ENVIRONMENTAL, SOCIAL & GOVERNANCE 2021
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See more at esg.vno.com
KEY ACHIEVEMENTS IN SUSTAINABILITY

GLOBAL REAL ESTATE SUSTAINABILITY BENCHMARK GREEN STAR RANKING 2021
9TH YEAR IN A ROW
TOP-QUINTILE PERFORMER
RANKED 2ND OUT OF 94 LISTED ENTITIES IN THE AMERICAS

NAREIT LEADER IN THE LIGHT LEADERSHIP PERSONIFIED 2021
11 TIME LEADER IN THE LIGHT WINNER

ENERGY STAR PARTNER OF THE YEAR SUSTAINED EXCELLENCE
7TH TIME WITH THIS DISTINCTION

EP100 MEMBER
COMMITTED TO DEPARTMENT OF ENERGY’S ISO 50001 PROGRAM

SCIENCE BASED TARGETS INITIATIVE
2021 ALIGNMENT WITH 1.5-DEGREE SCENARIO FOR OUR COMMITMENT TO REDUCING OUR CARBON EMISSIONS
FROM OUR CHAIRMAN

ENVIRONMENTAL, SOCIAL & GOVERNANCE (“ESG”)  

Our Board and senior management hold ESG among our top priorities... and we are a clear leader in the industry. In 2019, we published our commitment to making our buildings carbon neutral by 2030. Our six-point plan, known as Vision 2030, is outlined in our ESG Report, found at esg.vno.com.

Key sustainability achievements this past year include:

- Advanced our commitment to locally-sourced renewable energy and the environment through the procurement of Renewable Energy Credits, sourced from hydro energy facilities located in the State of New York, which assigns zero carbon to 100% of our directly procured electricity. With an annualized balance of over 215,000 megawatt hours, we are one of the largest customers of home-grown renewable energy. We support the transmission projects that will alleviate bottlenecks and bring clean energy downstate into New York City.

- Aligned our carbon reductions and targets with the Science-Based Target Initiative, and have committed to a 64% reduction by 2030 using a 2019 base year to ensure our ongoing emissions reduction contributes to a 1.5-degree climate scenario.

- Achieved a 2.6% reduction in our overall location-based emissions, and a 37.8% drop in our market-based scope 2 emissions. Below is an inventory of carbon emissions from our buildings in 2021, according to the Financial Control method measured in metric tons:

<table>
<thead>
<tr>
<th>Carbon Emissions</th>
<th>LOCATION-BASED</th>
<th>MARKET-BASED</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCOPE 1</td>
<td>29,864</td>
<td>29,864</td>
</tr>
<tr>
<td>SCOPE 2</td>
<td>131,405</td>
<td>83,295</td>
</tr>
<tr>
<td>SCOPE 1+2 TOTAL</td>
<td>161,269</td>
<td>113,159</td>
</tr>
<tr>
<td>SCOPE 3</td>
<td>39,633</td>
<td>39,633</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>200,902</td>
<td>152,792</td>
</tr>
</tbody>
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- Received multiple awards recognizing our continued industry leadership in sustainability including the NAREIT Leader in the Light Leadership Personified Award; ENERGY STAR Partner of the Year with Sustained Excellence (7th time with this distinction); and Global Real Estate Sustainability Benchmark “Green Star” Ranking (9th year in a row; ranking #2 out of 94 publicly traded companies in the Americas, with an “A” grade for our public disclosure).

- Expanded our climate scenario analysis as recommended by the Taskforce on Climate-Related Financial Disclosures and have updated our disclosures (which are paired with third party assurance) according to the Sustainability Accounting Standards Board and the Global Reporting Initiative.

Altogether, we own and operate more than 27 million square feet of LEED certified buildings, representing 95% of our office portfolio, with over 23 million square feet at LEED Gold or Platinum. Thanks to our sustainability and energy management captains Gaston Silva, Karen Oh, Robert Phinney, and Michael Lipitz.

In addition, we have provided our employees with the resources, support, and flexibility needed through the pandemic. We enhance our human capital by sponsoring continuing education and career development. We have actively engaged with our workforce and solicit their feedback through our divisional leaders and employee surveys.

Our Board, and particularly our Corporate Governance and Nominating Committee, is assigned with oversight of ESG, which includes climate change risk. Our 2022 Long Term Performance Plan incorporates ESG performance metrics as part of our Senior Management compensation program. A discussion regarding our corporate governance is included in our proxy statement, which can be viewed at www.vno.com/proxy and the governance section of our website at www.vno.com/governance.

Steven Roth  
Chairman of the Board and  
Chief Executive Officer

1 We have chosen to report our emissions according to the financial control method, as discussed in the World Resource Institute’s Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard: Revised Edition. Location-Based reflects emissions for our properties based on the grid average emission factor, while Market-Based reflects emissions that we are responsible for due to our purchasing decisions. Our Scope 1 emissions include onsite combustion from oil and natural gas; Scope 2 emissions include our district steam consumption and electricity consumption, including electricity consumed by our submetered tenants; Scope 3 emissions include other utility consumption within the direct control of our tenants.
2021 marked another banner year with progress on our ESG goals and new enhancements to further our leadership in the real estate industry. Below is a selection of highlights over the past year.

**FOOTPRINTS**

**RENEWABLE ENERGY PROCUREMENT**

In 2021 Vornado procured Renewable Energy Credits (RECs) to document our commitment to renewable energy and the environment, sourced from hydro energy facilities located in the State of New York. With an annualized balance of over 215,000 megawatt hours, we lead by example as one of the largest customers to invest in home-grown renewable energy.

**SCIENCE BASED TARGETS INITIATIVE PROGRESS (SBTi)**

We aligned our goals with the Science Based Targets initiative and have committed to a 64% reduction by 2030 using a 2019 base year to ensure our ongoing emissions reduction contributes to a 1.5-degree climate scenario. Our progress on this commitment in 2021 is:

- **MARKET-BASED SCOPE 1 + 2 GHG EMISSIONS INTENSITY OF 0.0032 MTCO2 PER SQUARE FOOT**
- **LOCATION-BASED SCOPE 1 + 2 GHG EMISSIONS INTENSITY OF 0.0046 MTCO2 PER SQUARE FOOT**

**THE PENN DISTRICT**

Progress is underway with our decarbonization strategy at PENN 1 and PENN 2, with triple-paned glazing systems, electrified cooling systems, and grid-responsive building automation systems among the many elements installed at both buildings.

Vornado is a proud participant in the Empire Building Challenge and has partnered with NYSERDA to develop a carbon neutrality roadmap for the PENN District, which will serve as an example for existing buildings across the state to follow.

**GREEN BONDS**

Vornado applied the full $750 million in bond proceeds to eligible green projects. With our significant investment in sustainable development, all proceeds were spent within the first year of the offering.

**EXECUTIVE COMPENSATION**

In 2021, the Board updated corporate policy to include ESG as a key performance indicator for executive compensation.
SUPPLY CHAIN

In addition to maintaining our Vendor Integrity Program and Vendor Code of Conduct, we commenced a comprehensive impact evaluation program with our critical suppliers. The results of this program will contribute to our ongoing inventory of Scope 3 GHG emissions.

EMPLOYEE HEALTH AND WELLNESS

We expanded our health and wellness programs as more employees began to return to the office including: reduced-cost memberships to the new gym at PENN 1, onsite COVID testing and vaccination, and the introduction of app-based resources to help foster healthier lifestyles.

BUILDING ON TENANT PROGRAMS AT 770 BROADWAY AND 731 LEXINGTON, VORNADO IS WORKING TO BRING BEEHIVES TO OUR PORTFOLIO TO SUPPORT THE LOCAL POLLINATOR POPULATION. HIVES WERE INSTALLED AT 1290 AVENUE OF THE AMERICAS, AND WE ARE ON TARGET TO ADD FIVE ADDITIONAL LOCATIONS IN 2022. THE URBAN BEEKEEPING PROGRAM IS AN OPPORTUNITY TO PROTECT THESE POLLINATORS WHO ARE A CRITICAL PIECE OF OUR ONGOING FOOD SUPPLY AS WELL AS TO ENGAGE WITH TENANTS IN A UNIQUE WAY BY PROVIDING EDUCATIONAL PROGRAMS YEAR-ROUND.

CYBERSECURITY GOVERNANCE

In response to cybersecurity threats increasing in frequency and scale, a governance structure was adopted to ensure a process to evaluate and quickly mitigate potential risks.

ELECTRIC VEHICLE CHARGING

We have installed over 40 EV charging stations at five of our dock-branded parking garages, with additional stations planned in the future.
VISION 2030*

VORNADO’S COMMITMENT TO CARBON NEUTRALITY

50% REDUCTION BY 2030

ENERGY EFFICIENCY COMMITMENT

100% CARBON-FREE BY 2040

ELECTRIFY OUR BUILDINGS

NYC GRID TODAY
.289 TCO2E PER MWh

MAXIMIZE OPPORTUNITY ACROSS THE PORTFOLIO

OPTIMIZE ENERGY DEMAND

Vision 2030 is our commitment to reach carbon neutrality through a combination of emissions reductions and offsets from our buildings. We will rely on both existing and future technology, as well as meaningful stakeholder collaboration with our tenants, our employees, and our communities. In 2021, we made a SBTi commitment to reduce our Scope 1 and 2 emission intensity by 64% per SF by 2030 below a 2019 base year. Our commitment is 1.5°C-aligned, the most ambitious designation offered through the SBTi process.

Any information relating to forward-looking statements, targets, goals, and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.
## 2030 TARGET COMMITMENTS

**WE WILL ALWAYS PRIORITIZE ENERGY EFFICIENCY**
We will reduce our energy consumption 50% below a 2009 base year by 2030. This goal includes both landlord- and tenant-driven consumption. More information on this effort can be found in the Energy Efficiency Targets section of this report.

**WE WILL PERMANENTLY REDUCE OUR ENERGY PEAKS**
In addition to doing more with less energy, we will shift our energy usage to occur during hours when the electric grid uses cleaner sources of generation. Demand response, demand management, and energy storage will be the primary contributors to this strategy. We also will use building analytics software to more smartly operate our buildings and reduce demand on a permanent basis.

**ELECTRIFY OUR BUILDINGS**
We know that a carbon-neutral building must consume energy from 100% renewable sources. As New York State pursues its plan to secure 70% of electricity from renewable systems by 2030 and 100% clean electricity by 2040, we will evaluate opportunities to convert our steam, gas, and oil-sourced consumption to electricity. We will prioritize electricity as our sole source of building energy in all ground-up new development.

**ELIMINATE OIL CONSUMPTION**
We see a path forward to eliminate or modify all our legacy oil boilers to cleaner sources of energy. We will transition these systems to electricity where economically and technologically feasible.

**SOURCE RENEWABLY AND LOCALLY**
We will pursue opportunities to source our supply of electricity from 100% renewable sources while we wait for our grid systems to make their own fully renewable transition. We will prioritize onsite renewable energy production, as well as sources located close to our buildings and cities.

**OFFSET REMAINING BALANCE**
As we make this transition, we know there will be a remaining balance of energy consumed from fossil fuels. We will augment that balance with carbon offsets until we fully transition to zero-carbon utility consumption.

## 2021 PROGRESS

### 2030 TARGET COMMITMENTS

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<th>Target</th>
<th>Progress</th>
<th>Notes</th>
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ENVIRONMENTAL, SOCIAL & GOVERNANCE 2021 | 7
GOVERNANCE

Vornado became a signatory of the TCFD in February 2019, among the first American real estate companies to endorse the TCFD recommendations and to task leadership with evaluating and disclosing climate-related risks. Our Board’s Corporate Governance and Nominating Committee oversees environmental matters, including climate-related risks and opportunities. The Board is part of the top-down strategy on ESG risk management, which includes the execution of TCFD-related tasks by our Corporate ESG Team, senior management, divisional leaders, and integration throughout all divisions of our business.

The individual responsible for ESG and climate-related objectives is the SVP Sustainability & Utilities Officer. While responsibility for managing climate-related risks is integrated throughout Vornado, the SVP Sustainability & Utilities Officer takes an overarching view of Vornado’s progress and strategy at a corporate level.

Further discussion on our governance around climate-related risks and opportunities can be found in the ESG Governance section of this report.

GOAL: DISCLOSE THE ORGANIZATION’S GOVERNANCE AROUND CLIMATE-RELATED RISKS AND OPPORTUNITIES

STRATEGY

We have identified IPCC Representative Concentration Pathway (RCP) 2.6 (targeting a 1.5- to 2-degree scenario) as the primary scenario to assess transitional risk and opportunities over the short-, medium-, and long-term horizon, as informed by the regulatory frameworks in the communities where our properties are located. We identify a “business-as-usual” scenario of RCP 6.0 to assess the physical risks of climate change, due to the possibility of failure of global efforts to mitigate, though we are constantly evaluating the potential scale and frequency of the identified risks to inform our Risk Management assessments. The impact of such risks guides strategies for our buildings through acquisition, development or redevelopment, or operations for our stabilized assets. More information can be found in our SASB disclosures on climate change risk.

GOAL: DISCLOSE THE ACTUAL AND POTENTIAL IMPACTS OF CLIMATE-RELATED RISKS AND OPPORTUNITIES ON THE ORGANIZATION’S BUSINESS, STRATEGY, AND FINANCIAL PLANNING WHERE SUCH INFORMATION IS MATERIAL

RISK MANAGEMENT

We identify and assess physical risks using data models and resources that use both historical and forward-looking climate data to determine potential exposure to climate-related events. We identify and assess transitional risk through analyzing our exposure to local climate regulations.

Where acute physical risk for a property is noted, we manage this risk through measures of climate resilience and adaptation. In 2021 we re-categorized some of our identified physical risks to drive faster action in the face of the increased frequency of these events. Our primary means of managing this risk is through our energy efficiency program, as energy consumption at our properties drives our ability to comply with regulations such as the Climate Mobilization Act (CMA) in New York City.

The costs of energy efficiency work, electrification, and other efforts to comply for each of our buildings are factored into our risk analysis, and we continue to explore other costs associated with short-, medium-, and long-term climate risks. We will forgo disclosure of these costs until compliance requirements for CMA and other climate regulations are more definitively known, although we do not expect these costs to be material.

Our climate risk assessment informs the risk profiles for our properties and is a component of our annual Enterprise Risk Management process. Understanding these risks helps us to better assess potential acquisitions through the due diligence process as well as potential impacts within our redevelopment efforts. Further discussion on our climate risk assessment is found in the Resilience and Adaptation section of this report, as well as our SASB disclosures on climate change risk.

GOAL: DISCLOSE HOW THE ORGANIZATION IDENTIFIES, ASSESSES, AND MANAGES CLIMATE-RELATED RISKS

METRICS AND TARGETS

Our metrics and targets that most meaningfully help us to assess our climate-related risks and opportunities, as defined in our Risk Management assessment, are reflected in the Energy Efficiency Targets and Environmental Goals and Progress sections of this report. GHG emissions are disclosed in the Environmental Results 2021 section of this report.

To guide Vornado’s efforts to assess and manage climate-related risks, in 2021 Vornado Realty Trust committed to reducing its Scope 1 and 2 GHG emissions to 64% per SF by 2030 from a 2019 base year, in line with a 1°C trajectory. The science-based target methodologies considered various scenarios, including an IEA ETP B2DS scenario, and were modeled using the Sector Decarbonization approach applying company-specific growth trajectories to historical GHG emissions trends. The target boundary includes biogenic emissions and removals from bioenergy feedstocks. As Scope 3 emissions account for less than 40% of total emissions, only Scope 1 + 2 emissions were covered by targets. The analysis provides Vornado with reference points to determine the appropriate plans of action to achieve emissions reductions, such as energy efficiency measures and renewable energy investments.

More information on our climate risk assessment is found in the Resilience and Adaptation section of this report, as well as our SASB disclosures on climate change risk.

GOAL: DISCLOSE THE METRICS AND TARGETS USED TO ASSESS AND MANAGE RELEVANT CLIMATE-RELATED RISKS AND OPPORTUNITIES WHERE SUCH INFORMATION IS MATERIAL
## TRANSITIONAL RISKS AND OPPORTUNITIES:
**SCENARIO ANALYSIS - RCP 2.6**

### SHORT-TERM (1-10 YEARS)

**Risks**
- We identify RCP 2.6 as our short-term transitional scenario, due to the regulations in the cities where we do business, as well as our carbon neutrality goal.
- Manufacturing and supply chain disruption could occur.

