

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of earliest event reported):
April 3, 2020

VORNADO REALTY TRUST
(Exact Name of Registrant as Specified in Charter)

Maryland

(State or Other Jurisdiction
of Incorporation)

No. 001-11954

(Commission
File Number)

No. 22-1657560

(IRS Employer
Identification No.)

VORNADO REALTY L.P.

(Exact Name of Registrant as Specified in Charter)

Delaware

(State or Other Jurisdiction
of Incorporation)

No. 001-34482

(Commission
File Number)

No. 13-3925979

(IRS Employer
Identification No.)

888 Seventh Avenue
New York, New York

(Address of Principal Executive Offices)

10019

(Zip Code)

Registrant's telephone number, including area code: (212) 894-7000
Former name or former address, if changed since last report: N/A

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communication pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communication pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communication pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Securities registered pursuant to Section 12(b) of the Act:

Registrant	Title of each class	Trading Symbol(s)	Name of exchange on which registered
Vornado Realty Trust	Common Shares of beneficial interest, \$.04 par value per share	VNO	New York Stock Exchange
	Cumulative Redeemable Preferred Shares of beneficial interest, liquidation preference \$25.00 per share:		
Vornado Realty Trust	5.70% Series K	VNO/PK	New York Stock Exchange
Vornado Realty Trust	5.40% Series L	VNO/PL	New York Stock Exchange
Vornado Realty Trust	5.25% Series M	VNO/PM	New York Stock Exchange

Item 7.01. Regulation FD Disclosure.

On April 6, 2020, Vornado Realty Trust (the "Company"), the general partner of Vornado Realty L.P., issued a press release announcing that the Company released its 2019 Environmental, Social and Governance ("ESG") report. The ESG report is posted on the Company's website under the "Sustainability" page. The press release and the ESG report are attached as Exhibit 99.1 and 99.2, respectively, to this Current Report on Form 8-K and is incorporated herein solely for purposes of this Item 7.01 disclosure.

Exhibit 99.1 and 99.2 hereto shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the Exchange Act), or otherwise subject to the liabilities under that Section and shall not be deemed to be incorporated by reference into any filing of Vornado Realty Trust or Vornado Realty L.P. under the Securities Act of 1933, as amended, or the Exchange Act.

Item 9.01. Financial Statements and Exhibits.

(d)Exhibits.

The following exhibits are being furnished as part of this Current Report on Form 8-K:

- 99.1 Vornado Realty Trust Press Release dated April 6, 2020
- 99.2 2019 ESG report



April 6, 2020

Vornado Releases 2019 Environmental, Social, & Governance Report

NEW YORK.....VORNADO REALTY TRUST (NYSE: VNO) announced today that it released its 2019 Environmental, Social, & Governance ("ESG") report.

This report is the eleventh annual report highlighting Vornado's industry-leading accomplishments in sustainability, and provides key metrics on the Company's ESG priorities. Vornado's accomplishments in 2019 include scoring in the top 6 percent of over 900 respondents to the Global Real Estate Sustainability Benchmark (GRESB); being honored for the 10th consecutive year as a Leader in the Light by the National Association for Real Estate Investment Trusts (NAREIT); and being recognized as an EPA ENERGY STAR Partner of the Year, with the Sustained Excellence distinction. Vornado is a signatory of the Task Force on Climate-related Financial Disclosures, and has reported ESG data in accordance with the metrics codified by the Sustainability Accounting Standards Board (SASB).

Our report, along with expanded information on Vornado's ESG programs, can be found on the company website located at www.vno.com.

Vornado Realty Trust is a fully-integrated equity real estate investment trust.

CONTACT:
JOSEPH MACNOW
(212) 894-7000

Certain statements contained herein may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. For a discussion of factors that could materially affect the outcome of our forward-looking statements and our future results and financial condition, see "Risk Factors" in Part I, Item 1A, of our Annual Report on Form 10-K for the year ended December 31, 2019. Such factors include, among others, risks associated with the timing of and costs associated with property improvements, financing commitments and general competitive factors.



ENVIRONMENTAL, SOCIAL, & GOVERNANCE 2019





VORNADO REALTY TRUST KEY ACHIEVEMENTS IN SUSTAINABILITY

GLOBAL REAL ESTATE SUSTAINABILITY BENCHMARK GREEN STAR RANKING 2019

**7TH YEAR IN A ROW
SCORED IN TOP 6% OF OVER 900
RESPONDING COMPANIES**

NAREIT LEADER IN THE LIGHT AWARD 2019

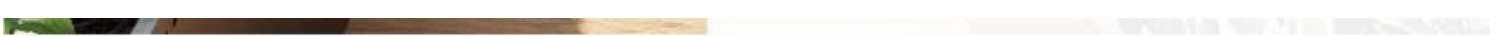
10TH YEAR IN A ROW

ENERGY STAR PARTNER OF THE YEAR SUSTAINED EXCELLENCE 2019

4TH TIME WITH THIS DISTINCTION

EP100 MEMBER

**THE CLIMATE GROUP
COMMITTED TO DEPARTMENT OF ENERGY
ISO 50001 READY PROGRAM**



2019 ENVIRONMENTAL, SOCIAL, & GOVERNANCE

While most of this report is business as usual...today nothing is usual. We are now in the eye of the COVID-19 storm – a black swan apocalypse. Life as we know it is upside down, people are hurting, businesses are hurting, the future is uncertain. As our first priority we are following all protocols and taking all measures to protect our employees, our tenants and our communities. We pray for the health and safety of all and we commend and admire the talent and courage of our healthcare providers. Vornado is in a strong position to weather the storm and we will continue to do our part to help mitigate the impact.

Sustainability – now more broadly referred to as Environmental, Social and Governance (ESG) – is important to us. We believe a focus on ESG is responsible management of our business and key to mitigating risk.

We prioritize addressing climate change, and now, more than ever, we hear our investors, our tenants, our employees, and our communities echo that priority. We conduct business in cities and states that in 2019 passed bold regulation to reduce carbon emissions. And the business community has responded in kind with its own bigger and bolder reduction commitments.

We believe now is the time for Vornado to continue our leadership with a bigger and bolder commitment of our own: we intend to make our buildings carbon neutral by 2030 and we have adopted a ten year plan (“Vision 2030”) to get us there*.

Though the road to carbon neutrality is complex, our plan is based on principles already core to our sustainability mission: energy efficiency, innovations in technology, stakeholder engagement, and local community benefit. Already this vision is guiding our redevelopment of THE PENN DISTRICT, where we are applying our experience in energy innovation, resource conservation, and health and wellness to the district.

We are proud that solutions we deploy across our existing buildings have proven to be a model for the real estate industry at large. Our energy efficiency capital projects continue to save energy and modernize our buildings. We are an active participant in demand response and contribute significantly to relieving the grid of constraints in each of our markets. We lead a robust tenant engagement program that in 2019 included the continuation of our tenant roundtable series. And we guide the design and operation of our tenant spaces to maximize efficiency.

Our tenants and our employees spend the majority of their week working in our buildings, and we are committed to providing an optimal environment for them, with a focus on healthy air and water and the least-toxic, health-driven cleaning policies and materials. We are going even a step further with the launch of our own smartphone application intended to make available to tenants all the amenities and information that our buildings and neighborhoods have to offer.

Importantly, our programs continue to deliver results: in 2019, we reduced our global energy consumption by over 4% from prior year. We recycled and composted over 15,000 tons of waste, amounting

to a diversion rate of over 61%. We were awarded NAREIT’s Leader in the Light Award (10th year in a row), we achieved ENERGY STAR Partner of the Year with Sustained Excellence (5th time with this distinction), and we earned the Global Real Estate Sustainability Benchmark (GRESB) Green Star ranking (7th year in a row). In 2019, we scored among the top 6% of over 950 worldwide respondents to GRESB.

