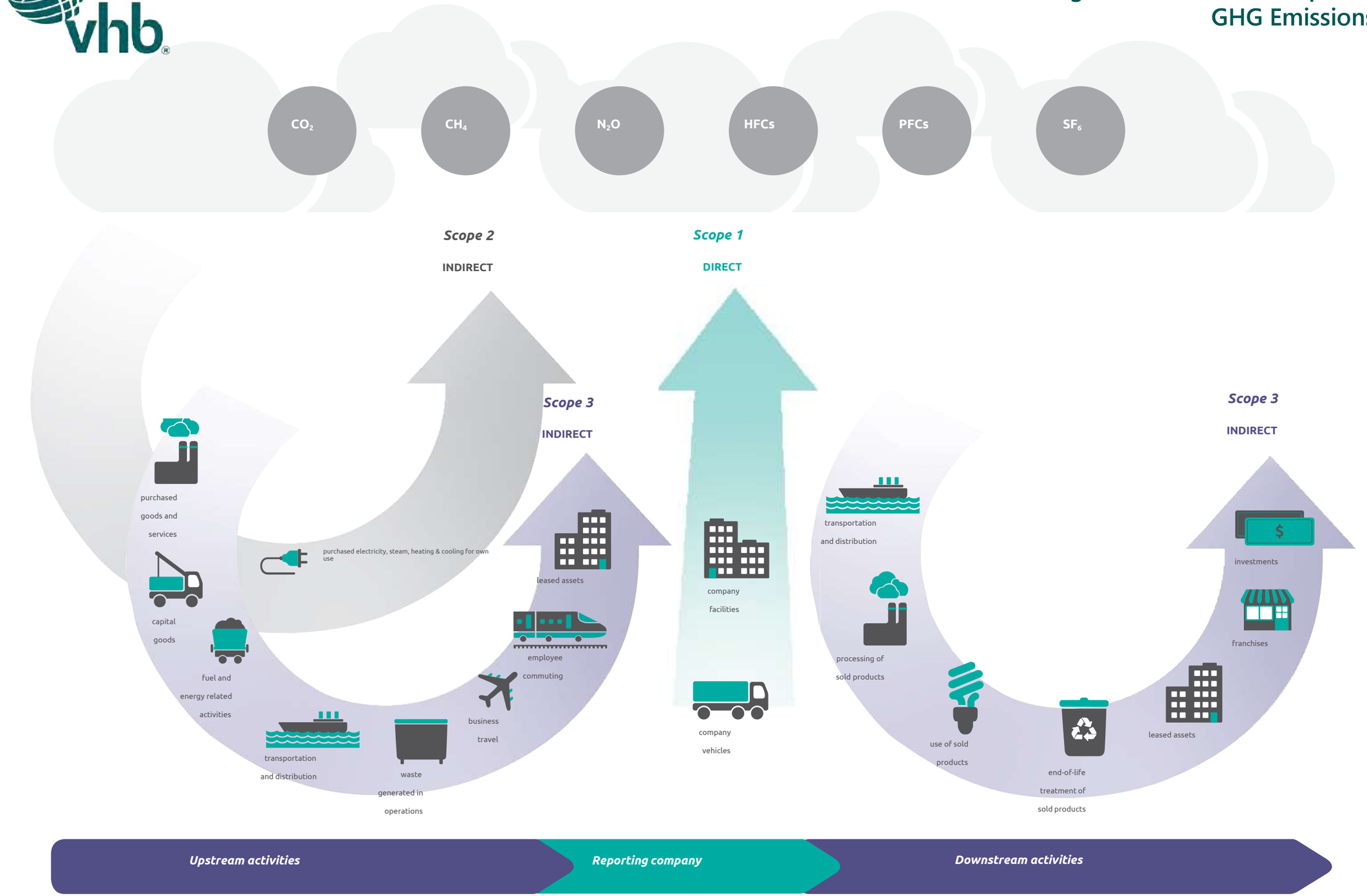
The *NYSDEC EIS GHG Guide* provides guidance for reporting GHG emissions associated with a proposed project, where applicable, thereby enabling decision-making agencies to assess GHG emissions impacts associated with a project and to make meaningful quantitative and/or qualitative comparisons of reasonable alternatives to be considered.