**Opportunities**
- Our Vision 2030 roadmap outlines the many components required to transition our portfolio to a climate trajectory that aligns with a 1.5-degree climate scenario.
- In 2021, we expanded our Vendor Integrity Program (VIP) to assess a wide range of ESG criteria across our value chain. More information can be found in the Supply Chain section of this report.

### 2030 MEDIUM-TERM

**Risks**
- De-carbonization of grid-supplied energy could lead to increased energy costs and operating expenses for our buildings.
- Retrofitting our building systems to consume less energy could lead to increased capital costs.
- Fossil fuel consumption, though mitigated through carbon offsets, may be subject to penalties.

**Opportunities**
- Our overall energy consumption could decrease, yielding a reduced operating cost.
- Carbon-neutral buildings could be more competitive in the long term and could yield higher value to our business.
- Energy storage, onsite renewable energy, and distributed energy resource deployment could yield additional sources of revenue and attract and retain tenants.

### 2050 LONG-TERM

**Risks**
- Full transition of grid-supplied energy to renewable sources could lead to increased energy costs and operating expenses for our buildings.

**Opportunities**
- Improved air quality could lead to lower HVAC operating and maintenance costs.
- Mitigated increases in temperature could lead to reduced costs to adapt our buildings to be resilient to more extreme climate scenarios.
- Renewable energy delivered from the grid will reduce source-generated carbon emissions and potentially reduce exposure to climate regulation.
- Full transition of grid-supplied energy to renewable sources could lead to decreased energy costs and operating expenses for our buildings.

## PHYSICAL RISKS – RCP 6.0

### SHORT-TERM

- Stormwater surge, flood risk in vulnerable areas.
- Localized loss of power.
-Degradation of air quality and public health.
- Change in workplace behavior and related emissions caused by the COVID pandemic.
- Increased extreme weather events and temperature conditions cause increases in building HVAC-related energy and maintenance costs.

### MEDIUM-TERM

- Increase in disaster relief costs.
- Increase in infrastructure and construction costs.
- Increase in instances of business interruption.
- Increase in insurance premiums.

### LONG-TERM

- Accelerated increases in land and ocean temperatures could lead to increased climate-related events, including extreme precipitation events, which could yield significantly higher disaster response and flood mitigation costs.
- Accelerated increases in sea-level rise could lead to increased damages from coastal urban floods.

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**GRI 201-2, 102-11, 303-2**

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**TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)**

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**PHYSICAL RISKS – RCP 6.0**

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**SHORT-TERM**

- Stormwater surge, flood risk in vulnerable areas.
- Localized loss of power.
- Degradation of air quality and public health.
- Change in workplace behavior and related emissions caused by the COVID pandemic.
- Increased extreme weather events and temperature conditions cause increases in building HVAC-related energy and maintenance costs.

**MEDIUM-TERM**

- Increase in disaster relief costs.
- Increase in infrastructure and construction costs.
- Increase in instances of business interruption.
- Increase in insurance premiums.

**LONG-TERM**

- Accelerated increases in land and ocean temperatures could lead to increased climate-related events, including extreme precipitation events, which could yield significantly higher disaster response and flood mitigation costs.
- Accelerated increases in sea-level rise could lead to increased damages from coastal urban floods.

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Our properties are located in regions with recent history and future risks of climate-related events. As we assess our exposure to climate risk under varying scenarios, we understand that measures in property resilience are measures in adaptation. Our property at 512 West 22nd Street exemplifies how our new building design is resilient and adaptive to future climate conditions.

**RESILIENCE AND ADAPTATION**

**FLOOD BARRIERS**
When a new building is located in a flood zone, we anchor temporary walls and venting systems inside our building lobbies to accommodate storm surges and floods and their associated water pressure build-up without damaging the building. At our existing buildings, we install temporary exterior barriers to prevent floodwater from touching the building envelope.

**GREEN ROOFS & STORMWATER RETENTION**
Our new roof landscape systems are designed to absorb and retain stormwater and to slow runoff into the urban landscape and surrounding infrastructure. Green and white roofs also insulate our buildings, reduce current and future demand for heating and cooling, and contribute to heat island reduction, which provides local relief to surface temperature.

**MECHANICAL EQUIPMENT**
At 512 West 22nd Street, we placed all critical mechanical equipment and electrical switchgear above grade to avoid flood damage.

**GLAZING & ENVELOPE**
Our new glazing and envelope systems are designed to withstand heavy wind and ice conditions. They also are designed to reduce solar heat gains and improve insulation values to minimize heating and cooling demand.

**BACKUP GENERATION**
We install backup generation to support, at minimum, fire and life safety systems, as well as critical infrastructure. At 512 West 22nd Street, we have connected our elevators, lighting, and HVAC systems to backup generation systems to ensure safe and secure evacuation in the event of an outage.
ENERGY EFFICIENCY TARGETS*

In Vision 2030, energy efficiency is our primary means to reduce our carbon emissions and make progress toward carbon neutrality. We have bifurcated our approach to address both landlord and tenant consumption, so we can holistically arrive at our goal of 50% reduction by 2030, below a 2009 base year. As was true in 2020, in 2021, the pandemic and resulting slowdown of activity in our buildings resulted in greater than usual reduction of energy. We expect our consumption to increase over 2021 levels in 2022 before returning to a trajectory of reduction.

What’s Working

Technical Assessments: Our New York City, Chicago, and San Francisco properties over 50,000 SF have undergone ASHRAE Level II Energy Audits and Retro-commissioning, both of which identify existing deficiencies that, when addressed, reduce energy consumption, as well as Energy Conservation Measures (ECMs) that further optimize each asset’s energy performance.

Energy Efficiency Capital Work: Our ECMs serve as the basis of our capital projects, which reduce operating costs, energy consumption, and carbon emissions. We remain committed to completing new capital work every year.

Other Capital Work: While energy efficiency is not the primary value driver for all capital projects, most capital work can save energy when managed responsibly. Such examples include elevator modifications and glazing and envelope improvements, which we procure responsibly and with energy efficiency as a deliverable.

Future Opportunities

Onsite Generation, Renewable Energy, and Energy Storage: We continue to explore opportunities to employ onsite distributed energy resources.

Smart Building Technology: We use predictive analytics and machine learning to run our buildings’ electrical and mechanical systems more efficiently. We upgrade and replace our building management systems to increase the automation of this process.

Regulation & Compliance: Our buildings are located in jurisdictions that have adopted bold climate legislation, which may regulate the carbon emissions from buildings and their related energy consumption. This regulation will have an impact on building codes, building infrastructure, and space planning.

TOTAL ENERGY REDUCTION GOAL:

50% BY 2030 WITH SAME-STORE PORTFOLIO (IN-SERVICE OFFICE)

2021 PROGRESS:

33% MEASURED IN kBtu/SF

What’s Working

Publicly Sponsored Commitments: We have facilitated the commitment of more than 2 million SF of tenants to the Carbon Challenge in New York. We promote tenant participation in energy reduction events such as the WWF Earth Hour and the Building Energy Exchange’s Earth Hour.

Lease-Driven Provisions: As standard practice, we have green provisions in our leases, such as submetered electricity (94% of all leases), submetered water (63%), and capital recovery clauses for energy efficiency projects (63%).

Meaningful Stakeholder Engagement: In 2021, with reduced occupancy continuing throughout most of the year in our buildings, we targeted tenant engagement opportunities with those that were making active changes to their spaces, often in preparation for their offices reopening.

Future Opportunities:

Regulation and Compliance: Laws like New York’s Local Law 88 of 2009, New York’s Local Law 97 of 2019, and California’s Title 24 contain energy or carbon requirements that will result in lower energy consumption in future tenant spaces.

Best Practices in Design: Working with architects and engineers, we have identified several ECMs and will either require or recommend their inclusion in future design.

*Any information relating to goals and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion, opinion, or any form of assurance on such information.

LANDLORD ENERGY REDUCTION PLAN

55% by 2030
35% by 2021

45% by 2030
30% by 2021

TENANT ENERGY REDUCTION PLAN

GRI 302-103-2

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Our progress in 2021 was distorted for another year, due to continued low occupancy, business closures, and reduced hours at retail stores during the pandemic. We expect our consumption to increase in 2022 above pandemic levels before returning to a trajectory of reduction in line with energy initiatives.

In 2021, due to low occupancy throughout much of the year, we suspended our annual waste education town halls, opting for a more targeted tenant engagement program. This was paired with the roll-out of new organics programs in 25% of our commercial office buildings.

Although our water consumption reduced in 2021, due to continued low occupancy, business closures, and reduced hours at retail stores during the pandemic, we do not consider our 10% reduction goal to be achieved. We expect our consumption to increase in 2022 above pandemic levels before returning to a trajectory of reduction from water initiatives.

Goal 50% total energy reduction below a 2009 baseline by 2030 measured in kBtu/SF

2021 Progress: On Target

Goal 75% commercial waste diversion by 2026

2021 Progress: On Target

Goal Every year, purchase 75% of cleaning supplies that meet sustainability criteria. These criteria include certifications designated by UL ECOLOGO, Green Seal, and EPA’s Safer Choice Standard

2021 Progress

Goal 10% by 2030 below 2019 base year.

2021 Progress

Goal 55% energy reduction of landlord-controlled energy by 2030

2021 Progress: On Target

Goal Introduce organics recycling to 50% of portfolio by 2020

2021 Progress: Goal Reached

Goal Complete in-person demonstration and education on recycling procedures for 50% of total Vornado portfolio each year

2021 Progress: N/A

Goal LEED certify 100% of all in-service office properties by 2024

We paused LEED certification efforts until our tenants return to work post-pandemic.

Goal 45% energy reduction of tenant-controlled energy by 2030

2021 Progress: On Target

Goal 75% energy reduction of tenant-controlled energy by 2030

2021 Progress: On Target

Goal 55% energy reduction of landlord-controlled energy by 2030

2021 Progress: On Target

Goal 75% energy reduction of tenant-controlled energy by 2030

2021 Progress: On Target

Goal LEED certify 100% of all in-service office properties by 2024

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Goal Complete in-person demonstration and education on recycling procedures for 50% of total Vornado portfolio each year

2021 Progress: N/A
ENVIRONMENTAL RESULTS 2021

ENERGY EFFICIENCY INVESTMENT

$23 MILLION spent on Tenant Energy Efficiency Capital Projects since 2012

16.5 MILLION SF of our New York portfolio has undergone energy efficiency capital work

$5.4 MILLION+ saved in utility costs in 2021 from our energy efficiency projects completed since 2012

29% RATE OF RETURN SINCE 2012 delivered by our capital projects

VORNADO OWNS AND MANAGES**

27+ MILLION SF of LEED-certified properties

80% of Vornado Portfolio

23+ MILLION SF at LEED Gold or higher

68% of Vornado Portfolio

34+ MILLION SF of space with ENERGY STAR rating

100% of Vornado Portfolio

*CUMULATIVE SAVINGS SINCE 2012

100,351 MWh of cumulative electric savings

142,213 MLBS of steam savings

41,992 MT CO₂ cumulative GHG offset

48,376 THERMS of natural gas savings

WATER WITHDRAWAL†

GRI 303-1, 303-3

3,187,066 CUBIC METERS IN 2019

2,027,913 CUBIC METERS IN 2020

1,959,798 CUBIC METERS IN 2021

2021: 9,062 TONS

ENERGY RECOVERY: 4,386 TONS

COMPOSTING: 765 TONS

LANDFILL: 100 TONS

2020: 8,594 TONS

RECYCLED: 3,751 TONS

ENERGY RECOVERY: 3,043 TONS

COMPOSTING: 1,031 TONS

LANDFILL: 769 TONS

2019: 24,878 TONS

RECYCLED: 12,392 TONS

ENERGY RECOVERY: 7,257 TONS

COMPOSTING: 2,889 TONS

LANDFILL: 2,340 TONS

INTENSITY MEASURES†

BUILDING ENERGY (kWh/SF)

GRI 302-3

2019

27.71

2020

24.33

2021

22.76

BUILDING WATER (m³/SF)

GRI 305-4

2019

.0898

2020

.0600

2021

.0562

GHG EMISSIONS†


2019

22.76

2020

27.71

2021

24.33

*For reporting boundaries, see note on p. 43.
*GHG Emission Intensity includes location-based emissions from Scopes 1, 2 & 3.
** Includes commercial, retail, and residential assets.
† For reporting boundaries, see note on p. 43.
† An additional 38 TONS of hazardous waste were also recycled in 2021.
The consumption and emissions data on this page are presented on an absolute basis. In 2021, our location-based Scope 2 emissions differentiated significantly from our market-based Scope 2 emissions due to our investment in renewable energy certificates in 2021. Going forward we will continue to report our Scope 2 emissions on both a location and market basis.

Because the market-based approach reflects progress on our Vision 2030 carbon neutrality commitment, we will rely on the market-based approach for reporting on our emissions-related goals and targets, including those tied to green debt instruments and executive compensation.

Our location-based Scope 2 emissions inventory includes emissions from tenant electricity that is submetered downstream from our building electricity accounts. We consider these emissions to be within our financial control. If the emissions from submetered tenant electricity were instead to be considered Scope 3 emissions (an approach that is followed by other real estate companies), we estimate our Scope 2 emissions for 2021 to be 85,926 MTCO2e and our Scope 1 + 2 emissions intensity to be 0.0033 MTCO2e/SF.

We have chosen to report our emissions according to the financial control method, as discussed in the World Resource Institute’s Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition. Location-Based reflects emissions for our properties based on the grid average emission factor, while Market-Based reflects emissions that we are responsible for due to our purchasing decisions. Our Scope 1 emissions include onsite combustion from oil and natural gas; Scope 2 emissions include our district steam consumption and electricity consumption, including electricity consumed by our submetered tenants; Scope 3 emissions include other utility consumption within the direct control of our tenants.

<table>
<thead>
<tr>
<th>FINANCIAL CONTROL METHOD¹</th>
<th>LOCATION-BASED</th>
<th>LOCATION-BASED</th>
<th>MARKET-BASED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
<td>2020</td>
<td>2021</td>
</tr>
<tr>
<td>SCOPE 1</td>
<td>28,577</td>
<td>29,190</td>
<td>29,864</td>
</tr>
<tr>
<td>SCOPE 2</td>
<td>177,977</td>
<td>133,997</td>
<td>131,405</td>
</tr>
<tr>
<td>SCOPE 1 + 2 TOTAL</td>
<td>206,554</td>
<td>163,187</td>
<td>161,269</td>
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<tr>
<td>SCOPE 3</td>
<td>49,760</td>
<td>42,997</td>
<td>39,633</td>
</tr>
<tr>
<td>GRAND TOTAL</td>
<td>256,314</td>
<td>206,184</td>
<td>200,902</td>
</tr>
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</table>

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ENVIRONMENTAL RESULTS BY REGION

LEED CERTIFICATIONS

NEW YORK 21.7 MILLION SF
82% of total region (including retail), 30 buildings

CHICAGO 3.7 MILLION SF
Over 99% of total region, 1 building

SAN FRANCISCO 1.8 MILLION SF
100% of total region; 3 buildings

GRID ELECTRICITY MIX

Source: NYCA Energy Production 2021, NYISO

WASTE BY REGION (TONS)

Source: Com Edison Environmental Disclosure Statement, 12 months ending September 30, 2021

TRANSPORTATION SURVEY RESULTS (MILEAGE)

As surveyed from our tenants in 2019

Source: PG&E, 2020 Power Mix

2021 GHG EMISSIONS (MT CO₂e)

Scope 1 Oil & Natural Gas Heating and Cooling
Scope 2 District Steam Base Building Electricity
Scope 3 Submetered Tenant Utilities

Scope 2 Direct Metered Tenant Utilities

† Due to continued low occupancy during 2021, survey results reflect 2019, the last full normal year of operations.
CREATE ACTION PLAN
Define technical solutions, both small-scale (low- and no-cost) and large-scale (energy efficiency capital projects).
Assess projected energy savings of projects and measure their contribution toward property energy reduction goal.

IMPLEMENT ACTION PLAN
Execute plan with projected energy and carbon savings with a variety of stakeholders:
- Internal
  - Site-Level Management and Engineering Teams
  - Accounting Group
  - Senior Management
  - Our Board
- External
  - Utility Companies
  - Vendor Partners
  - Our Peers
  - Our Community

EVALUATE PROGRESS
- Measure and verify energy project savings using submeters.
- Assess energy cost savings on a utility bill. Subsidize cost of energy projects using utility rebates where available.
- Recover costs through lease-driven clauses for resource efficiency-related capital improvements.
- Monitor until the project’s energy reduction goals are met.
- Reflect the impacts of our energy savings to the broader environmental performance of our company, through the key performance indicators in our Environmental Management System (EMS).