We own and operate more than 26 million square feet of LEED-certified buildings, with over 23 million square feet at LEED Gold or better. We are committed to LEED certifying our entire office portfolio and we are already 94% toward that goal*.

Vornado’s employees are very, very important to us. To foster their talent and growth, we provide training and continuing education, promote career and personal development, and encourage innovation and engagement. Vornado’s policies support shareholder rights, worker rights, diversity and equal opportunity.

Our social commitments also extend to the communities we live and work in. As a corporate citizen, we uphold our responsibility to give back by encouraging our employees to volunteer. Through Vornado Volunteers, our employees give back to communities through participation in causes that support vulnerable parts of the population, protect and improve the environment, and promote a healthy lifestyle.

From a governance perspective, we are proud to have an esteemed and experienced Board of Trustees, many of whom are significant investors in our Company and all of whom are committed to building shareholder value. A complete summary of our approach to governance is included in our proxy statement which can be viewed at www.vno.com/proxy and the governance section on our website at www.vno.com/governance.

Further details on our environmental, social, and governance programs, including our Vision 2030 roadmap, can be found in these pages of our 2019 ESG Report*. We have signed on as a supporter of the Taskforce on Climate-related Financial Disclosures. Our report is in accordance with the Global Reporting Initiative (GRI), and is also aligned with the metrics codified by the Sustainability Accounting Standards Board (SASB).

This report is written by Dan Egan, our industry-acclaimed SVP, Sustainability, and has my full endorsement.



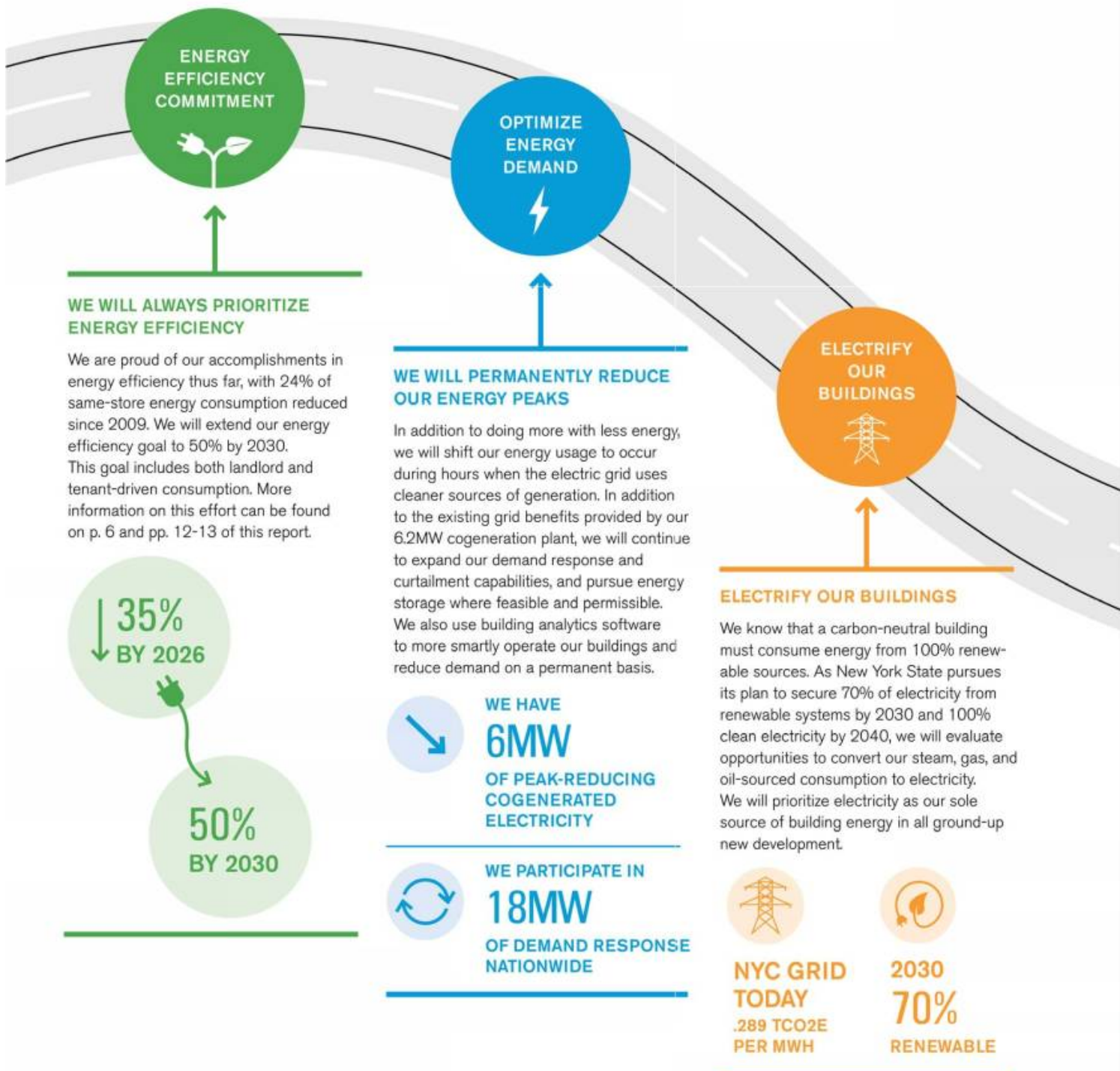
Steven Roth
Chairman of the Board
Chief Executive Officer

*Any information relating to goals and progress against goals were 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.



VISION 2030 ROADMAP*

The road to carbon neutrality is challenging and will foster new technology, stakeholder collaboration that is both broad and deep, and constant re-evaluation. These six critical components are the fundamental steps to get us there.



ENERGY EFFICIENCY COMMITMENT

WE WILL ALWAYS PRIORITIZE ENERGY EFFICIENCY

We are proud of our accomplishments in energy efficiency thus far, with 24% of same-store energy consumption reduced since 2009. We will extend our energy efficiency goal to 50% by 2030. This goal includes both landlord and tenant-driven consumption. More information on this effort can be found on p. 6 and pp. 12-13 of this report.

↓ **35%** BY 2026

→

50% BY 2030

OPTIMIZE ENERGY DEMAND

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. In addition to the existing grid benefits provided by our 6.2MW cogeneration plant, we will continue to expand our demand response and curtailment capabilities, and pursue energy storage where feasible and permissible. We also use building analytics software to more smartly operate our buildings and reduce demand on a permanent basis.

↓

WE HAVE 6MW OF PEAK-REDUCING COGENERATED ELECTRICITY

↻

WE PARTICIPATE IN 18MW OF DEMAND RESPONSE NATIONWIDE

ELECTRIFY OUR BUILDINGS

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.



NYC GRID TODAY
.289 TCO₂E PER MWH

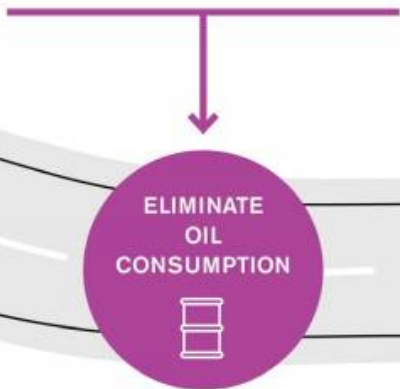
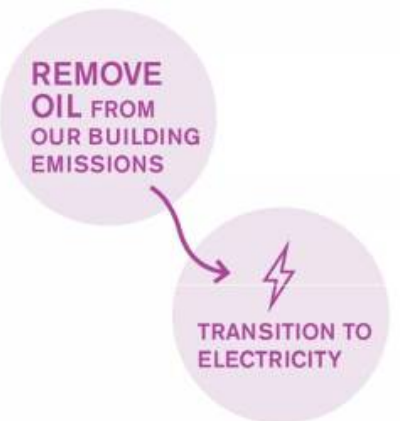


2030 70% RENEWABLE



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

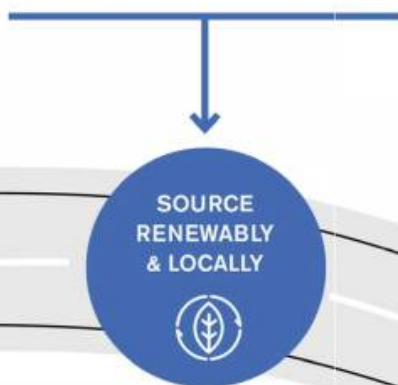
We will pursue opportunities to source our supply of electricity from 100% renewable sources while we wait for our grid systems to make their own fully renewable transition. We want the solution to be home-grown, so our local communities and economies can benefit from our investment. We will prioritize onsite renewable energy production, as well as sources located close to our buildings and cities.