GHG emissions are generally divided into three types, referred to as "scopes", as illustrated in **Figure III.H-3**.

Scope 1, or direct emissions, are emissions resulting from the fossil fuel combustion by the Proposed Project facilities or by vehicles owned or operated by these facilities. HVAC emissions are the most typical source of GHG emissions for warehouse projects. Scope 2, or indirect emissions, are emissions from the generation of purchased electricity used by the facility. Scope 3 are all other GHG emissions, including emissions from the manufacturing and delivering goods that would be stored in the warehouse as well as further delivery, sale, use and disposal of the goods and ultimately of the proposed warehouse buildings themselves.

The Proposed Project would generate both direct and indirect GHG emissions. The direct GHG emission would include emissions from the HVAC systems of the proposed warehouses, the indirect GHG emissions would include power generation on demand from the Proposed Project. Emissions

Figure III.H-3 Three Scopes of GHG Emissions



Source: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. World Resources Institute

from the trucks delivering goods and employee vehicles are part of the Scope 3 emissions. The Proposed Project is not expected to fundamentally impact waste management system.

Scope 1, direct GHG emissions from the natural gas fueled HVAC and hot water systems for the three proposed warehouses are presented in **Table III.H-7** and **Appendix U**. The calculations are based on the gas consumptions for the warehouses from the latest, 2018 Energy Information Administration (EIA) Commercial Buildings Energy Consumption Survey (CBECS)[11]. Emission factors for the greenhouse gases were taken from the 2022 USEPA's emissions factors for the GHG Inventories[12].

Table III.H-7 Proposed Project GHG Emissions from Natural Gas-Fired HVAC and Hot Water Systems

Total Consumption	Heating Value	GHG Emissions			
		CO_2	CH_4	N_2O	CO_2e
scf	Btu/scf	kg	kg	kg	MT
22,723,620	1020	1,229,830	23,178	2,318	***1,255***

Source: VHB 2022

Indirect Scope 2 electricity GHG emissions for the Proposed Project are presented in **Table III.H-8** and **Appendix U**. The electricity consumption for this calculation is obtained from the same 2018 EIA CBECS report for warehouses. EGrid2020 GHG emission factors for this estimate were obtained from the same 2022 USEPA GHG Inventory guidance as above. The output emission factors for the upstate region were used for the Rockland County.

Table III.H-8 Proposed Project GHG Emissions from Electricity Generation

Total Consumption	GHG Emissions			
	CO_2	CH_4	N_2O	CO_2e
MWh	lb	Lb	lb	MT
7,330	1,711,602	117	15	***930***

Source: VHB 2022

The Scope 3 mobile source GHG emissions from trucks and employee vehicles associated with the Proposed Project were estimated using the GHG CO_2e emissions from MOVES modeling for the project. MOVES is a recommended USEPA's emissions model for mobile sources. These results are presented in **Table III.H-9** and **Appendix U**. These results do not take into account project commitment to electric cars and possibly trucks. Electrification would reduce mobile source GHG emissions.

[11] EIA CBECS 2018: https://www.eia.gov/consumption/commercial/data/2018/index.php?view=consumption

[12] 2022 GHG Emission Factors Hub: https://www.epa.gov/climateleadership/ghg-emission-factors-hub

Table III.H-9 Proposed Project GHG Emissions from Mobile Sources

Vehicle Type	VMT	CO_2e (MT) Per vehicle type	Total
Autos	6,150,000	2,155	
Trucks	16,540,501	19,769	***21,924***

Source: VHB 2022

If solar panels are installed on the entire surface of the three warehouse roofs, they would generate enough electricity to cover the HVAC, hot water and lighting needs of the Proposed Project, the total of 2,186 MT, but not enough to balance out the GHG emissions generated by the mobile sources associated with the Proposed Project, 21,924 MT. In other words, if solar panels are installed, the Proposed Project would offset the Scopes 1 and 2 GHG emissions but would not offset mobile source Scope 3 emissions. Avoided GHG emissions from the solar panels are estimated as emissions that would be generated by NY State grid if solar panels were not installed, are demonstrated in Table III.H-10 and presented in the Appendix U.