RECOGNIZE ACHIEVEMENTS
- Annually recognize building operators and engineers who achieve 10% or greater energy savings on a weather-normalized basis.
- Apply for the ENERGY STAR Label where eligible, annually.
- Communicate energy savings and ENERGY STAR Label achievements to internal and external stakeholders.

ENVIRONMENTAL MANAGEMENT PLANNING CYCLE

MAKE COMMITMENT
Vornado’s dedicated energy management begins with team members who report directly to senior management, and it extends to the asset-level teams which operate and manage the properties. By identifying and executing energy solutions that are specific to each of our assets, Vornado will fulfill its commitment to reducing energy consumption 50% by 2030—below a 2009 baseline.*

ASSESS PERFORMANCE
Our team uses research and data to comprehensively evaluate each asset by taking three different approaches: assessing the physical condition and efficiency of each property’s mechanical infrastructure through energy audits and retrocommissioning, assessing the property’s utility costs on an absolute and per-square-foot basis, and assessing the property’s ENERGY STAR score, which measures the energy performance of a building against its unique attributes and characteristics.

SET GOALS*
Our Vision 2030 goal is to achieve carbon neutrality in our buildings by 2030, which includes a 50% energy efficiency goal. We use carbon intensity (MTCO2e PSF) as the metric to measure against our carbon neutrality goal, and energy intensity (kBtu/SF) against our energy efficiency goal. On an annual basis, we update one- to three-year capital improvement plans that will reduce energy on an incremental basis to reach our 10-year targets.*

5.5 MILLION SF earned the 2021 ENERGY STAR Label
GRI 413-1

REASSESS
- Internal
  - Site-Level Management and Engineering Teams
  - Accounting Group
  - Senior Management
  - Our Board
- External
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DATA SOURCE
- Resource, Consumption, Cost Info

ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)
- Our EMS is aligned with the “Plan-Do-Check-Act” stages of ISO 14001 EMS standards.

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SUSTAINABLE DEVELOPMENT*

At Vornado, sustainability and resilience are important lenses through which we view all of our development projects at any scale. Our holistic approach enables us to focus on best practices around not only carbon neutrality but also operational efficiencies, human health, minimizing material resources, and climate change adaptation. Important considerations include:

- Pedestrian-oriented public spaces
- Ability to remain architecturally significant
- Implementing energy and water efficiency solutions
- Amenities to support tenants and occupant health
- Promoting reuse to reduce embodied carbon and replacement costs
- Creating a healthy environment that fosters collaboration and innovation
- Beyond our base-building efforts, continuing to incentivize our tenants to implement energy savings strategies within their own spaces through resources and direct engagement, real-time energy use data, and information on public incentives available through Con Edison or NYSERDA to help subsidize costs of energy efficiency projects

Vornado is a direct supporter of the USGBC and Center for Active Design and uses these certifications to integrate sustainable best practices across our portfolio.

PENN 1 AND PENN 2

Both PENN 1 and PENN 2 are presently LEED EB+OM Gold certified and are pursuing Fitwel certification while working to improve on the LEED Gold status through renovation. The project is employing a range of sustainable solutions to reduce its environmental footprint and simultaneously improve occupant comfort. Energy reduction and enhanced management capabilities are anticipated to reduce energy consumption by an additional 7% above existing reduction strategies across both buildings. The properties will be delivered as carbon-neutral.

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- Ability to remain architecturally significant
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ENVIRONMENTAL, SOCIAL & GOVERNANCE 2021 | 17

*Any information relating to forward-looking statements, targets, goals, and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.
SUSTAINABLE DEVELOPMENT

Continued

THE FARLEY BUILDING

Vornado converted this iconic Beaux Arts New York City fixture into a best-in-class creative office hub, on par with the horizontal campuses of California, which are characterized by large floor plates and abundant green spaces. The adaptive reuse of the Farley Building will be further supported by our portfolio-wide sustainable operations strategy that prioritizes resources conservation, healthy indoor environments, and responsible procurement.

The 730,000 SF office building is targeting LEED v4 Gold certification, highlighted by the following:

- Thoughtful restoration of building elements rather than replacement reduced our embodied carbon footprint by 64%, or the equivalent of 78,795 MTCO2e avoided
- Direct access to Amtrak, Long Island Rail Road, and New Jersey Transit regional train networks, in addition to multiple NYC subway lines
- A 70,000 SF rooftop park space, with up to a quarter mile of continuous walkable outdoor paths
- Zero waste design guidelines that include organics diversion for all office and retail spaces
- Ample stairwell access to facilitate collaboration among different floors and promote an active lifestyle
- State-of-the-art energy management system that contributes to demand reduction and demand response, and provide tenants with insights into their real-time energy consumption, demand, and carbon emissions
GREEN FINANCING

We have seen the marketplace continue to evolve and establish a firmer connection between sustainability and access to capital. Our recent offering of $750 million of green bonds and the new sustainability-linked pricing reduction on our $1.25 billion Revolving Credit Facility evidence our support of this growing connection and allow us to further integrate sustainability principles into our business.

REVOLVING CREDIT FACILITY

In April 2021, Vornado recast its $1.25 billion Revolving Credit Facility, which assigned reduction of Vornado’s GHGs as a Key Performance Indicator metric to grant a 0.01% reduction in the loan’s interest rate. Achievement of the KPI requires a cumulative annual 5% reduction through 2025 and will be determined through the ongoing GHG reporting in this and future ESG reports.

GREEN BOND

In May 2021, Vornado completed a $750 million dual-tranche green bond offering, resulting in $741.6 million of net proceeds. The offering’s Use of Proceeds is to finance recently completed and future eligible Green Projects, defined as (i) all new development or existing redevelopment buildings, (ii) all tenant improvement projects funded by Vornado, and (iii) all capital and redevelopment projects for existing buildings, in each case that have achieved, or are registered for, Gold or Platinum LEED certification level, and includes projects with disbursements made in the three years preceding the bond issuance date.

As of December 31, 2021, Vornado has disbursed the full $741.6 million* of net proceeds to eligible Green Projects, which was achieved through our significant commitment to sustainable redevelopment within the PENN District, as summarized on this page. It is important to note that these funds represent only a portion of the ongoing capital investments we are making to reduce our carbon footprint across the portfolio. The full disbursement of the net proceeds within the first year of the offering evidences our strong commitment to sustainable development and gives us the ability to contemplate future green bond offerings.

TOTAL FUNDS DISBURSED TOWARD ELIGIBLE GREEN PROJECTS

$741.6 MILLION

FULL NET PROCEEDS

TOTAL FUNDS DISBURSED 2019-2021*

All New Development or Existing Redevelopment Buildings

PENN 1 and PENN 2

- Complete replacement of elevators
- Partial electrification of the chiller plants
- Replacement of PENN 2’s Building Management System (BMS)
- Replacement of single-pane curtainwall with triple-pane units
- Increased air filtration and continuous IAQ monitoring

Farley Building

- Over 700,000 SF of LEED Gold registered office space (certification anticipated spring of 2022)
- Increased air filtration and continuous IAQ monitoring

*Preliminary determination of disbursements. Refer to our Green Bond Use of Proceeds Report to be published in May 2022 on our website at www.vno.com for an update on actual amounts disbursed.
RESponsible Recycling

Vornado works closely with industry service providers and regulators to understand how we can optimally increase responsible waste diversion to support broad recycling and reuse markets and reduce our environmental footprint. To accomplish this, we have set progressive goals and improved building waste infrastructure. Most importantly, we have been and continue to be actively engaged with our tenants as they transition back to the office on best practice strategies to reduce overall waste across many waste streams to keep material out of landfills. We employ comprehensive data collection on these efforts, including annual waste audits that lead to targeted programs designed to effect continuous improvement toward our waste reduction goals.

Vornado’s Waste Management Policy

• Increase diversion of waste from landfills through implementing comprehensive recycling, composting, and donation programs and sending the remaining waste to regional waste-to-energy plants.
• Require tenants to properly dispose of waste in the correct waste bins for collection to reduce contamination.
• Ensure all e-waste and hazardous universal waste are either recycled responsibly or disposed of to protect the environment.
• Understand how diversion impacts our Scope 3 carbon reduction efforts.

Tenant Engagement

• Due to the continuing impact of the pandemic on office occupancy in 2021, we again suspended our annual town hall events. We plan to resume these in early 2022 as tenants return to their offices, and we will supplement this program with additional educational opportunities for tenants.
• We focused on one-on-one tenant engagement opportunities to reinforce proper recycling habits and reinforce organics collections with over 40 tenants including key partnerships with Bloomberg, Yext, Meta, IPG and subsidiaries, MSG, Neuberger Berman, Cohen & Steers, Anthem, and Axil Partners.
• We introduced a comprehensive e-waste collection program across our New York regional assets that provides direct tenant pickup on a quarterly schedule.

Data Tracking†

• We performed waste stream audits at 96% of our office portfolio, representing over 27 million SF.
• In 2021, organics collection increased from 50% of our office portfolio to 75%, representing 87% or 24.7 million SF of our office portfolio.
• Utilizing the EPA WARM Tool Version 15 (https://www.epa.gov/warm/versions-waste-reduction-model-warm#15), waste diverted from landfill and incineration represented 18,771 MTCO2e avoided.

We will continue to monitor and utilize this data to further reduce our Scope 3 emissions in areas over which we have direct influence.

Reduction

Vornado has begun to assess embodied carbon impacts throughout the design of our various new and redevelopment projects to minimize replacement and associated construction waste. Tenants are encouraged to provide reusable cups, plate ware, and service ware in lieu of disposables.

Reuse

We have fostered partnerships with local organizations who can reuse furniture, appliances, cabinetry, and office supplies that come from our own demolition projects and connect these services to tenants undergoing office remodeling.

Recycle

Vornado partners with BMS and our waste haulers to simplify the diversion process for tenants and provide feedback to further solidify educational and engagement opportunities. We track a wide range of recycling streams, including organics, glass/metal/plastic, mixed paper, cardboard, bulk and demolition waste, e-waste, fluorescent bulbs and ballasts, and batteries.

Waste-to-Energy

All of the non-diverted waste from our NYC properties is currently being incinerated at a waste-to-energy facility. Our goal is to limit this to 10% or less of our total waste stream in the next decade.

Waste-to-Landfill

While only a small number of our assets are in geographic regions that still practice landfilling, we continue to work with our local waste haulers to identify emerging opportunities to eliminate this option.
As a building owner and landlord to thousands of business tenants, we are responsible for maintaining and improving the health of our indoor environments, as well as communicating the value of our health and wellness programs with consistency and clarity to our stakeholders. Healthy buildings contribute to a healthy society and continue to be important criteria for prospective tenants. We believe that consistent health programming and communications protocols not only mitigate health risks within our buildings, but they also create a responsible behavior framework for our employees, our tenants, and our visitors to consider elsewhere in their daily lives.

We provide a common-sense, evidence-based approach and uphold the Fitwel standard as a framework to align our operating protocols and design standards to support indoor health. Below are examples of areas of focus for health and wellness at Vornado:

**Indoor Air Quality**
- Semi-annual indoor air quality testing programs to measure carbon dioxide, carbon monoxide, volatile organic compounds, particulate matter, temperature, and relative humidity
- Air quality protection from MERV13 or higher filtration systems, entryway control systems, and walk-off mats
- Piloting of ongoing Indoor Air Quality (IAQ) monitoring in select locations
- Green cleaning with nonhazardous disinfectants and cleaners
- Smoke-free, tobacco-free company across all our properties

**Water Quality**
- Annual legionella and domestic water quality testing
- Comprehensive Water Management Plan

**Mobility and Physical Activity**
- Transit-oriented locations
- Subsidized memberships to fitness centers at select locations
- Accessible stairwells and active design strategies

**Safety & Emergency Preparedness**
- Emergency Action Plans
- Emergency supplies, Automated External Defibrillators (AEDs), and first-aid kits
- Certified First Responder and CPR training for tenants and staff

We presently have 6.6 MILLION SQUARE FEET of buildings (23% of our office portfolio) certified under Fitwel’s Multi-Tenant Whole Building program.
BMS & GREEN CLEANING

Building Maintenance Service, LLC ("BMS") is Vornado’s janitorial division and comprises our essential workers who play critical roles in our pandemic protection program. BMS adheres to an enhanced cleaning, disinfection, and maintenance protocol that prioritizes safety and compliance with CDC and EPA guidelines.

In 2021, our procurement was impacted by the emergency purchase of PPE. BMS achieved 60% sustainable purchases.

EMPLOYEE HEALTH & SAFETY, EMPLOYEE TRAINING

Our 2021 training included

- **60 BMS SUPERVISORS AND SENIOR-LEVEL STAFF TRAINED** in GS-42 green cleaning standards.
- **100% OF ACTIVE BMS EMPLOYEES TRAINED MONTHLY IN COMPLIANCE** with training requirements in the OSHA standards.
- **12 HOURS OF TRAINING** per employee, annually.
- **1,920 HOURS OF SAFETY CHECKS IN 2021**

- **18% REDUCTION IN WORKERS’ COMPENSATION CLAIMS 2020-2021** for BMS employees

INDUSTRY-LEADING CERTIFICATIONS

BMS ensures its products and cleaning methods meet internal and external sustainability goals and improve the health and wellness of building occupants while also achieving optimal performance. We demonstrate this commitment by holding both CIMS-GB with honors and GS-42 certifications since 2014.

**ISSA CIMS-GB WITH HONORS (CLEANING INDUSTRY MANAGEMENT STANDARD - GREEN BUILDING)**

Compliance with the CIMS-GB standard demonstrates that BMS is structured to deliver consistent, quality services while focusing on sustainable practices. The path to certification consists of a written documentation submittal and an in-person audit. BMS submitted written documentation, including purchasing records, scopes of work, client feedback, and green cleaning policies and procedures. Once the documentation was reviewed and approved, BMS completed a comprehensive assessment by a third-party auditor to demonstrate compliance with CIMS. During the audit, the assessor surveyed janitorial supply closets, equipment, safety stations, and waste storage areas and conducts short interviews with BMS clients to determine that the services provided meet the CIMS-GB standard. The Green Building (GB) aspect of the certification demonstrates that BMS has met the rigorous environmental requirements set forth by CIMS. BMS completed the recertification process in 2020, with recertification occurring every two years.

**GS-42 COMMERCIAL AND INSTITUTIONAL CLEANING SERVICES**

The Green Seal Standard for Commercial and Institutional Cleaning Services, GS-42, establishes environmental requirements for cleaning service providers of commercial, public, and institutional buildings, including in-house and external cleaning services. To become certified, BMS completed a rigorous audit and documentation process, demonstrating our sustainable purchasing for equipment and products, training schedules, operations, and green cleaning techniques. During the audit, BMS was evaluated based on our written standard operating procedures and building-specific green cleaning plans, which outline the routine maintenance of powered equipment, safety stations, green cleaning techniques, and cleaning procedure requirements. Green Seal emphasizes the integration of sustainable practices within each of these requirements. BMS completed the recertification process in 2021, with recertification occurring every two years.

"BMS meets the highest industry standards for safe, effective cleaning and disinfecting that prioritizes indoor air quality and the health of the people in the building. We see BMS as an outstanding green cleaning service provider and overall industry leader because of the company’s professionalism, commitment to sustainability, and consistent quality control. BMS not only provides excellent custodial services, but also delivers critically important indoor environmental health benefits and environmental savings through its services.”  

Green Seal CEO Doug Gatlin

*This cleaning service meets Green Seal® Standard GS-42 based on waste minimization, building-specific operational procedures, effective custodial training, and use of products with limits on human and environmental toxicity. www.GreenSeal.org.*
BMS & GREEN CLEANING* Continued

2021 SUPPLY PURCHASE IMPACT

Packaging Reduction

76 TONS
from chemical concentrates

Water Use Reduction

567,105 GAL
from chemical-free T3 scrubber

Chemical Use Reduction

2,294 GAL
from chemical-free T3 scrubber

Janitorial Products

100%
are assessed for health and safety improvement
GRI 416-1

Purchased 34,292 cases of paper products, including 656,001 pounds of recycled paper products, which represents

1,082 CUBIC YARDS
of landfill space saved

Revolution liners use about 50% postconsumer recycled plastic. By purchasing these bags, BMS reduced emissions by

94.4 TONS
of CO2e in 2021

*Any information relating to forward-looking statements, targets, goals, and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.