PRIORITIZE ONSITE RENEWABLES

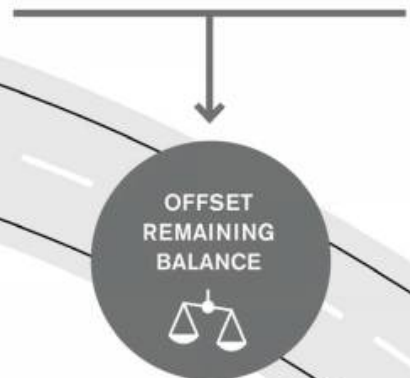
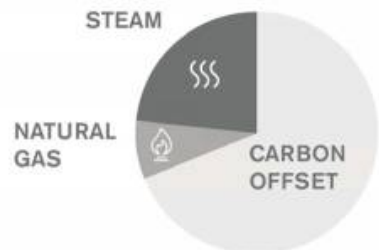


LOCAL ENERGY SOURCES



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.



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TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)

GOVERNANCE AND STRATEGY

Vornado became a signatory of the TCFD in February 2019. Our Board and our executive leadership team stand behind the prioritization of climate-related factors that bring risk and opportunities to our business. Our Board's Corporate Governance and Nominating Committee oversees environmental matters, including climate change risk. We have identified the 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, because of the regulatory frameworks in the communities where our properties are located. We identify a "business-as-usual" scenario of RCP 6.0 to assess physical risks of climate change, due to the possibility of failure of global efforts to mitigate climate change. More information can be found in our SASB disclosures on our discussion of climate change risk, found on p. 32 of this report.

TRANSITIONAL RISKS AND OPPORTUNITIES: SCENARIO ANALYSIS

SHORT-TERM (1-10 YEARS)	2030 MEDIUM-TERM	2050 LONG-TERM
<p>We identify with 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. 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.</p>	<p>RISKS</p> <ul style="list-style-type: none"> De-carbonization of grid-supplied energy could lead to increased energy costs and operating expenses at 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. <p>OPPORTUNITIES</p> <ul style="list-style-type: none"> 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. 	<p>RISKS</p> <p>Full transition of grid-supplied energy to renewable sources could lead to increased energy costs and operating expenses at our buildings.</p> <p>OPPORTUNITIES</p> <ul style="list-style-type: none"> 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.

PHYSICAL RISKS

SHORT-TERM

- Stormwater surge, flood risk in vulnerable areas
- Localized loss of power
- Degradation of air quality and public health

MEDIUM-TERM

- Increase in temperature and humidity extremes
- Increase in seasonal heating and cooling demand
- Increase in insurance and disaster relief costs
- Increase in infrastructure and construction costs
- Increase in instances of business interruption

LONG-TERM

- Heightened extremes in weather conditions and temperatures could lead to significantly higher heating and cooling related energy and maintenance costs.
- 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.

RESILIENCE AND ADAPTATION

Our properties are located in regions with recent history 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 development project at 512 West 22nd Street exemplifies how our new building design is resilient and adaptive to future climate conditions.

1 MECHANICAL EQUIPMENT

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

2 GREEN ROOFS & STORMWATER RETENTION

Our new roof landscape systems are designed to absorb and retain stormwater, and 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.

At 512 West 22nd Street, excess stormwater is captured in a retention tank and held for irrigation needs, and it is pumped to the rooftop terraces when needed, or to the cooling tower as make-up water.

3 GLAZING & ENVELOPE

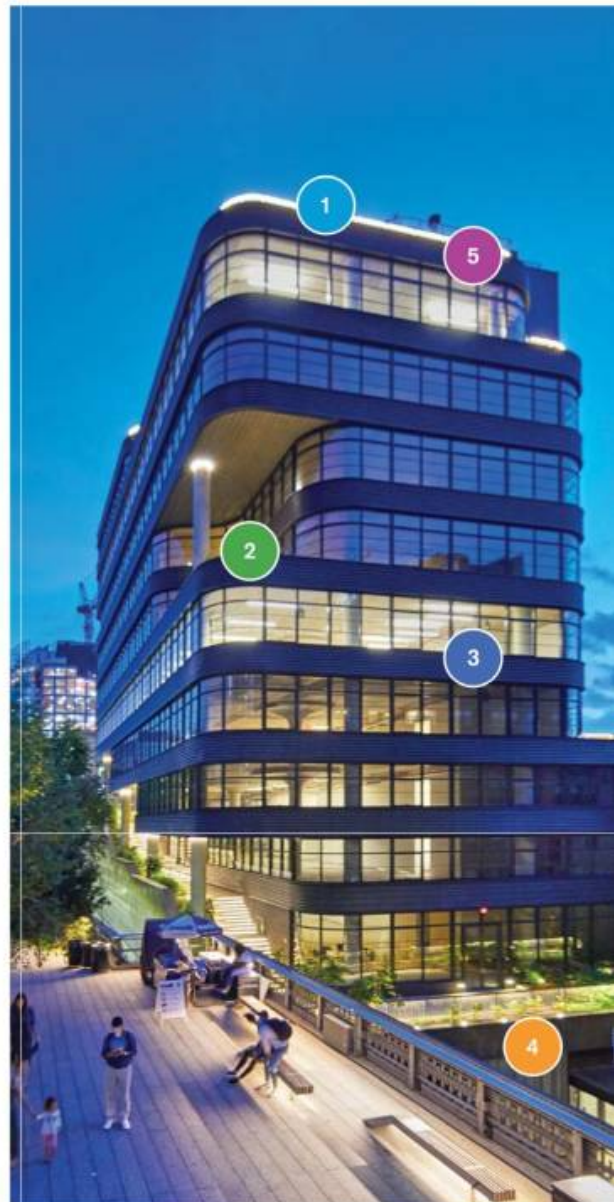
Our new glazing and envelope systems are designed to withstand heavy wind and ice conditions. They also are designed to reduce solar heat gains and improve insulation values to minimize heating and cooling demand.

4 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.

5 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 to the backup generation our elevators, lighting, and HVAC systems to ensure safe and secure evacuation in the event of an outage.



Top: 512 West 22nd Street

At right: Image of Manhattan from the NYC Flood Hazard Mapper, a localized coastal flood hazard mapping tool that assists our climate risk exposure analyses.



ENERGY EFFICIENCY TARGETS*

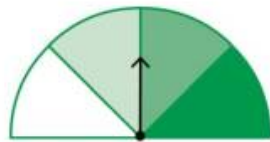
TOTAL REDUCTION GOAL:

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

2019 PROGRESS:

▶ 24% MEASURED IN kBtu/SF

LANDLORD EMISSIONS REDUCTION PLAN



55%
BY 2030



27%
2019 PROGRESS

TENANT EMISSIONS REDUCTION PLAN



45%
BY 2030



20%
2019 PROGRESS

What's Working

- Technical Assessments:** Our NYC, 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 adopt 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.

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. We hosted our own tenant energy reduction challenges at three of our properties in 2019.
- Lease-Driven Provisions:** As standard practice, we have green provisions in our leases, such as submetered electricity (94% of all leases), submetered water (15%), and capital recovery clauses for energy efficiency projects (64%).
- Meaningful Stakeholder Engagement:** We encourage our tenant base to commit to energy reductions and share

best practices during our annual in-person tenant roundtables, as well as by delivering feedback about monthly changes in submetered tenant energy consumption.