Table III.H-10 Proposed Project Avoided GHG Emissions if Generated by Solar Panels

Electricity Source	Generation kWh	GHG Emissions (lb) CO_2	CH_4	N_2O	CO_2e MT
Solar Panels	17,470,310	0	0	0	0
Grid	17,470,310	4,079,317	280	35	***2,218***

Source: VHB 2022

The Proposed Project's GHG emissions are expected to comprise a small fraction of the total GHG emissions of New York State, Rockland County, and even of the Village of Suffern. For instance, GHG emissions from the Proposed Project's mobile sources, the largest contributor to the GHG emissions from the Proposed Project, would comprise only 0.02 percent of mobile source GHG emissions generated by Mid-Hudson County's transportation GHG emissions. Overall, the Proposed Project would not significantly contribute to GHG emissions in the area.

Consistency with Relevant Plans and Regulations

New York State Energy Plan

The New York State Energy Plan sets forth a number of initiatives aimed at reducing GHG emissions, promoting the use of renewable energy sources, and increasing energy efficiency. It is noted that these initiatives primarily pertain to various State agencies (i.e., NYSERDA, NYSDEC, NYSDOS), energy and utility providers, and/or local municipalities, outlining actions that they can take to work towards the goals noted above. None of the initiatives directly pertain to private developers or property owners, nor do they provide recommendations/directives pertaining to private development projects. As such, the initiatives outlined within the New York State Energy Plan do not directly pertain to the Proposed Project.

However, it is noted that the Proposed Project incorporates design features (as described below) that, in accordance with the overall intent and purpose of the New York State Energy Plan, would reduce the Proposed Project's energy demands and corresponding GHG emissions, would help New York State achieve its goal.

New York State Climate Leadership and Community Protection Act

As previously described, the CLCPA mandates the CAC and the NYSDEC establish practices and standards to reduce state-wide GHG emissions.

The CLCPA requires the CAC develop a Scoping Plan that will make recommendations on regulatory measures and other state actions that will ensure the attainment of the CLCPA's standards.[13] Such plan was developed and underwent the public comment period that was closed on July 1, 2022. The final scoping document is planned to be prepared in 2023.

A main tenet of the CLCPA's plan to reduce GHG emissions is the increased use of clean-energy sources, which would provide electricity for end-use customers (i.e., the Proposed Project) while minimizing the amount of GHG emissions produced in the process. Widespread employment of such energy sources will significantly reduce state-wide GHG emissions as compared to conventional fossil-fuel based energy systems.

Based upon the CAC's Draft Scoping Plan, energy providers will need to utilize clean-energy systems. The Proposed Project would rely on source energy provided by the energy provider (i.e., Orange & Rockland Utilities, Con Edison).

The CLCPA requires that the NYSDEC adopt limits on state-wide GHG emissions for the years 2030 and 2050. In accordance with this requirement, the NYSDEC has estimated the state-wide GHG emissions level of 1990 and has set forth state-wide emission limits for the years specified, as a percentage of estimated 1990 state-wide GHG emission levels of 60 percent and 15 percent, respectively[14]. The NYSDEC 2021 annual report on state-wide GHG emissions documents the State's progress towards achieving the adopted emissions limits[15].

The GHG emissions limits adopted by the NYSDEC pertain to state-wide emissions; the Proposed Project therefore plays a role in helping achieve these limits however small contribution it makes to the overall GHG emissions in Rockland County and New York State.

Rockland County as mentioned above is number 15 on the USEPA's list of 30 local governments nationwide in the Green Power Partnership USEPA's program. The County heavily relies on the wind power for the electricity generation. Therefore, the Proposed Project electricity demand would generate much less GHG emissions than would be generated had the Proposed Project be in another County.

[13] Columbia Law School. *Prepare a draft Scoping Plan.* Available at: https://climate.law.columbia.edu/content/prepare-draft-scoping-plan. Accessed September 2021.

[14] NYSDEC. *Adopted Part 496, Statewide Greenhouse Gas Emission Limits.* Available at: https://www.dec.ny.gov/regulations/121052.html. Accessed September 2021.