GRI 102-9, 303-1

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SUPPLY CHAIN

VENDOR CODE OF CONDUCT
To extend our Business Code of Conduct to include our suppliers, we require compliance with Vornado’s Vendor Code of Conduct (CoC) as part of our standard form of vendor contract. In addition to conveying our requirements on business ethics, integrity, and anti-bribery, we explicitly state that our vendors must comply with all applicable laws, including those pertaining to the following:

- Freedom of association and collective bargaining
- Human trafficking
- Forced labor and child labor
- Wages and working hours
- Health and safety
- Human rights and labor rights
- Anti-harassment
- Environmental impact and compliance with environmental regulations
- Air and GHG emissions
- Waste and recycling
- Anti-corruption
- Gifts and hospitality

VENDOR INTEGRITY PROGRAM
Vornado actively monitors compliance with our CoC and performs audits on our supply chain through our Vendor Integrity Program (VIP). Vendors are subject to review according to our VIP upon initial contract signing and at least once every three years thereafter. Our VIP uses federal and international databases to canvas our vendors for controversies that may indicate violation of our Code of Conduct. Such controversies may include, but are not limited to:

- Criminal and civil litigations
- Human rights violations, such as trafficking or slavery
- Controversial mentioning in the media
- Illegal business practices, including money laundering, terrorism, corruption, or fraud
- OSHA violations

RESPONSIBLE SUPPLY CHAIN PROGRAM
In 2021, Vornado expanded its VIP by engaging with an organization that evaluates our vendors on how well they have integrated the principles of ESG into their businesses and management systems. These measures assess performance and impact across 21 indicators within the following four themes:

- Environment
- Labor and Human Rights
- Ethics
- Sustainable Procurement

Through these assessments, Vornado will now begin to not only help us identify vendors that share our environmental, social, and governance values, but work with our existing vendors to improve their transparency and sustainable practices. The data received will further support our efforts to enhance our own reporting for various frameworks, including Scope 3 carbon emissions and social impacts.
CHICAGO AND SAN FRANCISCO

theMART
Left to right clockwise: theMART exterior, Marshalls Landing interior, Grand Stair

555 CALIFORNIA STREET CAMPUS
Left to right clockwise: Triplex building exteriors, 555 California Street Plaza, 315 Montgomery Street facade, 345 Montgomery Street Atrium
Our strategy is to foster and nurture the community within our buildings for our tenants and visitors, and to enrich the neighborhoods and communities in which our buildings are located. Our proprietary LIVE.WORK.DO. app was designed exclusively for our tenants to seamlessly connect with their buildings’ amenities, services, and work order system, as well as to connect the neighborhood to our tenants.
CULTURE, WELLNESS, AND ENTERTAINMENT
Exclusive Vornado tenant deals and promotions from onsite and neighborhood restaurants, gym classes, spa specials, local festivals and concerts, and more. During the pandemic, Live.Work.Do. connected Vornado with our tenants who were working from home via free online exercise programs, yoga classes, meditation podcasts, and recipes for special dishes and cocktails.

PARKING AND TRANSPORTATION
Onsite parking with access to electric charging stations and Revel Mopeds. App access to electric charging stations at our dock garages, moped rentals, and an ever expanding list of alternative transportation options.

MOBILE TENANT ACCESS
Mobile credentials provide tenants with frictionless access through the building’s turnstiles, eliminating the need to carry building access cards.

MOBILE VISITOR REGISTRATION
The Live.Work.Do. app provides the convenience of mobile credentials to our visitors. Tenants can quickly invite a visitor and a QR code will be provided for entry via email or text, reducing dependence on printed paper badges for all visitors.

BUILDING SUSTAINABILITY INITIATIVES
We keep our tenants informed of the building’s sustainability profile, including energy, water, waste, and transportation data; initiatives such as Earth Hour; recycling programs; and philanthropic activities.

WORK REQUESTS
Direct links into the building’s service order systems and resource reservations allow the tenant administrative teams to report on issues and receive updates on the go from the convenience of a mobile phone.

CRITICAL INFORMATION AND EMERGENCY PREPAREDNESS
Live.Work.Do. served as a critical source of information during the pandemic, particularly while tenants worked from home. Through Live.Work.Do., Vornado was able to notify tenants of all COVID-related protection measures, including requirements for entry to the building, updates to building systems, green cleaning and disinfection, and updates on governmental regulations.

DINING WITH SOCIAL IMPACT
CSA boxes in conjunction with our onsite restaurant provider Sharebite Partnership - Mission driven corporate food ordering platform, with concierge delivery of 3-5 tailored restaurant options per day, helping to keep tenants COVID safe.

ORDER AHEAD
Platform for ordering coffee for a seamless pickup and for ordering food so tenants can skip the lunch line.

HEALTH AND WELLNESS
Access to private gym memberships, fitness classes, and nutrition counseling. On-site clinic appointments for general medical services, flu shots, and physical therapy sessions through Columbia New York Presbyterian.

SAFETY
Direct links among the tenants, property management teams, and our security force to report on-site and local concerns and communicate in real-time. Our in-house Security Operations Center (SOC) was built exclusively for the portfolio and is managed 24 hours a day, 7 days a week by experienced security professionals.

TRANSIT
Live transit information alerts for neighborhood transit options conveniently originating at each office building.

ENVIRONMENTAL, SOCIAL & GOVERNANCE 2021 | 27
Due to low occupancy continuing for much of 2021, 2019 results are presented as a baseline for future reporting.

**STAKEHOLDER ENGAGEMENT**

Much of 2021 continued to be a story of remote work for a large portion of our tenancy, preventing us from holding typical in-person engagements, such as town halls, or comfort and transportation surveys. Although this made in-person engagement difficult, the Vornado sustainability team adapted to new ways to engage with our tenants as they planned their return to the office and expressed interest in using this transition to address resource efficiency and other environmental priorities.

Key Sustainability Priorities Addressed Through Engagement in 2021:

- Energy competition and associated reduction strategies during low occupancy
- Introduction of organics collection and the reinforcement of existing waste diversion policies
- Identifying tenant Energy Conservation Measures (ECMs) to reduce long-term energy use, some of which Vornado ushered through using the ENERGY STAR Treasure Hunt program.
- Collaborating with tenants on the ENERGY STAR Tenant Space to track performance improvements and seek recognition
- Expanding our urban beehive program**

**Building on tenant programs at 770 Broadway and 731 Lexington, Vornado is working to bring beehives to our portfolio to support the local pollinator population. Hives were installed at 1290 Avenue of the Americas, and we are on target to add five additional locations in 2022. The urban beekeeping program is an opportunity to engage with tenants in a unique way by providing educational programs year-round as well as providing them with harvested honey from the hives.**

- Introduction of the tenant ENERGY STAR programs to tenants in New York and San Francisco representing over 9.1 million SF of leased space
- Direct engagement with over 50 tenants representing over 7.3 million SF of leased space within New York, San Francisco and Chicago portfolios to discuss energy reduction strategies, urban beekeeping, the introduction of organics collection, and ways to improve waste diversion within their spaces.

**TENANT ENERGY ENGAGEMENT**

<table>
<thead>
<tr>
<th>7.3 MILLION SF OF DIRECT TENANT ENGAGEMENT</th>
<th>26% OF VORNADO'S TENANCY INTRODUCED ENERGY STAR PROGRAMS</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>TENANT SATISFACTION SURVEYS†</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>8 AVERAGE TENANT SATISFACTION RANKING</th>
<th>89% OF TENANTS RANK THEIR EXPERIENCE AS POSITIVE</th>
</tr>
</thead>
</table>

We ask tenants to rate their experience on a scale of 1-10 (10 being the most positive). We survey our tenants as part of our stakeholder engagement and our customer service. Our results are reviewed internally every year and help us target areas of improvement. We paused our tenant satisfaction surveys during the pandemic in 2020. We plan to resume our surveys in 2022 and beyond.

† Due to low occupancy continuing for much of 2021, 2019 results are presented as a baseline for future reporting.

‡ Any information relating to forward-looking statements, targets, goals, and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.
HUMAN CAPITAL MANAGEMENT

Our employees are the foundation of our business. We provide training and education, promote career and personal development, and encourage innovation and engagement to foster their talent and growth. Vornado upholds strict policies against bribery and corruption, child labor, and forced or compulsory labor. Such policies extend to our Board and management as well as our employees. Any trustee, officer, or employee who becomes aware of any existing or potential violation of Vornado’s Code of Ethics is required to notify their Code of Ethics contact person promptly. Violations may be reported anonymously, and all communications will be kept confidential. Our Code of Business Conduct and Ethics is found on our website at www.vno.com/governance/conduct-and-ethics*. Our policies are found in our employee handbook, which our employees must review and acknowledge on an annual basis.

EMPLOYEE HEALTH & BENEFITS

Financial
- 401(k) and Employer Match
- Tuition Reimbursement
- Employee Referral Bonus
- Commuter Benefits
- Cellular Discounts

Parental Benefits
- Dependent Care Flexible Spending Account
- Maternity & Parental Leave
- Adoption/Surrogacy/IVF Stipend

Work/Life Balance
- Employee Assistance Program
- Time Off/Paid Holidays
- Summer Fridays
- Offered flexibility to encourage employees to find better balance while supporting the critical need for in-person collaboration in the office. We understand how the post-COVID workplace can evolve and thrive.

Health and Wellness
- Medical, Dental, and Vision Coverage including Telemedicine
- Health Savings Account
- Life Insurance
- Short-Term and Long-Term Disability Insurance
- Employee Wellness Incentives
- Healthcare Flexible Spending Account
- Subsidized Gym Memberships
- Biometric Screenings
- In-Workplace Flu & COVID Vaccination
- CPR Trainings
- Enhanced our wellness program/initiatives to encourage our employees to adopt healthy behaviors.

EMPLOYEE TRAINING
- Anti-Harassment
- Cybersecurity
- Active Shooter Training
- Manager and Executive Retreats for Training Purposes
- Continuing Education Through Building Owners and Managers Association (BOMA), IUOE Local 94, Local 32BJ, and the NYU Schack School of Real Estate
- Green Professionals (GPRO) Training, Administered by Urban Green Council

EVENTS
- Earth Week
- Corporate Challenge
- Town Halls
- Holiday Parties
- Vornado Day of Service

*The information at this link was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.
Vornado operates in a diverse and inclusive environment that empowers the individual and enriches the employment experience. As a business leader in one of the most diverse markets in the world, we have a responsibility to improve representation in the real estate industry and enhance opportunities within our organization. Over the course of the past year, we’ve implemented various programs and initiatives that have a meaningful impact across our employee population.

Ways in which we’ve targeted our efforts:

• Expanded opportunities to minority students through partnerships with Project Destined, which sourced internships and mentorship opportunities with our senior executives.

• Updated our recruiting and onboarding software. This creates more seamless candidate and new hire experience to ensure we have a fair and balanced hiring process, bringing in applicants from all different backgrounds. Adjusted language in our job postings to promote greater inclusion. Targeted outreach to identify diverse candidates.

• Enhanced our parental leave and established an adoption/surrogacy benefit to recognize all different types of families.

• Added an elective holiday to our calendar, allowing employees to observe a personal religious or cultural holiday.
### Social Demographics

**Vornado 2021**

<table>
<thead>
<tr>
<th>GENDER</th>
<th>TOTAL EMPLOYEES</th>
<th>% ALL EMPLOYEES</th>
<th>PERMANENT</th>
<th>TEMPORARY</th>
<th>FULL-TIME</th>
<th>PART-TIME</th>
<th>RACIAL MINORITIES (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL EMPLOYEES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>252</td>
<td>46.41%</td>
<td>247</td>
<td>5</td>
<td>248</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>FEMALE</td>
<td>291</td>
<td>53.59%</td>
<td>281</td>
<td>10</td>
<td>284</td>
<td>7</td>
<td>31%</td>
</tr>
<tr>
<td><strong>AVP OR ABOVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>76</td>
<td>14.00%</td>
<td>76</td>
<td>0</td>
<td>76</td>
<td>0</td>
<td>16%</td>
</tr>
<tr>
<td>FEMALE</td>
<td>35</td>
<td>6.45%</td>
<td>35</td>
<td>0</td>
<td>35</td>
<td>0</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 30 YRS OLD</td>
<td>93</td>
<td>17.13%</td>
<td>82</td>
<td>11</td>
<td>89</td>
<td>4</td>
<td>19%</td>
</tr>
<tr>
<td>30-50 YRS OLD</td>
<td>271</td>
<td>49.91%</td>
<td>267</td>
<td>4</td>
<td>265</td>
<td>6</td>
<td>25%</td>
</tr>
<tr>
<td>&gt; 50 YRS OLD</td>
<td>179</td>
<td>32.97%</td>
<td>179</td>
<td>0</td>
<td>178</td>
<td>1</td>
<td>25%</td>
</tr>
<tr>
<td><strong>AVP OR ABOVE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 30 YRS OLD</td>
<td>1</td>
<td>0.18%</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>30-50 YRS OLD</td>
<td>65</td>
<td>11.97%</td>
<td>65</td>
<td>0</td>
<td>65</td>
<td>0</td>
<td>22%</td>
</tr>
<tr>
<td>&gt; 50 YRS OLD</td>
<td>45</td>
<td>8.25%</td>
<td>45</td>
<td>0</td>
<td>45</td>
<td>0</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEW YORK</td>
<td>259</td>
<td>47.70%</td>
<td>245</td>
<td>14</td>
<td>251</td>
<td>8</td>
<td>23%</td>
</tr>
<tr>
<td>NEW JERSEY</td>
<td>226</td>
<td>41.62%</td>
<td>223</td>
<td>1</td>
<td>224</td>
<td>2</td>
<td>36%</td>
</tr>
<tr>
<td>CHICAGO</td>
<td>54</td>
<td>9.94%</td>
<td>54</td>
<td>0</td>
<td>54</td>
<td>0</td>
<td>17%</td>
</tr>
<tr>
<td>SAN FRANCISCO</td>
<td>4</td>
<td>0.74%</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TENURE</th>
<th># OF EMPLOYEES</th>
<th>% ALL EMPLOYEES</th>
<th>Vornado 2021 Number of New hires</th>
<th>2021 Employee Turnover Rate</th>
<th>2021 Number of New hires</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4 YEARS</td>
<td>197</td>
<td>36.28%</td>
<td>270 (100.00%)</td>
<td>17%</td>
<td>66</td>
</tr>
<tr>
<td>5-9 YEARS</td>
<td>147</td>
<td>27.07%</td>
<td>95 (100.00%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-19 YEARS</td>
<td>104</td>
<td>19.15%</td>
<td>95 (100.00%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20+ YEARS</td>
<td>95</td>
<td>17.50%</td>
<td>543 (100.00%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BMS 2021**

<table>
<thead>
<tr>
<th>GENDER</th>
<th>TOTAL EMPLOYEES</th>
<th>% ALL EMPLOYEES</th>
<th>PERMANENT</th>
<th>TEMPORARY</th>
<th>FULL-TIME</th>
<th>PART-TIME</th>
<th>RACIAL MINORITIES (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ALL EMPLOYEES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MALE</td>
<td>2,094</td>
<td>66.60%</td>
<td>1,887</td>
<td>207</td>
<td>1,720</td>
<td>374</td>
<td>69%</td>
</tr>
<tr>
<td>FEMALE</td>
<td>1,050</td>
<td>33.40%</td>
<td>963</td>
<td>87</td>
<td>713</td>
<td>337</td>
<td>72%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt; 30 YRS OLD</td>
<td>407</td>
<td>13%</td>
<td>311</td>
<td>96</td>
<td>283</td>
<td>124</td>
<td>74%</td>
</tr>
<tr>
<td>30-50 YRS OLD</td>
<td>1,362</td>
<td>43%</td>
<td>1,230</td>
<td>132</td>
<td>1,037</td>
<td>325</td>
<td>71%</td>
</tr>
<tr>
<td>&gt; 50 YRS OLD</td>
<td>1,375</td>
<td>44%</td>
<td>1,309</td>
<td>66</td>
<td>1,113</td>
<td>262</td>
<td>67%</td>
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<tr>
<td><strong>Region</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEW YORK</td>
<td>1,994</td>
<td>63%</td>
<td>1,891</td>
<td>103</td>
<td>1,936</td>
<td>58</td>
<td>62%</td>
</tr>
<tr>
<td>NEW JERSEY</td>
<td>29</td>
<td>1%</td>
<td>25</td>
<td>4</td>
<td>10</td>
<td>19</td>
<td>86%</td>
</tr>
<tr>
<td>CHICAGO</td>
<td>367</td>
<td>12%</td>
<td>180</td>
<td>187</td>
<td>176</td>
<td>191</td>
<td>72%</td>
</tr>
<tr>
<td>SAN FRANCISCO</td>
<td>741</td>
<td>24%</td>
<td>741</td>
<td>0</td>
<td>308</td>
<td>433</td>
<td>89%</td>
</tr>
<tr>
<td>OTHER</td>
<td>13</td>
<td>0%</td>
<td>13</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>85%</td>
</tr>
</tbody>
</table>

**2021 Employee Turnover Rate:** 21%

**New hires in 2021:** 583

**BMS 2021 Number of New hires**

<table>
<thead>
<tr>
<th>BY AGE</th>
<th>BY GENDER</th>
<th>BY REGION</th>
<th>2021 Employee Turnover Rate</th>
<th>2021 Number of New hires</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 30 YRS OLD</td>
<td>153</td>
<td>26.24%</td>
<td>NEW YORK</td>
<td>42</td>
</tr>
<tr>
<td>FEMALE</td>
<td>276</td>
<td>47.34%</td>
<td>NEW JERSEY</td>
<td>8</td>
</tr>
<tr>
<td>&gt; 50 YRS OLD</td>
<td>154</td>
<td>26.42%</td>
<td>CHICAGO</td>
<td>82</td>
</tr>
<tr>
<td>TOTAL</td>
<td>583</td>
<td>100.00%</td>
<td>WASHINGTON, DC</td>
<td>147</td>
</tr>
</tbody>
</table>

**Our diversity metrics set a baseline from where we constantly strive to improve. Our target areas of improvement include increasing female and minority representation in senior positions, while maintaining employee tenure and reducing turnover risk.**

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**Note:** Demographics were not collected for employees who left employment in 2021 so this data has been omitted.