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 are exploring which ECMs apply most effectively to the tenant space and will either require or recommend their inclusion in future design.



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GOALS & PROGRESS*



ENERGY MANAGEMENT

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



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



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



WASTE MANAGEMENT

GOAL 75% commercial waste diversion by 2026



GOAL Introduce organics recycling to **50%** of portfolio by 2020



GOAL Complete in-person Demonstration and Education on Recycling Procedures for **50%** of total Vornado portfolio each year



PROCUREMENT AND RESPONSIBLE CONTRACTING

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



WATER MANAGEMENT

GOAL 10% water consumption reduction below 2016 base year by 2020



NEW GOAL 10% by 2030 below 2019 base year.



GREEN BUILDING CERTIFICATIONS

GOAL LEED Certify **100%** of all in-service office properties by 2020



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ENVIRONMENTAL RESULTS 2019



ENERGY EFFICIENCY INVESTMENT*

\$15.5 MILLION spent on Energy Efficiency Capital Projects since 2012 impacting more than

16.5 MILLION SF of our New York portfolio

Our energy efficiency projects* completed since 2012 saved more than

\$4.7 MILLION in utility costs in 2019

Our capital projects* have delivered a

30% RATE OF RETURN SINCE 2012

Our energy efficiency investment has returned cumulative electricity savings of 68,880 mWh and steam savings of 55,036 mWh since 2012. Our cumulative GHG emissions reduction over the same time period is 28,341 MT CO2e*

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VORNADO OWNS AND MANAGES

GRI 413-1

26+ MILLION SF of LEED-certified properties

75% of total Vornado Portfolio

23+ MILLION SF at LEED Gold or higher

65% of total Vornado Portfolio

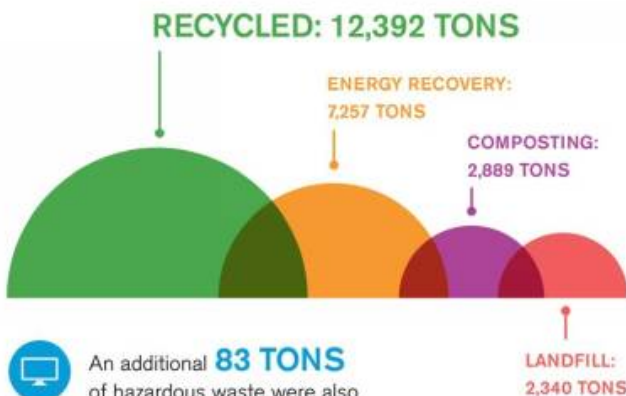
5+ MILLION SF earned the 2019 ENERGY STAR Label

16% of eligible Vornado Portfolio



2019 NONHAZARDOUS WASTE TOTAL†: 24,878 TONS

GRI 306-2



† For reporting boundaries, see endnotes, p. 25.

WATER CONSUMPTION†

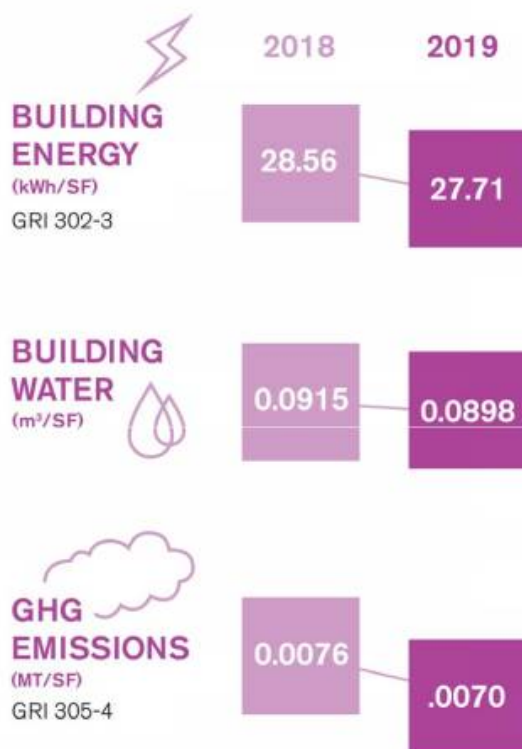
GRI 303-1

3,378,035 CUBIC METERS IN 2018

3,187,066 CUBIC METERS IN 2019

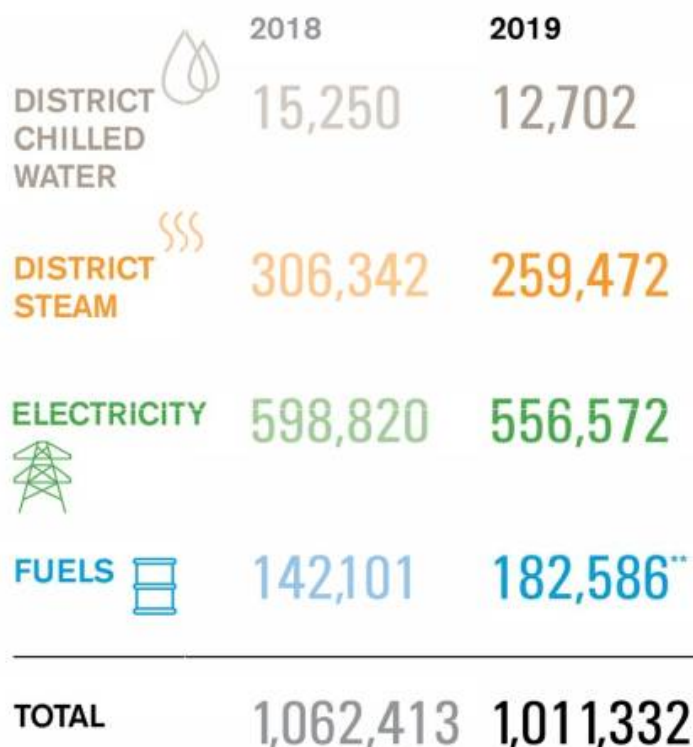
WHICH WAS A **5.7%** REDUCTION

INTENSITY MEASURES



ENERGY CONSUMPTION (MWh)[†]

GRI 302-1 & 302-4



GHG EMISSIONS

MT CO₂e[†]



WHICH WAS A
9.7% ↓
REDUCTION

[†] For reporting boundaries, see endnotes, p. 25.