[15] 2021 Statewide GHG Emissions Report Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.dec.ny.gov/docs/administration_pdf/ghgsumrpt21.pdf

4. Potential Impacts - Construction

Construction could potentially have a significant impact on the air quality. Construction activities, including demolition, using the large diesel-powered machinery, dust-generating operations such as earth-moving, loading and unloading, travelling on unpaved surfaces, extended idling of concrete trucks, etc. could generate high emissions at the construction site. Construction truck deliveries, debris removal and labor force vehicles could potentially create congestion and air quality impacts at the local intersections off-site.

Construction impacts are temporary. The determination of whether it is sufficient to conduct a qualitative analysis of construction emissions or whether a quantitative analysis is required should take into account factors such as duration of construction activities, location of the project site in relation to existing residential uses or other sensitive receptors, the intensity of the construction activity, and the extent to which the project incorporates commitments to appropriate emission control measures.

The Proposed Project would demolish the existing structures and construct three warehouses in 12 months. This is considered a short duration by the USEPA. Additionally, the closest residential receptors to the south are located at approximately 200-300 feet from the expected construction site, and even further, at around 600 feet, to the north, at the other side of the Thruway. As such, it appears that on-site construction impacts would not have a significant adverse contribution to the local air quality levels close receptors.

Criteria Pollutants

Construction trucks may add to the local traffic and increase CO and $PM_{2.5}$ concentrations at the congested intersections. NYSDOT screening conducted for construction demonstrated that same two intersections affected under operations, Lafayette Avenue with Campbell Ave/Hemion Road and with Airmont Road, and the ramps from the Airmont Road to the Thruway will be affected by construction-related trips (see **Table III.H-11**). These intersections would have LOS D or worse during construction. However, the second level, capture criteria screening, see **Table III.H-12**, demonstrated that these intersections do not have the potential to create an adverse CO impact.

Table III.H-11 Construction Analysis - Intersections with LOS D or Worse

Intersection	Time Period	No Build Level of Service	Construction Level of Service
Lafayette Avenue (NYS 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday AM/PM Peak	E	E
Lafayette Avenue (NYS 59) & Airmont Road (CR 89)	Weekday AM/PM Peak	E	E
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	Weekday AM Peak	F	F
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	Weekday PM Peak	D	D
Airmont Road (CR 89) & I-87 SB/I-287 WB Ramps	Weekday AM Peak	D	D

Source: Dynamic Traffic, LLC, 2022

Table III.H-12 Construction Analysis – Capture Criteria

Intersection	Time Period	Construction Level of Service	Volume Increase (>10%)	Speed Decrease (>20%)	Decreased Receptor Distance (Y/N)	Increase in Queue Lanes (Y/N)	Increase in Emissions (>10%)
Lafayette Avenue (NYS 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday AM Peak	E	No – 1.7% (+40 veh)	No	No	No	No
Lafayette Avenue (NYS 59) & Campbell Avenue/ Hemion Road (CR 93)	Weekday PM Peak	E	No – 1.4% (+40 veh)	No	No	No	No
Lafayette Avenue (NYS 59) & Airmont Road (CR 89)	Weekday AM Peak	E	No – 1.2% (+40 veh)	No	No	No	No
Lafayette Avenue (NYS 59) & Airmont Road (CR 89)	Weekday PM Peak	E	No – 1.0% (+40 veh)	No	No	No	No
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	Weekday AM Peak	F	No – 1.2% (+40 veh)	No	No	No	No
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	Weekday AM Peak	D	No – 1.1% (+40 veh)	No	No	No	No
Airmont Road (CR 89) & I-87 SB/I-287 WB Ramps	Weekday AM Peak	D	No – 0.7% (+20 veh)	No	No	No	No

Source: Dynamic Traffic, LLC, 2022

In addition to CO screening, EPA's screening for particulate matter from construction trucks was conducted to evaluate the potential impact of construction on the PM levels. The EPA's particulate matter screening criteria is based on the increase in the heavy-duty diesel traffic at the intersections with LOS D or worse. Table III.H-13 presents the results of the screening for particulate matter.