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**Enforcement, Social & Governance 2021 | 31**
VORNADO VOLUNTEERS

Through employee engagement and social impact assessment, Vornado Volunteers identified the following localized community priorities: economically and socially disadvantaged populations, environmental restoration and protection, and health and wellness. In 2020, Vornado Volunteers commenced its commitment to community activism in each of our divisions, before transitioning to virtual volunteering where possible. Below is a selection of our 2020 activity.

• Partnered with Grant Associates for Vornado’s Career Discovery Week in February, where Vornado executives hosted career panels, resume reviews, mock interviews, and networking sessions for 30 New York City high school sophomore students.

• Participated in virtual discussion and presentation for Fellows Issue Day, a cohort-style leadership training series, issued through the partnership with the Real Estate Board of New York (REBNY) and Coro, NYC’s premier civic leadership training organization.

• Provided host sponsorship and virtually participated in the American Lung Association’s 10th annual Fight for Air Stair Climb.

We have also instituted Vornado’s Day of Service, which is a day of compensated time allowing our employees to volunteer for a cause of their choosing, starting in 2021.

Below is a selection from our 2019 volunteer program. We anticipate returning to in-person volunteering activity after the pandemic subsides in 2022 and beyond.

• American Lung Association, Fight for Air Stair Climb, raising over $200,000 for lung disease research and awareness programs in New York.

• San Francisco Fire Department First Responders Stair Climb at 555 California Street in San Francisco.

• Partnership with Jersey Cares to provide shelters, hospitals, and food banks with supply kits and care packages.

• Over 600 hours of volunteering to revitalize Norman S. Weir School in Paterson, New Jersey, and provide mentoring support for students.

• Sponsorship of 2019 Canstruction Awards, which collected over 150,000 lbs. of food to provide over 230,000 meals through the Greater Chicago Food Depository.

• Park cleanup efforts in Central Park in NYC as well as Liberty State Park in Jersey City, New Jersey.

CHARITABLE CONTRIBUTIONS

In addition to volunteering our time and expertise to worthy causes, Vornado generously supports charities with financial contributions. Our beneficiaries represent a broad range of worthy causes, with an emphasis on community development, education and youth services, cultural institutions, and medical research. Below is a selection of recipients of Vornado’s charitable giving in 2021:

• All Stars Helping Kids

• Bowery Mission

• Breaking Ground

• Building Skills New York

• Chicagoland Entrepreneurial Center

• Design Museum of Chicago

• Food 1st Foundation

• Greater Chicago Food Depository

• Inner-City Scholarship Fund

• Municipal Arts Society of New York

• New York Community Trust

• Project Cicero

• Regional Plan Association
Our employees serve as members of and hold board positions in organizations where we make meaningful contributions to ESG issues in real estate. Our partnerships strategically address topics that include, but are not limited to: energy and water efficiency; climate policy; green building certifications; building electrification; zero waste strategies and recycling; diversity, equity, and inclusion; ESG reporting frameworks; and sustainable operations and maintenance. Below is a selection of our 2021 involvement.

**NATIONAL**
- EPA ENERGY STAR Partner
- U.S. Green Building Council Corporate Member, Greenbuild Program Working Group (Co-Chair)
- Urban Land Institute, Center for Sustainability and Economic Performance (Board)
- NAREIT Real Estate Sustainability Council
- Real Estate Roundtable, Sustainability Policy Advisory Committee (Vice Chair), Equity, Diversity & Inclusion Policy Advisory Committee
- Global Real Estate Sustainability Benchmark (GRESB) Benchmark Committee Member
- Sustainability Accounting Standards Board (SASB) Real Estate Sector Advisory Group

**REGIONAL**
- New York Energy Consumers Council (Co-President)
- Real Estate Board of New York (REBNY) Sustainability Committee
- Building Energy Exchange (Nominating Committee Chair)
- Urban Green Council
- Energy Efficiency & Housing Panel Member, New York State Climate Action Council
- New York State Department of Public Service Energy Efficiency and Building Electrification Strategic Advisory Group
- NYC Commercial Buildings Working Group for Local Law 97 Implementation
- Retrofit Chicago
- Building Owners and Managers Association (BOMA) New York, Chicago, and San Francisco
- BOMA-New York Pinnacle Each Award Sub-Committee (Chair)
- AIA Committee on the Environment (COTE) Zero Waste Design Guidelines Advisory Board
- Regional Plan Association (Board)
- Young Men's/Women's Real Estate Association (Board)
- Citizen Budget Commission
In 2020 and 2021, BMS field staff have been trained utilizing the following COVID-specific training modules and methods:

- PPE – how and when to use it, proper donning and doffing techniques
- Proper pandemic disinfection protocol – emphasizes product selection, dwell time, procedures, PPE, how to properly use equipment
- Preventing the spread of contagious illness (DC/VA)
- ISSA Global Biorisk Advisory Council (GBAC) Cleaning and Disinfection Principles
- Equipment training – HEPA filtered vacuums, electrostatic sprayers
- BMS staff guidelines for health and safety during COVID – social distancing, hand washing, PPE, communication, symptom checking
- 32BJ/BMS Partnership COVID Training & Refresher Course (1 Hour)
- Creation of weekly safety/training virtual meetings (DC/VA region)

Types of QA/QC safety checks conducted to ensure a healthy workplace in 2020 and 2021:

- Safety station inspections to ensure proper PPE, signage, Material Safety Data Sheets (MSDS), and bloodborne pathogen procedures in place
- PPE inventory, tracking, and distribution
- Emergency cabinet checks
- Employee injury/incident follow-up
OBSERVATIONS FROM 2021:

COVID Impact
Our tenants, investors, Board, and employees all expressed concern about the impact of the COVID pandemic on our business, our human capital, and our ability to continue progress on our ESG goals.

Net Zero Transition and Scope 3 Emissions
Our tenants, investors, and Board expressed continued support for Vision 2030, and encouraged Vornado to consider additional categories of Scope 3 emissions as part of our carbon inventory.

Executive Compensation
Based on prior year feedback, our Board prioritized the inclusion of ESG performance metrics in our senior management long-term compensation plan. Our investors expressed support for these changes.

Diversity, Equity, & Inclusion and Human Capital Management
Our employees, tenants, investors, and Board all included these topics as a top priority in their engagement. DEI enhancements, workplace flexibility, and expanded benefits were among the most frequently mentioned components.

Board Tenure and Refreshment
Our investors continued to express support for Board refreshment, which our Board is implementing for 2022.

*Any information relating to forward-looking statements, targets, goals, and progress against goals was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.
ESG GOVERNANCE

ESG at Vornado is vertically integrated and core to our business, starting with the Board and impacting every division.

Sustainability – our Environmental arm – is led by a dedicated team of four employees, who report to Vornado’s Chief Operating Officer and are supported by two dedicated employees from our BMS, LLC division.

Human Resources – our Social arm – is led by Samantha Benvenuto, VP, who reports to Vornado’s Chief Administrative Officer. Samantha leads a team dedicated to Human Resources and Benefits.

Corporate Governance – our Governance arm – is led by Steven Borenstein, SVP and Corporation Counsel, who reports to Vornado’s President and Chief Financial Officer. Steven also works regularly with our Chairman and CEO, as well as our Board.

Our Corporate ESG Team is comprised of our senior decision makers on corporate strategy, as well as our pertinent divisional heads and subject matter experts. Specifically, the team includes the following roles:

- Lead Trustee
- President and Chief Financial Officer
- EVP, Finance and Chief Administrative Officer
- SVP, Corporation Counsel
- SVP, Sustainability & Utilities
- SVP, Human Resources

Oversight of social and environmental matters, including climate change risk; diversity, equity, and inclusion; and human capital management. Quarterly updates from senior management on ESG and an annual presentation from SVP, Sustainability and Utilities.

Stakeholder engagement, investor communication and outreach, and execution of ESG strategy. Formal schedule of annual investor engagement on ESG and frequent meetings and communication among members.

ESG strategy implementation within respective areas of focus. Daily discussions and active collaboration on specific projects as well as ongoing operations and maintenance.

Integration of ESG strategy across entire spectrum of business units and stakeholder groups. Frequent communication with respective heads of management.
Vornado is committed to rigorous cybersecurity protocols and employs a multifaceted approach for protecting our data and the computing environment utilized by our employees and external vendors. We engage with multiple third-party services that provide in-depth 24/7 network monitoring in addition to performing scans for vulnerabilities. These service providers ensure that our cybersecurity posture is correct, updated, and ready to respond to any new and emerging threats as well. In addition, we support and supplement our cybersecurity efforts with physical security to further protect and maintain the network and computing equipment that allow us to operate our assets efficiently. We believe strongly in educating our employees by utilizing both online cybersecurity education and performing phishing campaigns to understand areas of additional educational need. Our Internet of Things (IoT) and corporate networks are physically separate to further enhance our data and access segregation. Furthermore, our IoT network is highly segmented for additional security and to minimize vendor access. Our networks are audited by multiple external firms to further our commitment to ensuring the highest security. Formal reports to both the Audit Committee and Board of Trustees detailing our current cybersecurity program and future enhancements are instrumental in satisfying their responsibilities.

The governance of the response to cyber incidents is designed to be efficient and ensure roles and responsibilities are clear throughout the organization. Because cyber incidents are only one area of risk for Vornado, the governance of their anticipation, identification, management, and response must logically fit within the firm’s overall risk management and its associated response to those risks.

OUR OBJECTIVE:
Vornado’s primary information security objective is to protect information assets from threats and vulnerabilities through active network monitoring and testing, and strong management of application, infrastructure, and physical access.

IDENTITY AND ACCESS MANAGEMENT
We have engaged outside experts to continuously monitor network events and identify flaws or weaknesses through regular penetration testing. An Identity & Access Management (IAM) system analyzes application-level activities for suspicious behavior that might otherwise go undetected. Multi-Factor Authentication (MFA) is required for all remote network access and sensitive on-network applications.

PATCH AND VULNERABILITY MANAGEMENT
Workstations and servers are secured via a strict patch management process and regular system scans to identify and remediate vulnerabilities. We have implemented restrictive data access through third-party software and perform thorough vendor cyber assessments to understand any potential risk posed by outside entities.

TRAINING AND OUTREACH
All staff are trained in cybersecurity awareness and tested through periodic email phishing campaigns. Frequent reminders in the form of newsletters make our employees an active part of our cyber defense.

INCIDENT RESPONSE
A detailed Cybersecurity Incident Response Plan (CSIRP) is in place for organizational preparedness in the event of a cyber event. The CSIRP is vetted and updated regularly via multidisciplinary tabletop exercises.

BUSINESS CONTINUITY
We validate replication of our critical financial systems at our disaster recovery site daily. All employees have secure remote capabilities to perform critical tasks for the enterprise without interruption.
Management of Vornado Realty Trust is responsible for the completeness, accuracy, and validity of the disclosures in the Global Reporting Initiative Index included within the Environmental, Social & Governance Report of Vornado Realty Trust as of and for the year ended December 31, 2021. Management is responsible for the collection, quantification, and presentation of the disclosures and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the disclosures. Measurement of certain disclosures includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from accuracy and precision of greenhouse gas conversion factors or estimation methodologies used by management.

The selection by management of different but acceptable measurement methods, input data, or assumptions may have resulted in materially different amounts or disclosures being reported. Management asserts that the disclosures in the Global Reporting Initiative Index included within the Environmental, Social & Governance 2021 Report of Vornado Realty Trust as of and for the year ended December 31, 2021 are presented in accordance with the Global Reporting Initiative (GRI) Sustainability Reporting Standards under its Core option. The GRI has developed an internationally recognized standard for sustainability reporting.

### GRI 102: GENERAL DISCLOSURES 2016

<table>
<thead>
<tr>
<th>DISCLOSURE</th>
<th>DESCRIPTION</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>102-1 Name of the organization</td>
<td>Vornado Realty Trust</td>
<td></td>
</tr>
<tr>
<td>102-2 Activities, brands, products, and services</td>
<td>We currently own or portions of: New York; 20.6 million square feet of Manhattan office in 32 properties; 2.7 million square feet of Manhattan street retail space in 60 properties; 1,674 units in 8 Manhattan residential properties; A 32.4% interest in Alexander’s, Inc. (Alexander’s) (NYSE: ALX), which owns six properties in the greater New York metropolitan area, including 731 Lexington Avenue, the 1.3 million square foot Bloomberg, L.P. headquarters building. Other real estate and investments: The 3.7 million square foot theMART in Chicago; A 70% controlling interest in 555 California Street, a three-building office complex in San Francisco's financial district aggregating 1.8 million square feet; A 29.0% interest in Vornado Capital Partners, our real estate fund. We are the general partner and investment manager of the fund. The fund is in winddown; and Other real estate and investments.</td>
<td></td>
</tr>
<tr>
<td>102-3 Location of headquarters</td>
<td>888 Seventh Avenue, New York, NY</td>
<td></td>
</tr>
<tr>
<td>102-4 Location of operations</td>
<td>United States of America</td>
<td></td>
</tr>
<tr>
<td>102-5 Ownership and legal form</td>
<td>Fully integrated REIT which conducts its business through, and substantially all of its interests in properties are held by, the Operating Partnership, a Delaware limited partnership. Vornado is the sole general partner of, and owned approximately 92.6% of the common limited partnership interest in the Operating partnership as of December 31, 2021.</td>
<td></td>
</tr>
<tr>
<td>102-6 Markets served</td>
<td>Our primary property types are office and retail with geographic locations in New York, Chicago, and San Francisco. Also see Materiality Assessment p. 35, and Stakeholder Engagement p. 28 of this report.</td>
<td></td>
</tr>
<tr>
<td>102-7 Scale of the organization</td>
<td>ESG Governance, p. 36 of this report; 35+ office properties in New York, Chicago, and San Francisco; 60+ retail properties in New York and surrounding regions, Miami Beach, FL, and Annapolis, Maryland; 1,674 residential apartments in New York City, $1,589 billion total revenues in 2021, Vornado in conjunction with BMS employed 3,687 employees, 543 of which are employed by Vornado, and 3,144 of which are employed by BMS. The demographics provided is a reflection of the total number of Vornado and BMS staff employed during 2021.</td>
<td></td>
</tr>
<tr>
<td>102-8 Information on employees and other workers</td>
<td>The significant portion of Vornado’s activities are performed by workers employed by Vornado. The information included in this ESG report has been supplied and created by Vornado’s &amp; BMS’s Human Resources departments, respectively. Diversity, Equity, &amp; Inclusion, p. 31 of this report.</td>
<td></td>
</tr>
<tr>
<td>102-9 Supply chain</td>
<td>Vornado engages primarily with suppliers who provide supplies and equipment that help us manage and develop our properties. Our suppliers range in location but tend to be concentrated in our primary geographic regions of New York, Chicago, and San Francisco. Vornado considers BMS LLC as a supplier of janitorial supplies and equipment for our properties, Supply Chain p. 24, and BMS &amp; Green Cleaning p. 23.</td>
<td></td>
</tr>
<tr>
<td>102-10 Significant changes to the organization and its supply chain</td>
<td>No significant changes.</td>
<td></td>
</tr>
<tr>
<td>102-11 Precautionary Principle or approach</td>
<td>While Vornado has not formally adopted the Precautionary Principle, we apply a precautionary approach in our operational planning or when introducing new products to our buildings. Greenhouse gas emissions and indoor air pollutants are among many of the environmental risks that we seek to avoid and mitigate. pp. 8-9, p. 10</td>
<td></td>
</tr>
<tr>
<td>102-12 External initiatives</td>
<td>From Our Chairman, p. 3 of this report</td>
<td></td>
</tr>
<tr>
<td>102-13 Membership of associations</td>
<td>Our Partnerships, p. 33 of this report</td>
<td></td>
</tr>
<tr>
<td>DISCLOSURE</td>
<td>DESCRIPTION</td>
<td>RESPONSE</td>
</tr>
<tr>
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</tr>
<tr>
<td>102-14</td>
<td>Statement from senior decision-maker</td>
<td>From Our Chairman, p. 3 of this report</td>
</tr>
<tr>
<td><strong>ETHICS AND INTEGRITY</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102-16</td>
<td>Values, principles, standards, and norms of behavior</td>
<td>Our Code of Business Conduct and Ethics promotes honest and ethical conduct, including fair dealing and the ethical handling of conflicts of interest; promotes full, fair, accurate, timely, and understandable disclosure; promotes compliance with applicable laws and governmental rules and regulations; ensures the protection of the Trust's legitimate business interests, including corporate opportunities, assets, and confidential information; and deters wrongdoing. Supply Chain, p. 24 of this report</td>
</tr>
<tr>
<td><strong>GOVERNANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>102-18</td>
<td>Governance structure</td>
<td>ESG Governance, p. 36 &amp; p. 37 of this report</td>
</tr>
<tr>
<td>102-20</td>
<td>Executive-level responsibility for economic, environmental, and social topics</td>
<td>ESG Governance, p. 36 of this report</td>
</tr>
<tr>
<td>102-32</td>
<td>Highest governance body's role in sustainability reporting</td>
<td>BOARD OF TRUSTEES - Corporate Governance and Nominating Committee is the highest position in the governance structure and is the position that formally reviews and approves the organization's ESG report, and ensures all material topics are covered. ESG Governance, p. 36 of this report</td>
</tr>
</tbody>
</table>
**STAKEHOLDER ENGAGEMENT**