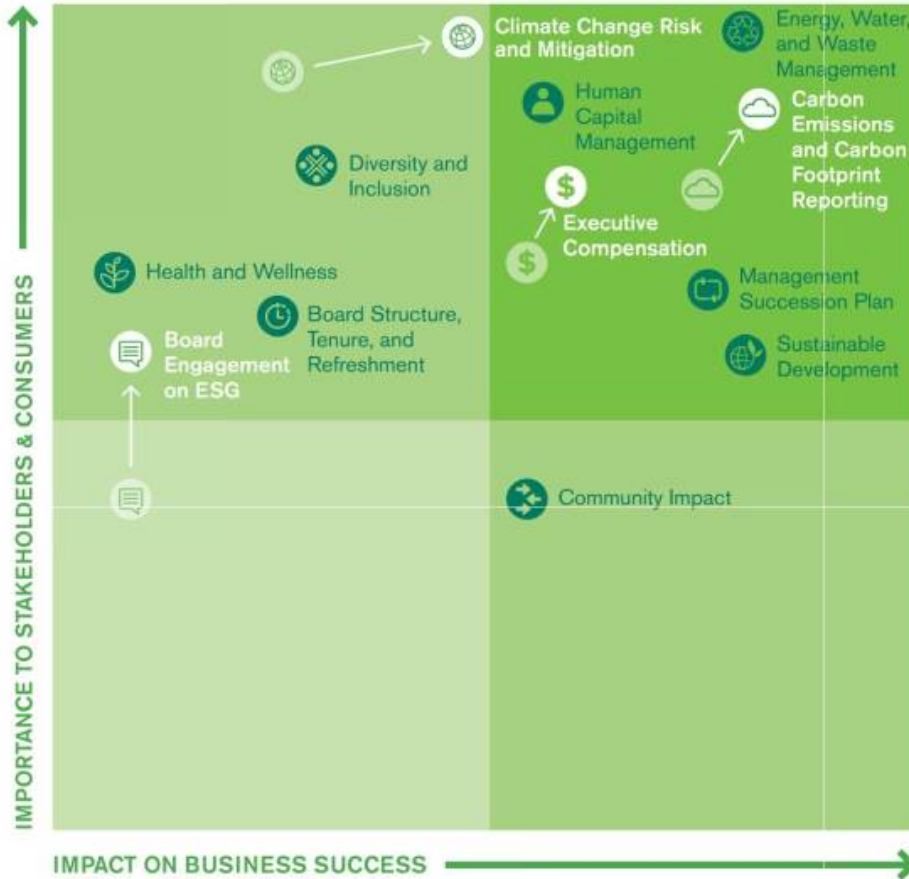
Energy Consumption, Water Consumption, and GHG Emissions is presented on an absolute basis. Much of our energy consumption, in particular, our district chilled water, district steam, and fuels, is the primary source of our heating and cooling needs, and is therefore impacted by changes in weather and temperature. In New York, there were 3% fewer total degree days in 2019 than in 2018, which is an indicator of lower heating and cooling needs in 2019. As a result, a portion of the energy consumption reduction noted on this page is attributed to weather.

**Our cogeneration plant at One Penn Plaza increased output in 2019, leading to an increase in natural gas consumption of 37,251 MWh in fuels, or 6,762 MT CO₂e of our Scope 1 emissions.



ESG MATERIALITY ASSESSMENT

GRI 102-40, 102-42, 102-43, 102-44, 102-46, 102-47, 413-1



OBSERVATIONS FROM 2019:

Climate Change Risk and Mitigation:

Our tenants, investors, Board, and communities voiced support for climate change scenario analysis, according to the framework suggested by the Taskforce on Climate Related Financial Disclosures (TCFD).

Carbon Emissions and Carbon Footprint Reporting:

Our tenants, investors, and Board endorse the topics supported by the Sustainability Accounting Standards Board (SASB) as recommended for the real estate industry.

Board Engagement on ESG:

Our investors sought clarity on Board oversight of ESG and assignment of this oversight to the Nominating and Governance Committee.

Executive Compensation:

Our investors sought clarity on our executive compensation.

STAKEHOLDER GROUP	NATURE OF ENGAGEMENT	FREQUENCY OF ENGAGEMENT	KEY TOPICS AND CONCERNS
OUR TENANTS	Active relationship through our property management teams; meetings and discussions on tenant environmental performance; sustainability roundtable.	Daily (property management) As-needed (in-person meetings); Annually (Roundtable)	Energy, Water, and Waste Management; Carbon Emissions and Carbon Reporting; Community Impact; Health and Wellness
OUR INVESTORS	Conference calls to discuss corporate governance and ESG issues. Discussions include Vornado's Chief Financial Officer, Corporation Counsel, Lead Trustee, Director of Investor Relations, and SVP of Sustainability. Investors represent of at least 50% of outstanding shares.	Annually, or more frequently as requested	Financial Performance; Climate Change and Risk; Board Diversity; Executive Compensation; Board Engagement on ESG; Carbon Emissions and Carbon Footprint Reporting; Diversity and Inclusion
OUR BOARD	Recurring meetings and discussions between Corporation Counsel and our CFO with the Board; ESG Update to the Board by the CFO; presentation from the SVP of Sustainability.	Annually, or more frequently as needed (from Corporation Counsel and CFO on governance); Quarterly (from CFO on ESG); Annually (From SVP of Sustainability).	Board Structure, Tenure, and Refreshment; Executive Compensation; Community Impact; Human Capital Management; Board Engagement on ESG; Management Succession Plan
OUR EMPLOYEES	Regular check-ins on environmental performance of the portfolio (energy/water/waste consumption and cost); annual meeting with each building management team to assess performance against carbon reduction goals.	Weekly (informal engagement); Annually (in-person meetings, State of the Union meeting)	Energy, Water, and Waste Management; Human Capital Management; Health and Wellness; Diversity and Inclusion; Executive Compensation; Management Succession Plan
OUR COMMUNITIES	Active membership and partnerships in community and government organizations focused on civic and environmental issues.	Monthly (per meeting schedule)	Energy, Water, and Waste Management; Community Impact; Climate Change Risk and Mitigation; Sustainable Development



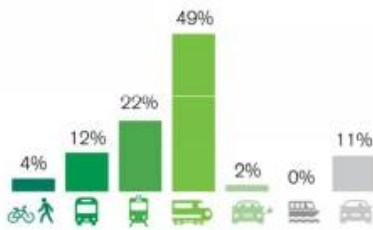
ENVIRONMENTAL RESULTS BY REGION

NEW YORK

LEED CERTIFICATIONS

21.2 MILLION SF
76% of total region
(including retail);
27 buildings

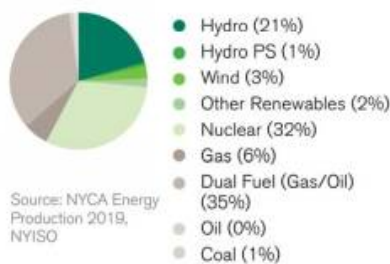
TRANSPORTATION SURVEY RESULTS (MILEAGE)



WASTE BY REGION (TONS)



GRID ELECTRICITY MIX



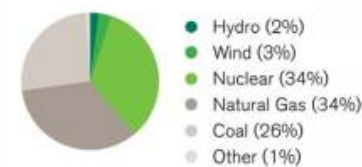
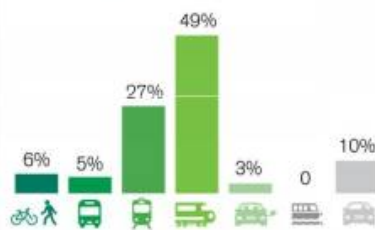
2019 GHG EMISSIONS (MT CO₂e)

Scope 1	27,475
Scope 2	178,423
Total	205,898

CHICAGO

3.7 MILLION SF
Over 94% of total region;
Largest LEED-certified
building in the US

KEY: Walk / Bike / Telecommute Bus
 Light Rail Heavy Rail

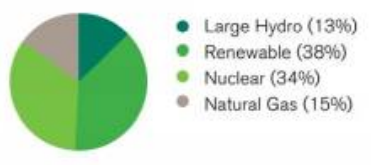
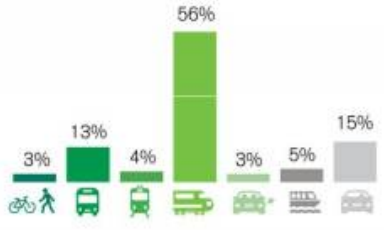


Scope 1	4,918
Scope 2	21,009
Total	25,927

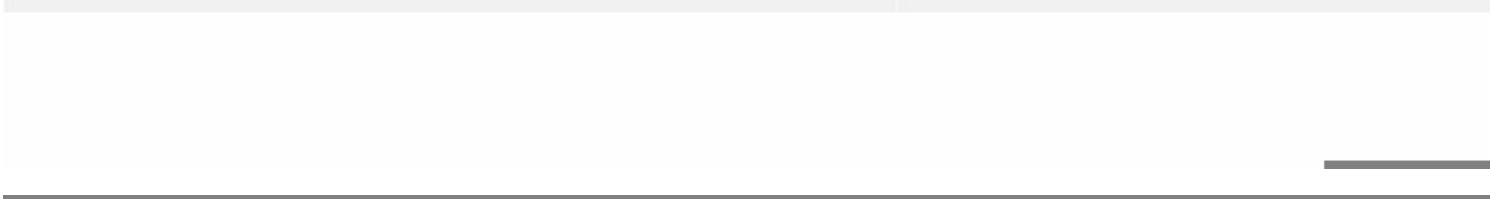
SAN FRANCISCO

1.8 MILLION SF
100% of total region;
3 buildings

Carpool / Alternative Fuel Ferry
 Car: Solo



Scope 1	56
Scope 2	10,269
Total	10,325



VORNADO'S ENERGY MANAGEMENT PLANNING CYCLE

MAKE COMMITMENT → ASSESS PERFORMANCE → SET GOALS

Vornado's dedicated energy management begins with team members who report directly to senior management, and it extends to the asset-level teams that 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 reduce energy consumption 50% by 2030—below a 2009 baseline.*

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.