Table III.H-13 Construction PM Screening Analysis

Intersection	Time Period	NB LOS	NB, % of HDDV	Construction LOS	Construction, % of HDDV
Lafayette Avenue (NYS 59) & Campbell Avenue/ Hemion Road (CR 93)	AM	E	6.53	E	**8.19**
Lafayette Avenue (NYS 59) & Campbell Avenue/ Hemion Road (CR 93)	PM	E	4.55	E	5.93
Lafayette Avenue (NYS 59) & Airmont Road (CR 89)	AM	E	7.05	E	**8.15**
Lafayette Avenue (NYS 59) & Airmont Road (CR 89)	PM	E	4.01	E	4.94
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	AM	F	**8.38**	F	**9.50**
Airmont Road (CR 89) & I-87 SB/I-287 EB Ramps	PM	D	5.65	D	6.88
Airmont Road (CR 89) & I-87 SB/I-287 WB Ramps	AM	D	7.80	D	**8.48**

Source: Dynamic Traffic, LLC, 2022

Based on the screening analysis, both intersections and ramps would be affected by the construction-related traffic in the AM hours. While there are no sensitive receptors near the ramps to the Thruway, the intersection of Airmont Road and Lafayette Avenue has several restaurants, the closest with a sitting area roughly 20 feet from the curb and about 100 feet from the intersection. The intersection of Campbell Avenue/Hemion Road and Lafayette Avenue has a preschool and a dialysis center roughly 200 feet from the intersection. These are especially sensitive receptors since the children and the sick are more vulnerable to the increases in diesel emissions.

However, the construction period would be short, and the elevated impacts are predicted to occur during the morning peak hours and not for the entire day. As such, short-term, health-related 24-hour concentrations would not likely be significantly adversely affected and it is not likely that the long-term, annual concentrations, to be significantly elevated either. Both the short and the long-term $PM_{2.5}$ standards are considered to have significant health effects if they are elevated over a three-year period, which is not the case since construction is projected to last for 12 months.