<table>
<thead>
<tr>
<th>DISCLOSURE</th>
<th>DESCRIPTION</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>102-40</td>
<td>List of stakeholder groups</td>
<td>ESG Materiality Assessment, p. 35 of this report</td>
</tr>
<tr>
<td>102-41</td>
<td>Collective bargaining agreements</td>
<td>83% of our total 3,687 employees are covered by collective bargaining agreements.</td>
</tr>
<tr>
<td>102-42</td>
<td>Identifying and selecting stakeholders</td>
<td>Stakeholders were identified and selected through our Materiality Assessment &amp; Stakeholder Engagement efforts that were formed back in 2017, aligning stakeholders with key ESG topics of concern and an approach to act on and address these topics. We renew this process each year with our stakeholders, reconfirming and expanding our topics of materiality. This engagement was considered and incorporated into the 2021 report as appropriate (e.g. COVID Impact is cited/described throughout the 2021 ESG report). 2021 Materiality Assessment, p. 35 of this report</td>
</tr>
<tr>
<td>102-43</td>
<td>Approach to stakeholder engagement</td>
<td>We renew our ESG Materiality Assessment each year with our stakeholders, reconfirming and expanding our topics of materiality. ESG Materiality Assessment, p. 35 of this report</td>
</tr>
<tr>
<td>102-44</td>
<td>Key topics and concerns raised</td>
<td>ESG Materiality Assessment, p. 35 of this report</td>
</tr>
</tbody>
</table>

**REPORTING PRACTICE**

<table>
<thead>
<tr>
<th>DISCLOSURE</th>
<th>DESCRIPTION</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>102-45</td>
<td>Entities included in the consolidated financial statements</td>
<td>Vornado Realty Trust, BMS, Alexander’s, Inc. In addition to our consolidated entities in the financial statements, we additionally include unconsolidated joint ventures with over 20% ownership.</td>
</tr>
<tr>
<td>102-46</td>
<td>Defining report content and topic Boundaries</td>
<td>From Our Chairman, p. 3 of this report, ESG Materiality Assessment, p. 35 of this report</td>
</tr>
<tr>
<td>102-47</td>
<td>List of material topics</td>
<td>Energy, Water, and Waste Management; Climate Change Risk and Mitigation; Human Capital Management; Diversity, Equity, &amp; Inclusion; Carbon Emissions and Carbon Footprint Reporting; Local Communities Management Succession Plan; Executive Compensation; Health and Wellness, including our COVID pandemic response; Sustainable Development; Board Structure, Tenure, and Refreshment; Board Engagement on ESG. Community Impact, all found on ESG Materiality Assessment p. 35 of this report</td>
</tr>
<tr>
<td>102-48</td>
<td>Restatements of information</td>
<td>No restatements.</td>
</tr>
<tr>
<td>102-49</td>
<td>Changes in reporting</td>
<td>No significant changes.</td>
</tr>
<tr>
<td>102-50</td>
<td>Reporting period</td>
<td>January 2021 - December 2021</td>
</tr>
<tr>
<td>102-51</td>
<td>Date of most recent report</td>
<td>2020 Sustainability Report, dated April 9, 2021</td>
</tr>
<tr>
<td>102-52</td>
<td>Reporting cycle</td>
<td>Annual</td>
</tr>
<tr>
<td>102-53</td>
<td>Contact point for questions regarding the report</td>
<td>Steven Borenstein, SVP &amp; Corporation Counsel, <a href="mailto:sborenstein@vno.com">sborenstein@vno.com</a></td>
</tr>
<tr>
<td>102-54</td>
<td>Claims of reporting in accordance with the GRI Standards</td>
<td>This report references the GRI Standards.</td>
</tr>
<tr>
<td>102-55</td>
<td>GRI content index</td>
<td>ESG Materiality Assessment, p. 35 of this report, GRI Index, pp. 38-43 of this report. Topics not mentioned in GRI Index disclosure, but covered in our ESG Materiality Assessment include, Board Tenure and Refreshment, DEI and Human Capital Management, COVID Impact, Net Zero Transition and Scope 3 Emissions, Executive Compensation, and Management Succession Plan. Management Succession Plan has not changed from discussion found on p. 29 of the ESG 2020 Report.</td>
</tr>
<tr>
<td>102-56</td>
<td>External assurance</td>
<td>Corporate ESG Team is the highest position that seeks external assurance for the organization’s ESG report. The Independent Accountants’ Review Report can be found on p. 44 of this report, available online at <a href="http://www.vno.com">www.vno.com</a>.</td>
</tr>
</tbody>
</table>
The ESG topics listed in GRI 102-47 are deemed material based on our recurring stakeholder engagement, which is described on p. 35 of this report. Reporting boundaries for environmental disclosures are found in the footnote at the end of this GRI index on p.43. Reporting boundaries for GRI topics 401, 404 and 405 are found in the footnote on pp. 22, 27, 28 and 30-31. Reporting boundaries for GRI topics 413 and 416 are the markets where we do business, primarily New York, Chicago, and San Francisco. Reporting boundary for GRI 419 is the extent of Vornado’s business, which is referenced above in GRI 102-2.

<table>
<thead>
<tr>
<th>103-2</th>
<th>The management approach and its components</th>
<th>Policies/Commitments</th>
<th>Goals and Targets</th>
<th>Responsibilities</th>
<th>Processes/Projects/Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRI 201: Economic Performance</td>
<td>pp. 6-7, pp. 8-9</td>
<td>p. 8</td>
<td></td>
<td></td>
<td>p. 49</td>
</tr>
<tr>
<td>GRI 302: Energy</td>
<td>pp. 6-7, p. 12, p. 16</td>
<td>pp. 11-14</td>
<td></td>
<td></td>
<td>pp. 14, p. 46</td>
</tr>
<tr>
<td>GRI 305: Emissions</td>
<td>pp. 6-7</td>
<td>pp. 13-14</td>
<td></td>
<td></td>
<td>pp. 6-7</td>
</tr>
<tr>
<td>GRI 303: Water and Effluents</td>
<td>pp. 6-7, p. 12</td>
<td>p. 12, p. 13</td>
<td></td>
<td></td>
<td>p. 47</td>
</tr>
<tr>
<td>GRI 306: Waste</td>
<td>pp. 6-7, p. 12, p. 20</td>
<td>p. 12, p. 13</td>
<td></td>
<td></td>
<td>p. 20</td>
</tr>
<tr>
<td>GRI 401: Employment</td>
<td>p. 29</td>
<td></td>
<td></td>
<td>Human Capital Management, p. 29</td>
<td></td>
</tr>
<tr>
<td>GRI 413: Local Communities</td>
<td>pp. 26-27, p. 28, p. 29, p. 32, p. 33</td>
<td></td>
<td></td>
<td>pp. 26-27</td>
<td></td>
</tr>
<tr>
<td>GRI 416: Customer Health and Safety</td>
<td>p. 21, pp. 22-23, p. 34</td>
<td></td>
<td></td>
<td>p. 21, pp. 22-23, p. 34</td>
<td></td>
</tr>
<tr>
<td>GRI 405: Diversity and Equal Opportunity</td>
<td>p. 29, p. 30</td>
<td></td>
<td></td>
<td>p. 29, p. 30, p. 31</td>
<td></td>
</tr>
<tr>
<td>419: Socioeconomic Compliance</td>
<td>10-K Fn 21 p. 114</td>
<td></td>
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</tbody>
</table>

Evaluation of the management approach
Evaluation of climate-related topics: Environmental Results, pp. 13-14 of this report, and progress against environmental goals, found on pp. 11-12. Evaluation of management approach to social topics: Diversity, Equity, and Inclusion, found on p. 31.
<table>
<thead>
<tr>
<th>GRI TOPICS</th>
<th>DISCLOSURE</th>
<th>DESCRIPTION</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECONOMIC</td>
<td>201-2</td>
<td>Financial implications and other risks and opportunities due to climate change</td>
<td>Vornado’s approach to assessing financial implications, other risks and opportunities due to climate change is stated in TCFD Scenario analysis, pp. 8-9 of this report, Stakeholder Engagement, p. 28, and SASB Disclosure on climate change adaptation, p. 49 of this report.</td>
</tr>
<tr>
<td>ENVIRONMENTAL</td>
<td>302-1</td>
<td>Energy consumption within the organization</td>
<td>2021 Results, p. 14 of this report. We utilized the Thermal Energy Conversion factors from ENERGY STAR Portfolio Manager Technical Reference Guide published by EPA. Our total energy reported with in the organization is 41,544 GJ of chilled water, 636,599 GJ of district steam, 179,951 GJ of electricity, and 575,548 GJ of fuels. The total energy with in the organization is 2,372,842 GJ. The majority of Vornado’s heating consumption is from district steam sources, which are reported on p. 14. Vornado does not sell electricity, heating, cooling or steam. All fuel consumption reported is non-renewable.</td>
</tr>
<tr>
<td>302-2</td>
<td>Energy consumption outside of the organization</td>
<td>2021 Results, p. 14 of this report. We utilized the Thermal Energy Conversion factors from ENERGY STAR Portfolio Manager Technical Reference Guide published by EPA. Total energy outside the organization is 482,123 GJ.</td>
<td></td>
</tr>
<tr>
<td>302-3</td>
<td>Building energy intensity</td>
<td>2021 Results, p. 13 of this report. Our denominator is the square footage as outlined in the boundaries found in the endnotes of this report. Building energy intensity reported includes all energy reported in 302-1 &amp; 302-2 reported amounts. We utilized the latest available emission factors for each energy type and Global Warming Potential factors from the Fifth Assessment Report (SAR) published by Intergovernmental Panel on Climate Change and EPA ENERGY STAR Portfolio Manager GHG Technical Reference to calculate our GHG inventory. No significant recalculations occurred. Consolidation approach as defined in the reporting boundary endnoted in this report. Biogenic emissions of CO2 that occur in the life cycle of biomass other than from combustion or biodegradation are not applicable.</td>
<td></td>
</tr>
<tr>
<td>303-1</td>
<td>Interactions with water as a shared resource</td>
<td>2021 Progress &amp; Results, pp. 12-13 of this report. All water listed is municipal water supply. No other sources of consumed water are of material quantities. Water converted from source unit of measure to cubic meters. BMS &amp; Green Cleaning, p. 23; SASB Disclosure on Water Management, p. 47 of this report.</td>
<td></td>
</tr>
<tr>
<td>303-2</td>
<td>Management of water discharge-related impacts</td>
<td>TCFD Scenario analysis, p. 9 of this report, Health &amp; Wellness p. 21, and SASB Disclosure on Water Management, p. 47 of this report.</td>
<td></td>
</tr>
<tr>
<td>303-3</td>
<td>Water withdrawal</td>
<td>2021 Results, p. 13, SASB Disclosure on Water Management, p. 47 of this report. All water listed is municipal water supply converted from source unit of measure to cubic meters or 1959.80 megaliters. No other sources of consumed water are of material quantities. Water listed is municipal and is considered fresh water. Our baseline water stress is 275.87 megaliters.</td>
<td></td>
</tr>
<tr>
<td>305-1</td>
<td>Scope 1 GHG emissions</td>
<td>2021 &amp; base year 2019 Results, p. 14 of this report. Gases included are CO2, CH4, and N2O. We utilized the latest available emission factors for each energy type and Global Warming Potential factors from the Fifth Assessment Report (SAR) published by Intergovernmental Panel on Climate Change and EPA ENERGY STAR Portfolio Manager GHG Technical Reference to calculate our GHG inventory. No significant recalculations occurred. Consolidation approach as defined in the reporting boundary endnoted in this report. All GHG emission Scopes have base years of 2019, which is aligned with our SBTi commitment, as well as our Vision 2030 Carbon Neutrality plan. Biogenic emissions of CO2 that occur in the life cycle of biomass other than from combustion or biodegradation are not applicable.</td>
<td></td>
</tr>
<tr>
<td>305-2</td>
<td>Scope 2 GHG emissions</td>
<td>2021 &amp; base year 2019 Results, p. 14 of this report. Gases included are CO2, CH4, and N2O. We utilized the latest available emission factors for each energy type and Global Warming Potential factors from the Fifth Assessment Report (SAR) published by Intergovernmental Panel on Climate Change and the eGRID 2020 to calculate our GHG inventory. No significant recalculations occurred. Consolidation approach as defined in the reporting boundary endnoted in this report. All GHG emission Scopes have base years of 2019, which is aligned with our SBTi commitment, as well as our Vision 2030 Carbon Neutrality plan.</td>
<td></td>
</tr>
<tr>
<td>305-3</td>
<td>Scope 3 GHG emissions</td>
<td>2021 &amp; base year 2019 Results, p. 14 of this report. Gases included are CO2, CH4, and N2O. We utilized the latest available emission factors for each energy type and Global Warming Potential factors from the Fifth Assessment Report (SAR) published by Intergovernmental Panel on Climate Change, EPA ENERGY STAR Portfolio Manager GHG Technical Reference guide, and the eGRID 2020 to calculate our GHG inventory. No significant recalculations occurred. Consolidation approach as defined in the reporting boundary endnoted in this report. All GHG emission Scopes have base years of 2019, which is aligned with our Vision 2030 Carbon Neutrality plan. Biogenic emissions of CO2 that occur in the life cycle of biomass other than from combustion or biodegradation are not applicable.</td>
<td></td>
</tr>
<tr>
<td>305-4</td>
<td>GHG emissions intensity</td>
<td>2021 Progress &amp; Results, p. 13 of this report. Our numerator includes Scope 1, 2 &amp; 3 emissions, and our denominator is the square footage as outlined in the boundaries found in the endnotes of this report.</td>
<td></td>
</tr>
<tr>
<td>WASTE 2020</td>
<td>306-1</td>
<td>Waste generation and significant waste-related impacts</td>
<td>Waste disposal method has been directly confirmed by the organization through annual onsite visits to facilities. Information is provided by waste disposal contractor on a monthly basis. Responsible Recycling, p. 20; Supply Chain, p. 24; Stakeholder Engagement, p. 28.</td>
</tr>
<tr>
<td>306-2</td>
<td>Waste by type and disposal method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>306-3</td>
<td>Waste generated</td>
<td>Waste disposal method has been directly confirmed by the organization through annual onsite visits to facilities. Information is provided by waste disposal contractor on a monthly basis. In 2021 we generated 10681 metric tons of waste across our portfolio with 6576 metric tons non-hazardous waste recycled, 34 tons of hazardous waste recycled, an additional 3976 metric tons incinerated at a waste-to-energy facility, and only 91 metric tons sent to landfill. We were able to divert 694 metric tons of compost. Waste metrics throughout the rest of this report are based on U.S. tons. Environmental Results 2021, p. 13; Responsible Recycling, p. 20; Supply Chain, p. 24.</td>
<td></td>
</tr>
<tr>
<td>306-4</td>
<td>Waste diverted from disposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>306-5</td>
<td>Waste directed to disposal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Due to observed reductions related to the COVID pandemic, energy and water were estimated for properties where actual consumption data was not available in time for the publication of this report. Q4 2021 energy and water data was estimated with an annual estimation for energy and water. The estimation consumption for these properties account for an additional 4% of total energy consumption and 4% of total water consumption.