Our Vision 2030 goal is to obtain carbon neutrality at our buildings by 2030, which includes a 50% energy efficiency goal. We use carbon intensity (MT Co2e 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.*

100%
OF VORNADO
PROPERTIES ARE
BENCHMARKED
IN ENERGY STAR
PORTFOLIO
MANAGER



*Any information relating to goals and progress against goals were 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.



CREATE ACTION PLAN

- Define technical solutions, both small scale (low- and no-cost) and large (energy efficiency capital projects).
- Assess projected energy savings of projects and measure their contribution towards 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



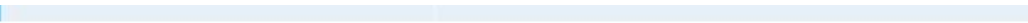
EVALUATE PROGRESS

- Measure and verify energy project savings using submeters.
- Recognize 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.
- Troubleshoot 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).
- Our EMS is aligned with the "Plan-Do-Check-Act" stages of ISO14001 EMS standards.



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, every year.
- Communicate energy savings and ENERGY STAR Label achievements to internal and external stakeholders.



SUSTAINABLE DEVELOPMENT



PENN 1/PENN 2:

We are committed to delivering PENN 1 and PENN 2 as buildings that exemplify the priorities of transitioning the built environment to a low-carbon economy, through both the repositioning of the buildings' and our operations that follow. Many of the details below make essential contributions to this vision.

- Complete overhaul of mechanical and electrical infrastructure to achieve energy efficiency and low carbon emissions, including superefficient electric cooling, high-performance glazing, and destination dispatch vertical transportation;
- Up to an acre of new open space, green roofs and setbacks;
- Smart building technology that employs occupancy data and analytics to run HVAC controls;
- Low-carbon tenant fit-out design and operations guidelines to help tenants partner with landlord to minimize carbon emissions and climate impacts;
- Industry-leading green cleaning and building-wide recycling and organics diversion programs;
- Maintaining and improving upon the buildings' LEED Gold certification through renovations and beyond.

We are also transforming our buildings to serve the needs of a diverse, mobile, and active workforce, where collaborative space will foster productivity and creativity. This transformation includes the following:

- Expansion of PENN 1 lobby to connect tenants and visitors with a second-floor amenities level, which will include fitness, dining, co-working, and conferencing;

- Auditorium space at PENN 2 to host company events, symposiums, and town hall-style gatherings;
- Informal gathering space to host conference calls, coffee meetings, and independent working.
- Direct access to Penn Station, subway networks, and the new Amtrak station at Farley.

In accordance with our Vision 2030, we also plan to deliver these properties as carbon neutral upon completion of renovations.



Top: Rendering of new tenant amenity space at PENN 1.

At left: Low-Carbon Tenant Design and Operations Workshop to develop energy conservation measures that would minimize carbon emissions from tenant spaces in the Penn District.



THE FARLEY BUILDING:

At Vornado, we value our employees as our greatest asset. Human capital management is critical to our success. To that end, we know that in order for our tenants to attract and retain the most innovative, collaborative, and creative people, they must be located in buildings that can propel their continued transformation and continued relevance.

We therefore focus our development and repositioning efforts on buildings that share the following characteristics:

- Near other tenants and talent, and near transportation
- Architecturally and historically significant
- Comprised of physical spaces that foster collaboration and innovation
- Able to offer a variety of spaces for different types of work
- Walkable and amenity rich

The Farley Building and our buildings throughout the greater Penn District are emblematic of the above mentioned key criteria. Vornado and our development team have embarked on a neighborhood-wide transformation, featuring the adaptive reuse of the Farley Building. We are converting 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.

We bring to this transformation our programs of resource conservation, healthy indoor environments, and responsible procurement, all of which define our portfolio-wide sustainable operations strategy.

The 740,000 SF office building is targeting LEED v4 Gold certification and will provide a sustainable and active workspace, including the following provisions:

- Direct access to Amtrak, Long Island Railroad, and New Jersey Transit regional train networks, in addition to multiple NYC subway lines
- Up to 70,000-SF of rooftop park space, with up to a quarter mile of continuous walkable outdoor paths
- A new 6,000-SF glass rooftop pavilion for use as programmable amenities space
- Ample stairwell access to facilitate collaboration among different floors in the building
- State-of-the art energy management system that will contribute to demand reduction and demand response, and provide tenants with insights into their real-time energy consumption, demand, and carbon emissions
- Over 3 MW of emergency backup power to foster resilience and business continuity



Top: Eighth Avenue view of the Farley Post Office, designed by McKim, Mead, and White and opened in 1912. Center: progress photo of the Moynihan Train Hall. Bottom: Rendering of the new Farley Building from Ninth Avenue and 33rd Street.



HEALTH AND WELLNESS

GRI 416-1

Though this report is a reflection on our programs and accomplishments in 2019, we must also recognize the unprecedented crises of the COVID-19 pandemic in 2020. Nothing is more important than the health, safety, and security of our employees, tenants, and visitors.

We continue to evaluate the impact our building operations and design have on health through the framework of the Center for Active Design's Fitwel Standard. We are proud to maintain the largest Fitwel certified building at theMART, impacting over 37,000 tenants and visitors daily, as well as the first landlord-tenant collaboration at our Fitwel Three-Star certified 731 Lexington Avenue. We are one of the few building owners to pursue Fitwel certification at the whole building level. We focus our wellness programs in the following areas:

Indoor Air Quality

In 2019, Vornado became a smoke-free, tobacco-free company, prohibiting the use of electronic and combustible smoking products everywhere on our properties across all regions. We prevent pollutants from entering our buildings by using MERV 13 rated filters wherever possible and by deploying entryway systems and walk-off mats at our building entrances. We test the air in our buildings semi-annually for critical contaminants that impact occupant health and productivity such as carbon dioxide, carbon monoxide, volatile organic compounds, particulate matter, as well as for temperature and relative humidity. Our green cleaning program through BMS employs industry certified nonhazardous disinfectants and cleaners that maintain optimal hygiene without harmful irritants.