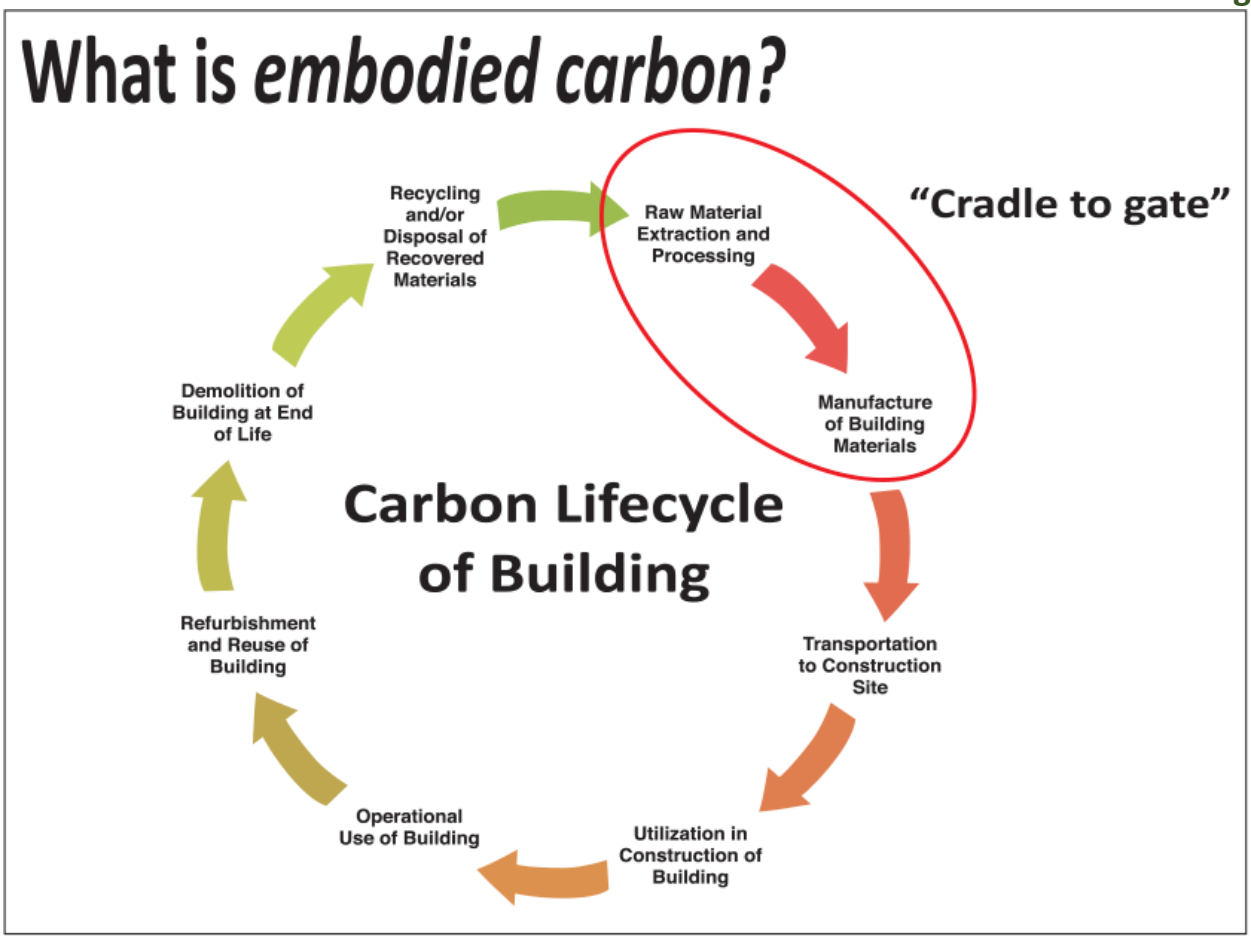
Greenhouse Gases

Typical efficient construction emissions and emissions of embodied carbon (see **Figure III.H-4**) can account for about 16 to 20 years of building operational GHG emissions[16]. The actual amount of CO_2e could change depending on the efficiency of building operations and efficiency and use of sustainable practices during construction. Half of all emissions embodied in buildings caused by manufacturing of materials and by construction processes.

The Proposed Project would be constructed on an existing developed site. This would reduce the Proposed Project's carbon footprint and preserve the undeveloped land. Construction of the Proposed Project would follow New York State regulations and codes for construction which incorporate carbon reduction measures including reduction of diesel emissions, limits on idle time for vehicles and equipment and other measures to reduce carbon emissions during construction. NYSDEC suggests other mitigation measures for operation and construction that are described below.

[16] J. Duncan. Should I Stay or Should I Go: The Embodied Carbon in Buildings, January 2019

Figure III.H-4
Embodied Carbon of a Building



Source: NE Sustainable Energy Association

5. Mitigation

Criteria Pollutants

The project operations would not have a potential for adverse air quality impacts as described above in the Operations section.

There are certain mitigation measures that are usually applied during construction to reduce nuisance dust (PM_{10}) and other construction-related emissions. Many of these measures are regulated by the New York State or federal rules and requirements. These include the following, which would be applied by the Proposed Project:

- Dust control. New York State Standards and Specifications for Erosion and Sediment Control for construction areas require stabilization of non-driving areas and sprinkling, covering, or/and installing barriers along driving areas during construction in order to prevent dust from becoming airborne.
- Clean Fuel. Ultra-low sulfur diesel (ULSD) would be used exclusively for diesel engines related to construction activities for the Proposed Project. This is a federal requirement since 2010 that enables the use of tailpipe reduction technologies that reduce diesel particulate matter and SO_2 emissions.
- Restrictions on Vehicle Idling. 6 NYCRR 217-3 enforced by NYSDEC prohibits diesel and non-diesel vehicles of class two or heavier from idling for more than five minutes at a time. On-site vehicle idle time would be restricted for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or otherwise required for the proper operation of the engine.
- Given the construction timeframe, equipment meeting Tier 4 standards for diesel engines (model years 2011/12 and beyond) would be expected to be in wide use and comprise the majority of contractors' fleet. If contractors choose to use older diesel equipment, it is expected that the use of diesel particulate filters (DPF) in Tier 3 emission standard for diesel engines (model years 2006-2011 for engine sizes between 100 and 600 hp)[17] will be prevalent. Tier 3 with DPF achieves the same particulate matter emission reductions as a newer Tier 4 emission standard for diesel engines. The combination of Tier 4 and Tier 3 engines with DPF would achieve diesel particulate matter reductions of approximately 90 percent when compared to older uncontrolled engines.