Approximately 80% of all in-service square footage as of 12/31/2021, not listed as under development, with more than 20% VNO ownership. Waste generation in 2020 and 2021 is represented by actual data from waste haulers. Excluded from waste data are properties where waste hauling is not directly managed by Vornado, such as high street retail and residential properties. Construction & Demolition waste is excluded from the reporting boundary as it is considered extraordinary waste, which is in line with industry standards. C&D for FY21 was 2819 metric tons, of which 2426 tons were recycled, 392 tons incinerated for energy, and 1 ton was landfilled. All C&D waste was non-hazardous.
The preparation of the disclosures in the GRI Index included within the Environmental, Social & Governance 2021 Report requires management to interpret the criteria, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect the reported information. Measurement of certain disclosures in the GRI Index includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from the accuracy and precision of greenhouse gas emission conversion factors, or estimation methodologies used by management. Obtaining sufficient, appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the disclosures in the GRI Index. The selection by management of different but acceptable measurement methods, input data, or assumptions, may have resulted in materially different amounts or disclosures being reported.

Our review was limited to the disclosures in the GRI Index. All other information presented within the Environmental, Social & Governance 2021 Report including, information relating to forward looking statements, targets, goals, progress against goals, and linked information, were not subject to our review and, accordingly, we do not express a conclusion or any form of assurance on such information.

Based on our review, we are not aware of any material modifications that should be made to management of Vornado Realty Trust’s assertion that the disclosures in the Global Reporting Initiative Index included within the accompanying Environmental, Social & Governance 2021 Report of the Company as of and for the year ended December 31, 2021 are presented in accordance with the GRI Standards Core option, in order for it to be fairly stated.
Management of Vornado Realty Trust is responsible for the completeness, accuracy, and validity of the metrics in the SASB Index included within Appendix A of the Environmental, Social, & Governance 2021 Report of Vornado Realty Trust as of and for the year ended December 31, 2021. Management is responsible for the collection, quantification, and presentation of the metrics and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the metrics. Measurement of certain metrics includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from the accuracy and precision of conversion factors or estimation methodologies used by management. The selection by management of different but acceptable measurement methods, input data, or assumptions may have resulted in materially different amounts or metrics being reported. Management asserts that the metrics in the SASB Index included within Appendix A of the Environmental, Social, & Governance 2021 Report of Vornado Realty Trust as of and for the year ended December 31, 2021 are presented in accordance with the Sustainability Accounting Standards Board (SASB) Real Estate Sustainability Accounting Standard.

Number of assets includes the number of distinct building assets. In the SASB disclosures, each asset is counted as a single asset, even in cases where portions of an asset are classified into separate subsectors that are aligned with the FTSE NAREIT Classification Structure. The SASB disclosure instead categorizes assets into the four categories of “New York,” “theMART,” “555 California,” and “Other,” which aligns with the entity’s financial reporting. All disclosures are representative of the Whole building approach defined on page 46.

### ACTIVITY METRICS

<table>
<thead>
<tr>
<th>CODE</th>
<th>ACTIVITY METRIC</th>
<th>TOTAL</th>
<th>NEW YORK</th>
<th>theMART</th>
<th>555 CALIFORNIA</th>
<th>OTHER</th>
<th>UNIT OF MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF-RE-000.A</td>
<td>Number of assets, by property subsector</td>
<td>81</td>
<td>70</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>Number</td>
</tr>
<tr>
<td>IF-RE-000.B¹</td>
<td>Leasable floor area, by property subsector</td>
<td>34,841,000</td>
<td>27,569,000</td>
<td>3,692,000</td>
<td>1,818,000</td>
<td>1,762,000</td>
<td>Square Feet</td>
</tr>
<tr>
<td>IF-RE-000.C²</td>
<td>Percentage of indirectly managed assets, by property subsector</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>IF-RE-000.D³</td>
<td>Average occupancy rate, by property subsector</td>
<td>89.99%</td>
<td>89.71%</td>
<td>89.13%</td>
<td>97.91%</td>
<td>88.04%</td>
<td>Percentage (%)</td>
</tr>
</tbody>
</table>

¹ Leasable floor area is disclosed separately into the four categories of “New York,” “theMART,” “555 California,” and “Other,” which aligns with the entity’s financial reporting.

² The definition of “indirectly managed assets” is solely based on the landlord/tenant relationship and is aligned with the 2018 GRESB Real Estate Assessment Reference Guide. Where a single tenant has the sole authority to introduce and implement operating and/or environmental policies and measures, the tenant should be assumed to have operational control, so the asset should be considered to be an Indirectly Managed Asset. Percentage of indirectly managed assets shall be disclosed separately into the four categories of “New York,” “theMART,” “555 California,” and “Other,” which aligns with the entity’s financial reporting.

³ Average occupancy rate is an average of the reported occupancy for each of the four quarters in the reporting period, and is disclosed separately for each portion of the entity's portfolio into the four categories of “New York,” “theMART,” “555 California,” and “Other,” which aligns with the entity's financial reporting.
APPENDIX A – SASB INDEX

ENERGY MANAGEMENT

CODE ACCOUNTING METRIC

<table>
<thead>
<tr>
<th>IF-RE-130a.1</th>
<th>Energy consumption data coverage as a percentage of floor area, by property subsector.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF-RE-130a.2</td>
<td>Total energy consumed by portfolio area with data coverage.</td>
</tr>
<tr>
<td>IF-RE-130a.3</td>
<td>Percentage of total energy that is grid electricity, by property subsector.</td>
</tr>
<tr>
<td>IF-RE-130a.4</td>
<td>Percentage of total energy that is renewable, by property subsector.</td>
</tr>
<tr>
<td>IF-RE-130a.5</td>
<td>Like-for-like change in energy consumption of portfolio area with data coverage, by property subsector (see note on normalization).</td>
</tr>
<tr>
<td>IF-RE-130a.6</td>
<td>Percentage of eligible portfolio that has obtained an energy rating.</td>
</tr>
</tbody>
</table>

Vornado’s Scope 1 and Scope 2 emissions come entirely from the operation of our buildings. Energy costs are often among the largest controllable expenses on a property’s balance sheet. For these reasons, we consider energy management to be an environmental and fiscal priority.

In 2019, Vornado committed to making its buildings carbon neutral by the year 2030. This plan, known as Vision 2030, will combine various methods to reduce or offset all of the Scope 1 and Scope 2 emissions. A major component of Vision 2030 is an energy efficiency goal of 50% below a 2009 base year by the year 2030. Further information on this plan can be found in the Vision 2030 section of this report.

Our energy reduction measured 33% at the end of 2021. The COVID pandemic resulted in energy reductions from our buildings starting in 2020 that are due to our office tenants working from home, and some interruptions to our retail tenants’ businesses. We continue to measure our energy consumption as business activity returns to our buildings. It may be possible that progress towards our energy reduction goals will be accelerated by changes in occupant behavior that result in a lowered demand for energy. We will continue to measure our energy consumption and evaluate our targets and goals.

We incorporate energy management into our acquisition due diligence process across all our property subsectors. We tour properties and review capital and operating budgets, as well as utility bills to determine opportunities to reduce energy consumption and demand. We assess energy performance through quantifiable methods of consumption and cost on a per square foot basis, and we consider energy labels and benchmark values provided through ENERGY STAR. We gain an understanding of the building’s energy inventory and current energy initiatives implemented at the property. Our building managers and operators in all of our property subsectors are trained and supported by our centralized energy management team to employ sound and responsible energy management across the portfolio. Our engineers perform in-house technical assessments, akin to a Level I audit, per guidance from the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), as part of their ongoing preventative maintenance. We employ third party engineering firms to complete technical assessments such as ASHRAE Level II Energy Audits and Retrocommissioning at all NYC, Chicago, and San Francisco properties over 50,000 square feet, and aim to update these assessments at least once every five years. In our NYC market, the Audits and Retrocommissioning reports are part of Local Law 87 and are subject to City review to ensure that all landlord-controlled inventory is included in the scope, all low- and no-cost recommended repairs are included, and that the assessments were completed by licensed professionals. Such technical assessments are the basis for our energy efficiency capital work. While total savings from these assessments is difficult to quantify, Vornado completes or seriously considers all low- and no-cost repairs and recommended measures, as well as all energy conservation measures with a simple payback of up to 5 years. Vornado uses Environmental Management Systems (EMS) and Data Management Systems as part of our strategy.

More information on our technical assessments and our EMS can be found on the Energy Management Planning Cycle section of this report.

We uphold energy ratings, benchmarking, and certifications as an important recognition tool and performance indicator. We understand that our tenants prefer buildings that have earned green building certifications and demonstrate competitive energy ratings such as a high ENERGY STAR score. We believe the benefits of such ratings and certifications outweigh the costs or resources associated with obtaining them. Because our core business is the maintenance and operation of existing assets, we believe that certifications based on ongoing performance are more relevant to us than those based on performance-modeled design objectives. Vornado regularly evaluates opportunities to invest in renewable energy. We believe that onsite renewable energy is the most impactful in reducing carbon emissions, but we are limited in this opportunity by the lack of physical space and high construction costs that are typical for the dense urban markets where we are located. Off-site renewable energy can provide a virtual carbon offset to our Scope 1 and Scope 2 emissions. In June 2021, Vornado procured Renewable Energy Credits (RECs) to document our commitment to renewable energy and the environment, sourced from hydro energy facilities located in the State of New York. With an annualized balance of over 200,000 megawatt hours, we lead by example as one of the largest customers to invest in home-grown renewable energy in New York. In 2021, our renewable energy purchases account for 37.85% of our New York, 2140 of our California electricity, and 55.76% of our MRT electricity, or 34.97% of our company’s total electricity consumption. We also plan to purchase carbon offsets between 2020 and 2030 to reduce our Scope 1 emissions, as well as the Scope 2 emissions generated from district steam. This will be the balance of emissions that has not been reduced by energy efficiency, energy demand optimization, or renewable energy procurement. Carbon offsets, like renewable power, should bear localized benefit and wherever possible should align with those which are defined in the Climate Leadership and Community Protection Act (CLCPA) passed in New York State in 2019.
Vornado’s portfolio is concentrated in the dense urban cores of New York City, Chicago, and San Francisco. As such, Vornado’s primary water consumption includes potable water consumption for drinking across our portfolio, plumbing use, water used for specific business purposes, such as food service or showers in exercise facilities, and water use attributed to Heating, Ventilation, and Air-Conditioning (HVAC). We do not consider agricultural consumption used for agricultural purposes to be significant and therefore do not include this consumption in our reporting boundary. Our sources for water are exclusively municipal water systems, and our discharge destinations are exclusively municipal sewer systems.

We face water-related environmental constraints and risks that are characteristic of urban places, and use publicly available maps, resources, and tools to gain insights into the risks inherent to our properties, including FEMA’s Flood Map Service Center and WRI’s Aqueduct Water Risk Atlas. Approximately 8% of our total properties operate in some regions with high or extremely high baseline water stress. As referenced in the SASB Real Estate Sustainability Accounting Standard, the World Resource Institute categorizes high and extremely high stress based on the level of available water withdrawn annually to support agricultural, domestic, and industrial users. Our New York and San Francisco regions experience medium to high levels of interannual variability. Our San Francisco locations are subject to medium to high seasonal variability.

Our primary risk of achieving our water consumption reduction target is our lack of control over end users. Our tenants are the main drivers of water consumption. Increases in occupancy, operating hours, or densification of existing spaces will cause consumption to increase. Diversity of water use – such as retail uses in food service or health and exercise facilities could also cause an increase in consumption, despite our efforts to reduce water consumption.

We collaborate with our water and sewer authorities, city governments, and community boards when issues arise in water management or water and sewer infrastructure concerns. We observe that our water conservation efforts have achieved tradeoffs in energy reduction but have not yet quantified the potential future opportunities to be realized.

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Management of Tenant Sustainability Impacts

At Vornado, tenants consume much of the electricity consumed in our properties, as is evidenced by the submetered electricity we record throughout our portfolio. Because so much of our energy consumption is under tenant control, it is essential to engage with them as a partner in reducing our carbon footprint. There is clear value to be realized in communicating to our tenants their energy and water consumption, when known, and to encourage their participation in best practices in resource conservation. While Vornado does not explicitly endorse third-party initiatives concerning green leases, our standard lease agreement includes several components that encourage tenant energy conservation. Across our office portfolio, we promote or require submetered or separately metered electricity consumption for all tenants over 5,000 square feet. We also require submetered or separately metered water consumption for all tenants whose predicted use is expected to exceed normal business practice. The submetered arrangement enables Vornado to share energy and water consumption with our tenants on a monthly basis through the generation of the submeter bill. Tenants are billed transparently based on their actual and exclusive consumption as recorded on the submeter. Included on the submeter bill are Vornado’s energy reduction targets and links to Vornado’s corporate sustainability page, where our broader strategy on energy and water management is found. Elsewhere in the lease, we include a clause to recover capital costs that reduce operating expenses – whether utility costs or another cost reduction benefit – and we may amortize that recovery over the useful life of the project. Because we have robust coverage of this clause across our entire leased portfolio, we have chosen to also report on percentage of total leases containing this cost recovery clause, as opposed to new leases only. In 2021, leases containing a cost recovery clause for energy efficiency improvements are 63.05% of our New York leases, 72.06% of our Mart leases, 89.89% of our California leases, and 62.53% of our company’s total leases in place. There is clear value to be realized in communicating to our tenants their energy and water consumption, when known, and to encourage their participation in best practices in resource conservation. While Vornado does not explicitly endorse third-party initiatives concerning green leases, our standard lease agreement includes several components that encourage tenant energy conservation. Across our office portfolio, we promote or require submetered or separately metered electricity consumption for all tenants over 5,000 square feet. We also require submetered or separately metered water consumption for all tenants whose predicted use is expected to exceed normal business practice. 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In 2021, leases containing a cost recovery clause for energy efficiency improvements are 63.05% of our New York leases, 72.06% of our Mart leases, 89.89% of our California leases, and 62.53% of our company's total leases in place. Where there is an economic or environmental benefit, our company will prioritize sustainability requirements in a tenant fit-out. Our tenant fit-out guidelines and boilerplate drawings include requirements for energy-efficient lighting and HVAC equipment and water-efficient plumbing fixtures. These requirements are also outlined in our rules and regulations which are also included in the lease. We believe that our lease fosters a sustainably designed tenant space, and an ongoing environment that both encourages the tenant to actively manage and measure their own carbon footprint. Beyond the lease, we distinguish ourselves with in-person engagement with our tenants on sustainability. In 2021, we hosted two virtual sustainability roundtables, one focused on energy efficiency, the other concentrated on waste diversion and recycling. During these roundtables we also discussed broader corporate ESG trends and regulatory updates, in addition to best practices. We collect information from our tenants that contribute to mandatory energy rating schemes, such as the ENERGY STAR Portfolio Manager profiles we submit for compliance with local laws in New York and San Francisco. We encourage tenants to consider ENERGY STAR Tenant Space recognition, and leverage ENERGY STAR Treasure Hunt programs to identify low- and no-cost measures to reduce consumption. We met with tenants onsite to survey opportunities to save energy and water. We train our tenants on recycling programs. We host energy reduction competitions with tenants to promote awareness and foster their participation. Our tenants have also expressed support for renewable energy procurement, which we complete on their behalf in New York and Chicago properties where tenants are submetered and we have purchased Renewable Energy Certificates.