Mobility and Physical Activity

Our assets are located in dense urban cores, proximal to

ACCESSIBILITY METRICS

76%

of our office portfolio provides on-site bicycle storage



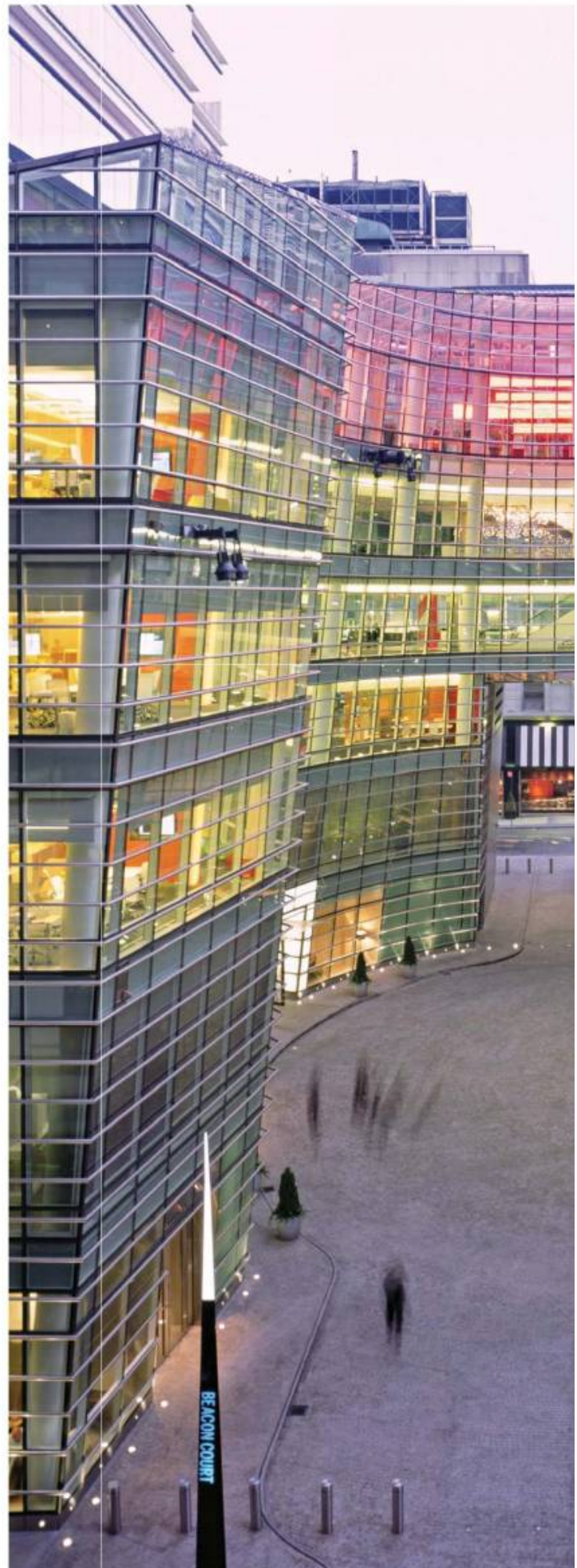
98

Average Walk-Score



84

Average Bike-Score







neighborhood services and public transportation that facilitates low- and no-carbon means of transit. To further promote active transit, we provide bicycle storage for our tenants across all regions. We have developed a partnership with local fitness studios to offer tenants subsidized membership rates and discounted classes, supported through our Live.Work.Do app. In addition to conventional fitness opportunities, we open access to stairwells and employ active design strategies to encourage mobility.

Wellbeing Amenities

Our leading examples of theMART and 731 Lexington Avenue provide wellness amenities that we look to replicate across the portfolio. Our renovation of theMART transformed the historic building into an amenity-rich space that promotes mobility, comfort, and a healthy lifestyle in the work environment. At the center of the renovation is the Grand

Stair, a 200-seat amphitheater style staircase, which connects occupants to Marshall's Landing, a 300-seat food and beverage outpost offering a collaborative environment for informal meetings against the backdrop of the Chicago River. Both theMART and 731 Lexington Avenue feature multi-purpose flexible space reservable for specialty programming, as well as dedicated quiet rooms that provide complete privacy. These adaptable spaces are central to our redevelopment plans across the portfolio.

Safety / Emergency Preparedness

- We share Emergency Action Plans (EAPs) and response procedures with tenants and staff to protect and prepare our building occupants for emergencies and critical scenarios, including but not limited to: weather-related emergencies and earthquakes; power failures; active shooter, explosions and bomb

threats; civil disturbance and workplace violence; fires and gas leaks; chemical and biological hazards (including COVID-19 response); and medical emergencies.

- Our buildings maintain food, water, sanitary supplies, and tools to support building staff and response personnel in emergency scenarios.
- We have provided American Red Cross Certified First Responder training in CPR at assets in each of our regions to better equip tenants and staff to respond to medical emergencies. We expect to expand this offering to additional properties in 2020.
- We maintain mobile automated external defibrillators (AEDs) at all Vornado properties. We have expanded this measure at theMART and 731 Lexington Avenue, which have AEDs installed on every floor.



From Left: Beacon Court, at the center of 731 Lexington Avenue; Exterior view of Art on theMART, the largest permanent digital art projection in the world; secure garage bicycle parking at theMART with capacity for 350 bicycles.



RECYCLING



WATCH OUR VIDEO ON THE RECYCLING PROCESS:

www.vno.com/recycling

Vornado works closely with industry service providers and regulators to understand how our buildings' waste can best support the global recycling market. We educate our tenants on best practice strategies to reduce overall waste, and keep material out of the landfill by diverting recyclables and organics. We measure the impact of these efforts and programs with quantitative audits and monthly reports.

VORNADO'S WASTE MANAGEMENT POLICY

- Reduce hazardous and non-hazardous waste generated at our buildings
- Increase diversion of waste from the landfill through recycling and composting acceptable materials and sending trash to waste-to-energy incineration plants
- Require tenants to divert business waste resulting from standard operations and packaging waste from deliveries and supplies

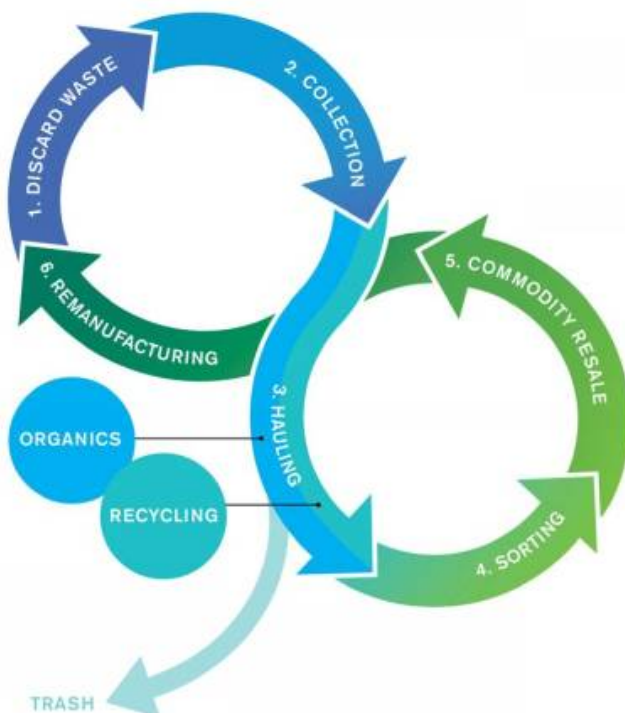
TENANT ENGAGEMENT

- In-person building-wide recycling meetings at 77% of our office portfolio, representing almost 22 million SF
- Semi-annual electronic waste recycling drives at 73% of our office portfolio, representing 20.7 million SF

DATA TRACKING

- Waste stream audits performed at 92% of our office portfolio, representing 26.2 million SF
- Monthly waste generation and diversion tracking at 94% of our office portfolio, representing 26.7 million SF

RECYCLING LIFE CYCLE



1 DISCARD WASTE

Vornado provides our tenants with separate receptacles so they can discard items in the appropriate paper, glass/metal/plastic, or trash bin.

2 COLLECTION

BMS Green Clean collects waste from tenant spaces, ensuring waste streams remain properly separated for storage and pickup by our haulers.

3 HAULING: ORGANICS & RECYCLING

We've partnered with haulers that have proven compliance with local waste management requirements. The haulers remove waste from each building with two trucks: one brings garbage to a transfer station, and the other delivers recyclables to their sorting facilities for further processing.

4 SORTING

At the sorting facilities, recyclables are hand-sorted and baled according to material type and quality.

5 COMMODITY RESALE

Baled materials are sold as commodities to factories and plants, such as paper mills and plastics manufacturers. Clean bales are more valuable and command higher purchasing prices.

6 REMANUFACTURING

The baled materials become inputs for new products, such as water bottles, polyester clothing, and paper towels, thereby reducing the use of virgin materials and natural resources.