All these measures are expected to greatly reduce potential air quality impacts of construction from the Proposed Project on surrounding sensitive land uses.

Greenhouse Gases

The *SEQR Handbook* suggests incorporating design measures to reduce the amount of GHG emissions. In accordance with this recommendation, the Proposed Project would incorporate various measures designed to conserve energy which, in turn, would reduce GHG emissions associated with the Proposed Project, including the following measures:

- Installation of electric vehicle charging stations: 15 charging stations altogether, 10 near Building 1, 3 near Building 2 and 2 near Building 3.

[17] See Table 2-1 of the USEPA's Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2 document

- Work towards LEED[18] certification. Leadership and Environmental Design (LEED) is a U.S. Green Building Council rating system that provides framework for healthy, efficient and sustainable buildings. LEED goal is to improve efficiency, lower carbon emissions, enhance resilience and support more equitable communities.
- Use building materials that are extracted and/or manufactured within the region to reduce delivery distance.
- Designing the warehouses to accommodate the load standards for solar capabilities on the roof
- Track energy performance of building and develop strategy to maintain efficiency.
- The installation of highly reflective white Thermoplastic Polyolefin (TPO) roofing to minimize heat absorption and reduce cooling needs.
- Incorporate glazing on windows to reflect heat.
- Incorporate motion sensors and high-efficiency LED lighting and climate control.
- Promote and facilitate recycling. Provide storage and collection of recyclables in building design.
- Design and use of native and water-efficient landscaping.
- Develop and implement a marketing/information program that includes posting and distribution of ride sharing transit information.

In addition, the Applicant has also committed to achieving Net Zero for the Proposed Project. Net zero means achieving net-zero balance between released and removed GHG emissions. This goal is usually set in two ways. First, every effort is made to reduce the amount of GHG emissions released into the atmosphere. Secondly, offset remaining GHG emissions by removing an equivalent amount of GHG emissions from the atmosphere and storing it permanently in soil, plants and materials. The common strategies used for achieving Net Zero emissions include generating renewable electricity, use electric vehicles and equipment, use energy more efficiently, use methods and technologies to remove GHG from the atmosphere, use land use management to increase capacity to absorb and store carbon.

As shown by the GHG emissions calculations, if solar panels are installed, they would generate electricity to power HVAC, hot water and lighting of the proposed warehouses, but not enough to balance the Scope 3 emissions. The sustainability and energy saving measures listed above would help to reduce the amount of electricity needed for the warehouses and free more avoided GHG to offset Scope 3 emissions. The other offsets for the Scope 3 GHG emissions would come from the Applicant as explained below.

- Over the past 25 years, Brookfield (The Applicant) has built one of the largest private renewable power businesses in the world. With installed renewable generating capacity of 21 GW, Brookfield now produces more than enough green energy to power London, U.K. and aims to double that capacity by 2030.
- To ensure that their portfolio aligns with climate action best practices, Brookfield is committed to reach net-zero emissions by 2050 or sooner across all assets under management (AUM).
- Brookfield set an interim target to achieve an approximately two-thirds reduction in Scope 1 and 2 emissions for $147 billion of AUM— approximately one-third Brookfield's total portfolio—by 2030 or sooner.

[18] USGBC LEED rating system, https://www.usgbc.org/leed

› Brookfield intends to build on this leading position in renewable power and do much more to contribute to the transition to Net Zero.

Operations of the Proposed Project would contribute to GHG emissions mostly by combustion of fossil fuels for the HVAC and hot water systems on-site, by consuming electricity and by the incremental mobile trips generated by the Proposed Project. Construction of the Proposed Project could contribute as much as the equivalent of 16 to 20 years of operational GHG emissions. However, GHG emissions generated by the Proposed Project would comprise a small fraction of the State, Rockland County, or Village of Suffern GHG budgets. Rockland County's electricity generation has one of the smallest carbon footprint in the country and Scope 2 emissions from the Proposed Project would be even smaller than they would be in other locations in New York State. In addition, as described above, numerous mitigation measures would be undertaken by the Proposed Project and the Applicant has committed to achieve Net Zero for the Proposed Project.