The COVID pandemic brought new challenges and opportunities to our tenant engagement. While we were unable to meet with our tenants in person through most of 2020 and 2021 we were able to engage with them remotely. Our pandemic outreach included weekly communication with our tenants that included customized reports and snapshots of their energy consumption to help them monitor their performance and encourage deeper efficiency measures while their employees worked from home. Lessons learned from this engagement can be applied beyond the pandemic to achieve permanent energy reductions, which will reduce costs to tenants and contribute to our corporate efficiency goals. We hold ourselves accountable and measure the success of our engagement. Success is measured in the observed reduction of energy from submetered tenant spaces, or from the square footage of space that our team reaches through our engagement program.
We identify and assess our exposure to climate change risk based on the 1.5° and business-as-usual scenarios discussed in the October 2018 Special Report by the Intergovernmental Panel on Climate Change (IPCC). We find these scenarios to be relevant to our properties for two reasons. The first is that they provide potential future states on the physical risks each scenario presents between the present time and the year 2100. The second is that they provide a shorter-term view of transitional risks related to climate-related policy change that our properties could be subject to. Each of our principal markets in New York, Chicago, and San Francisco have existing or pending legislation that would limit carbon emissions to align with a 1.5° scenario. We consider the costs for compliance with such legislation to be a financial impact attributable to the transition to a lower-carbon environment. The risks and opportunities for Vornado do not differ substantially across subsectors and regions, and our approach described below takes all risks and opportunities into consideration.

Our buildings are located in regions that have had recent history of extreme weather events, including but not limited to hurricanes and super-storms, nor’easters and ice storms, tornadoes, wildfires, temperature extremes, and heavy precipitation events. Under the business-as-usual scenario, they may be an increase in the frequency and severity of these events between now and 2030. Such events may impact our buildings individually, depending on a building’s specific use, design, and location characteristics, or regionally, depending on the magnitude of the event. We are also aware that while less than 6% of our property square footage is in areas designated as flood zones by FEMA, our coastal locations are susceptible to sea level rise (SLR). Various global warming scenarios could bring about differing amounts of SLR between now and the year 2010. Financial impacts under various warming scenarios include but are not limited to: increases in capital and operating costs; increases in insurance premiums; increases in utility costs; and increases in overall utility costs.

Our properties are located in urban areas, which means the vitality of our properties is reliant on sound transportation and utility infrastructure. If that infrastructure is compromised in any way by an extreme weather event, such a compromise could have an adverse impact on our local economies and populations, as well as on our tenants’ ability to do business in our buildings. This risk is not unique to Vornado but is endemic to our regions.

Our strategies for mitigating physical risks require a combination of adaptive and preventative measures with a proactive reduction of carbon emissions. Adaptive and preventative measures are executed at both the property level and regional level. We adapt our properties to be resilient against the impact of climate change, with details of our resilience measures found on the Resilience and Adaptation section of this report. We plan our operations to avoid disaster risk management and emergency operating procedures. At the regional level, our cities and utilities adopt by creating programs that improve resilience against climate-related impacts. Examples of such programs include New York City’s OneNYC plan and Consolidated Edison’s Storm Hardening Protection Plan in New York, Resilient Chicago and Cermak’s Resilient Electric Grid system in Chicago, and Resilient SF and PG&E’s Emergency Preparedness and Response program in San Francisco.

Like adaptive and preventative measures, proactive reduction of carbon emissions requires property-specific and regional efforts. We have developed property-specific Scope 1 and Scope 2 carbon emissions reduction targets that address both landlord- and tenant-controlled energy consumption. These property-specific targets contribute to Vornado’s company-wide Vision 2030, our carbon neutrality goal, and more specifically, our energy efficiency goal of 50% reduction by 2030, below a 2009 baseline. Our progress towards these goals is measured in both energy and greenhouse gas emissions. Our carbon reduction strategy prioritizes energy efficiency, while evaluating opportunities to incorporate renewable power into our energy sourcing as a secondary measure. More details of our carbon emissions reduction can be found on the Environmental Results section of this report. Our regions of New York, Chicago and San Francisco each have municipally-driven carbon emissions reduction programs in place. These programs combine strategies of absolute energy reduction, through efficiency mandates, as well as the potential to incent density reduction of utility-delivered energy. We discuss the intent and requirements of these programs with our property managers and engineers, as well as our tenants. They provide important framework to the GHG reduction goals we set with our properties.

We have disclosed our Scope 3 carbon emissions that are attributed to certain fuel and energy related activities that are not included in Scope 1 or 2. These emissions are from energy that is delivered directly from the utilities to our tenants and consumed by our tenants. We plan to expand our inventory of Scope 3 emissions to include additional categories relevant to our business. Our emissions reduction strategies, whether property-specific or regional, present different risks and opportunities. Risks include unsuccessful investment in new technologies; costs to transition to lower emissions technology; increased pricing on GHG emissions; and uncertainty in market signals such as utility costs or carbon taxes. Financial impacts of such risks which could include increased capital and operating costs, and increased or unexpected shifts in energy costs. Opportunities, on the other hand, include reduction of energy and resource consumption; use of public-sector incentives, such as utility rebates; diversification of energy resources; and adaptation of new technologies.

Financial impacts of such opportunities include reduction of energy and/or operating costs; increased value of fixed assets; reduced exposure to fossil fuel price increases; reduction of utility costs for our tenants; and various benefits to workforce management and planning. Additional opportunities also include the reduction or elimination of burden from emerging carbon pricing or carbon tax mechanisms, as well as the reduction or avoidance of carbon emissions-related penalties.

All three of our regions also have climate change risk exposure reporting obligations, which require us to publicly disclose our properties’ carbon emissions via ENERGY STAR Portfolio Manager. We consider this requirement as an opportunity to measure the carbon emissions from our properties, and manage the reduction of these emissions on an ongoing basis.

In 2019, New York City passed the Climate Mobilization Act (CMA), which contained several local laws to transition New York City to reduce greenhouse gas emissions 40 percent by the year 2030 and 80 percent by the year 2050, below 2005 levels. Included in the CMA was Local Law 88, which calculates carbon intensity for buildings on a per square foot basis and assigns limits to intensity beginning in 2024. The law further assigns penalties of $268 per ton of carbon calculated in exceedance of the limits. We are planning energy efficiency strategies to avoid penalties at our NYC properties and consider the cost for energy efficiency to be part of our transition costs to a low-carbon environment. We also consider penalty avoidance in the value stack of energy efficiency projects, and the penalty amount of $268 per ton of carbon to be considered when making capital allocation decisions.

Vornado Realty Trust has signed on as a supporter of the framework recommended by The Financial Stability Board’s Task Force on Climate-related Financial Disclosures (TCFD). We believe this framework will guide the real estate industry towards well-informed disclosure of climate change risks and opportunities. As our internal and external discussions on climate risk and disclosure evolve, we plan to provide expanded public disclosure.

1Any information relating to forward-looking statements, goals and progress against goals, was not subject to Deloitte & Touche LLP’s examination and, accordingly, Deloitte & Touche LLP does not express a conclusion or any form of assurance on such information.

<table>
<thead>
<tr>
<th>CODE</th>
<th>ACCOUNTING METRIC</th>
<th>TOTAL</th>
<th>NEW YORK</th>
<th>theMART</th>
<th>555 CALIFORNIA</th>
<th>OTHER</th>
<th>UNIT OF MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF-RE-450a.1</td>
<td>Area of properties located in FEMA Special Flood Hazard Areas or foreign equivalent, by property subsector.</td>
<td>1,898,000</td>
<td>1,078,000</td>
<td>0</td>
<td>0</td>
<td>820,000</td>
<td>Square Feet</td>
</tr>
</tbody>
</table>

APPENDIX A – SASB INDEX

CLIMATE CHANGE ADAPTATION

Normalization Note:
2020 and 2021 Like-for-Like energy consumption data have been normalized to adjust for fluctuations in weather and occupancy.
Weather normalization uses inputs of total degree days (TDD), a fixed portion of energy consumption, known as a Base Load, and a variable portion of energy consumption, known as a Seasonal Load.
Occupancy is normalized based on the following assumptions: 1) 50% of the Weather Normalized Energy’s Baseload is adjusted for Occupancy based on field research that demonstrates that roughly half of the baseline is occupancy dependent; 2) 33% of the Weather Normalized Energy’s Seasonal Load is adjusted for Occupancy based on field research that demonstrates that a third of the seasonal load is occupancy dependent; 3) Quarterly occupancy rates are averaged for the year to calculate the current year and prior year annual occupancy rates.

Estimation:
Q4 2021 energy and water data was estimated at properties where actual consumption data was not available in time for the publication of this report. Due to the observed reductions related to the COVID pandemic, energy and water were estimated by applying the weighted average monthly consumption variance from prior year beginning with April 2020 through the most recent available month of actual data. Energy consumption was also adjusted for weather normalization non-normalized to approximately 7% of total energy consumption and 2% of total water consumption was estimated. Four properties have full year estimations for energy and water. The estimation consumption for these properties account for an additional 4% of total energy consumption and 4% of total water consumption.

Reporting Boundary:
This SASB disclosure includes all in-service square footage as of 12/31/2021, not listed as under development, with more than 20% VNO ownership.
We have examined management of Vornado Realty Trust’s (the “Company”) assertion that the metrics in the Sustainability Accounting Standards Board (SASB) Index included within Appendix A of the accompanying Environmental, Social & Governance 2021 Report (the “SASB Index”) of Vornado Realty Trust as of and for the year ended December 31, 2021 are presented in accordance with the Sustainability Accounting Standards Board Real Estate Sustainability Accounting Standard.

The Company’s management is responsible for its assertion. Our responsibility is to express an opinion on management’s assertion based on our examination.

Our examination was conducted in accordance with attestation standards established by the American Institute of Certified Public Accountants (AICPA) in AT-C Section 105, Concepts Common to All Attestation Engagements, and AT-C Section 205, Examination Engagements. Those standards require that we plan and perform the examination to obtain reasonable assurance about whether management’s assertion is fairly stated, in all material respects.

An examination involves performing procedures to obtain evidence about management’s assertion. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risks of material misstatement of management’s assertion, whether due to fraud or error. We believe that the evidence obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

We are required to be independent and to meet our other ethical responsibilities in accordance with the Code of Professional Conduct issued by the AICPA. We applied the Statements on Quality Control Standards established by the AICPA and, accordingly, maintain a comprehensive system of quality control.

The preparation of the SASB Index requires management to interpret the criteria, make determinations as to the relevancy of information to be included, and make estimates and assumptions that affect reported information. Measurement of certain metrics includes estimates and assumptions that are subject to substantial inherent measurement uncertainty resulting, for example, from the accuracy and precision of conversion factors or estimation methodologies used by management. Obtaining sufficient, appropriate evidence to support our opinion does not reduce the inherent uncertainty in the metrics. The selection by management of different but acceptable measurement methods, input data, or assumptions may have resulted in materially different amounts or metrics being reported.

Our examination was limited to the SASB Index as of and for the year ended December 31, 2021. All other information presented within the Environmental, Social & Governance 2021 Report, including information relating to forward looking statements, goals, and progress against goals and denoted by an asterisk (*) in Appendix A of the Environmental, Social & Governance 2021 Report was not subject to our examination and, accordingly, we do not express an opinion or any form of assurance on such information.

In our opinion, management’s assertion that the metrics in the SASB Index included within Appendix A of the accompanying Environmental, Social & Governance 2021 Report as of and for the year ended December 31, 2021 are presented in accordance with SASB Real Estate Sustainability Accounting Standard is fairly stated, in all material respects.

April 8, 2022
Vornado supports the United Nations Sustainable Development Goals (UNSDGs) as a global framework to achieve a more sustainable future for the planet, and improve quality of life for all. As a corporate citizen we uphold and contribute to each of the 17 goals through the environmentally and socially responsible manner in which we run our business and our properties. Below is a selection of metrics and programs where Vornado responds directly to targets identified through the UNSDG 2030 Agenda for Sustainable Development. We will expand upon these disclosures when new metrics and programs develop within the recommended SDG framework.

**UN GOAL TARGET** | **UN GOAL INDICATOR** | **VNO RESPONSE**
--- | --- | ---
3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol. | 3.5.1 Coverage of treatment interventions (pharmacological, psychosocial, and rehabilitation and aftercare services) for substance abuse disorders | Vornado’s Employee Assistance Program (EAP) and other wellness programs, referenced in the “Human Capital Management” section of this report. Our EAP is available to all Vornado employees, which represents our coverage.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all. | 3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn, and child health; infectious diseases; non-communicable diseases; and service capacity and access, among the general and most disadvantaged populations) | Vornado offers all employees universal health coverage through our employee benefits program. Health care services include medical, dental, health and wellness, telemedicine services, seasonal flu shots and preventative screenings. More information can be found in the “Human Capital Management” section of this report.

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate. | 3.a.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older | To protect the health of the occupants, employees, and visitors to our building, Vornado transitioned all properties to tobacco-free and smoke-free environments in 2020. While the use of tobacco products and all smoking devices including electronic cigarettes and vaporizers had already been prohibited for all interior spaces, this policy now extends to all exterior property under Vornado’s control.

3.d Strengthen the capacity for all countries, for early warning, risk reduction and management of national and global health risks. | 3.d.1 International Health regulations (IHR) capacity and health emergency preparedness | Pertinent to 2020-2021 Vornado’s COVID response and pandemic preparedness program are discussed at length in the “COVID 2020-2021 Response” section of this report.

**UN GOAL TARGET** | **UN GOAL INDICATOR** | **VNO RESPONSE**
--- | --- | ---
5.1 End all forms of discrimination against all women and girls everywhere. | 5.1.1 Whether or not legal frameworks are in place to promote, enforce, and monitor equality and non-discrimination on the basis of sex | Vornado Realty Trust is an equal opportunity employer, and strictly prohibits discrimination of all forms on the bases of race, ethnicity, religion, color, national origin, gender, gender identity, sexual preference, age, status as a protected veteran, or status as a qualified individual with a disability.

5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life. | 5.5.2 Proportion of women in managerial positions | 32% of Vornado’s managerial positions are female. More information can be found in the Social Results section of this report.

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity. | 6.4.1 Change in water-use efficiency over time | Vornado reduced water consumption 39% in 2021 from 2019 levels. Much of this reduction was due to COVID.

*This disclosure was not subject to Deloitte & Touche LLP’s review and, accordingly, Deloitte & Touche LLP does not express a conclusion, opinion, or any form of assurance on such information.*
## UN SUSTAINABLE DEVELOPMENT GOALS* Continued

<table>
<thead>
<tr>
<th>UN GOAL TARGET</th>
<th>UN GOAL INDICATOR</th>
<th>VNO RESPONSE</th>
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<tbody>
<tr>
<td>7.2 By 2030, increase substantially the share of renewable energy in the global energy mix</td>
<td>7.2.1 Renewable energy share in the total final energy consumption</td>
<td>In 2021 Vornado consumed 18.35% of energy from renewable resources. We plan to continue to increase our electricity supply from renewable resources in 2021 and beyond.</td>
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<tr>
<td>7.3 By 2030, double the global rate of improvement in energy efficiency</td>
<td>7.3.1 Energy intensity measured in terms of primary energy and GDP</td>
<td>We have measured our energy intensity per square foot. In 2021 our energy intensity was 22.76 kWh / SF.</td>
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<tr>
<td>9.4 By 2030, upgrade infrastructure and retrofits industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.</td>
<td>9.4.1 CO2 emissions per unit of value added</td>
<td>We have measured our GHG emissions per square foot. Our 2021 GHG emissions intensity was 0.058 MTCO2e / SF.</td>
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<td>11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons</td>
<td>11.2.1 Proportion of population that has convenient access to public transportation, by sex, age, and persons with disabilities</td>
<td>We measure our access to public transportation by the Transit Scores assigned to our properties, as determined by the agency that assigns Walk Score. In 2021, all of our office properties received a Transit Score of 100, indicating that 100% of our population has convenient access to public transportation.</td>
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<tr>
<td>12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse</td>
<td>12.5.1 National recycling rate, tons of material collected</td>
<td>In 2021, Vornado diverted 63% of our waste from the landfill. Our data represents waste collected from about 84% of our total in-service square footage.</td>
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