GREEN CLEANING



BMS employee utilizing a Carpet and Rug Certified (CRI) vacuum equipped with HEPA filtration.

At Vornado, we ensure a healthy indoor environment through our industry-leading green cleaning program, led by BMS. The program supports tenant-driven LEED and WELL certification projects to keep staff trained in best practices that protect the health of everyone in our buildings. As a member of the Sustainable Purchasing Leadership Council, BMS is

committed to responsible and health-centered procurement practices. Our goal: to reach 75% sustainable purchases*, as designated by the industry's best-practices standard-bearers: UL ECOLOGO, Green Seal, Forest Stewardship Council, and the EPA's Safer Choice Standard. We have enriched our tracking of purchasing through the use

of environmental management software that maintains a running inventory and informs BMS of monthly and annual purchasing levels. The result? **In 2019, BMS achieved 83% sustainable purchases.** GRI 416-1



Packaging Reduction

118.6 TONS

from chemical concentrates



Water Use Reduction

531,551 GAL

from chemical-free T3 scrubber



Chemical Use Reduction

1,500 GAL

from chemical-free T3 scrubber

Purchased 100,322 cases of paper products, including 1.9 million pounds of recycled paper products, which represents more than

19,500
TREES SAVED

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

222.3
TONS
of CO₂e in 2019.



*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.

*Any information relating to goals and progress against goals were 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.



TENANT & COMMUNITY DEVELOPMENT

GRI 413-1



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 connect the neighborhood to our tenants.



FOOD, CULTURE, WELLNESS, & ENTERTAINMENT

Exclusive Vornado tenant deals and promotions from onsite and neighborhood restaurants, gym classes, spa specials, local festivals and concerts, and more.



TRANSIT

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



SECURITY

Direct link for the tenants and the property management team to communicate and report onsite and local alerts. Each building monitors and escalates issues as needed to our in-house Security Operations Center (SOC), built and managed exclusively for the Vornado portfolio. The SOC is staffed 24 hours a day, 7 days per week with experienced security professionals.



Vornado Security Operations Center.





From left: Tenant social event at 888 7th Ave, yoga studio at PENN 1, tenant sustainability roundtable at 330 West 34th St.



MOBILE TENANT ACCESS

Mobile credentials provide tenants with frictionless access to their office, eliminating the need to also have building access cards.



MOBILE VISITOR REGISTRATION

The Live.Work.do app provides mobile credentials for our tenants as well as our visitors. Tenants can quickly enter a visitor and a QR code will be provided for entry via email or text.



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.



BUILDING UPDATES

The Property Management Team can quickly share information with the tenant population, from fire drill alerts and emergencies to construction updates as well as community social events.



OUR PEOPLE

GRI 102-18, 102-20, 102-32

Our employees are the foundation of our human capital, and to foster their talent and growth, we provide training and education, promote career and personal development, and encourage innovation and engagement. 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 or 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.

We offer our employees a competitive health and benefits package that includes the following:

EMPLOYEE HEALTH & BENEFITS

Financial

- 401(k) and Employer Match
- Tuition Reimbursement
- Employee Referral Bonus
- Commuter Benefits
- Cellular Discounts
- New Jersey Manufacturers Insurance Planning

Parental Benefits

- Dependent Care Flexible Spending Account

Work/Life Balance

- Employee Assistance Program
- Time Off
- Paid Holidays

Health and Wellness

- Medical, Dental, and Vision Coverage
- 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 vaccination
- CPR Trainings

EMPLOYEE TRAINING

- Anti-Harassment
- Cyber Security
- Active Shooter Training

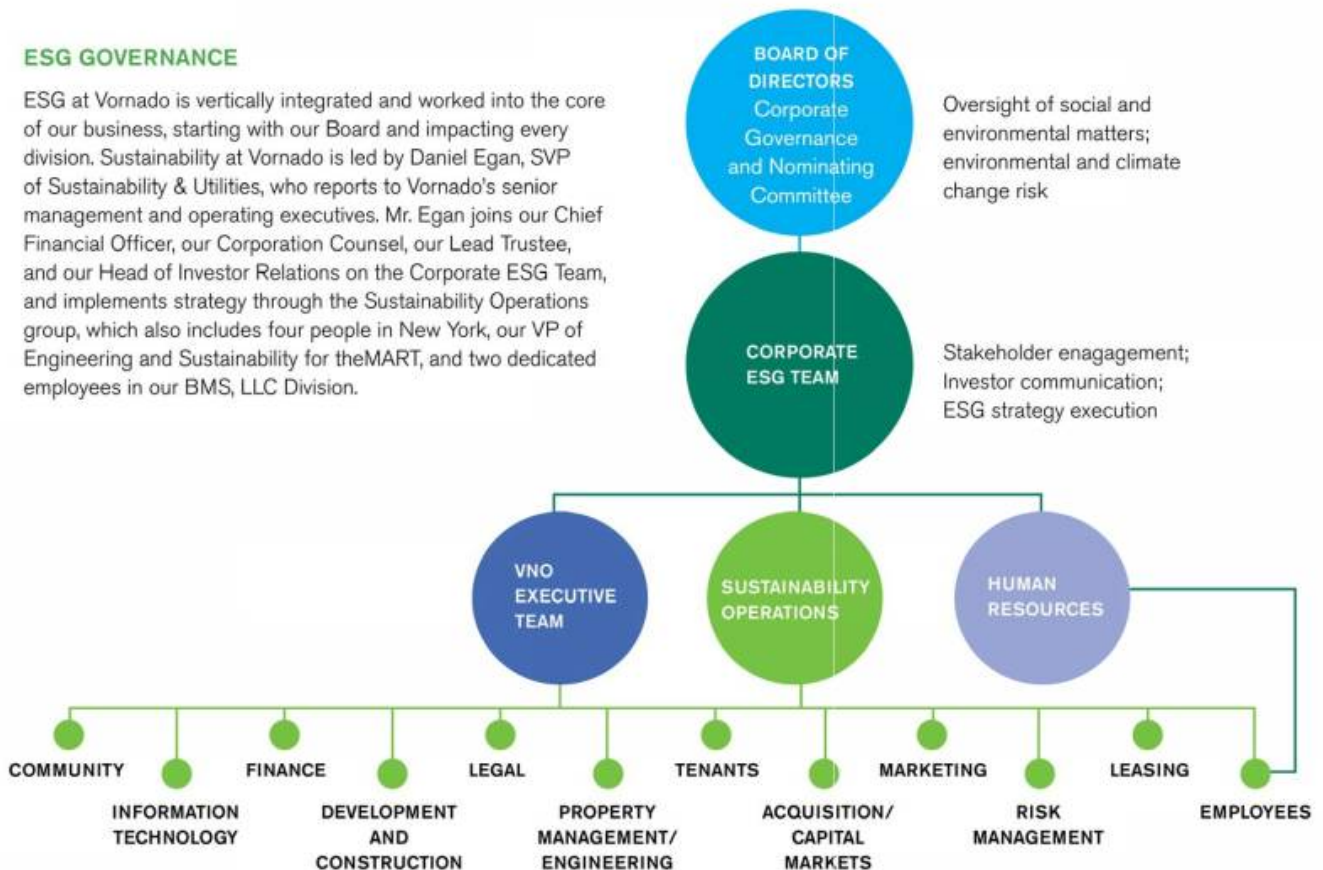
- Manager and Executive Retreats for Training Purposes
- Continuing Education Through Building Owners and Managers Association (BOMA), IUOE Local 94, Local 32BJ.

EVENTS

- Company Picnic
- Earth Week
- Corporate Challenge

ESG GOVERNANCE

ESG at Vornado is vertically integrated and worked into the core of our business, starting with our Board and impacting every division. Sustainability at Vornado is led by Daniel Egan, SVP of Sustainability & Utilities, who reports to Vornado's senior management and operating executives. Mr. Egan joins our Chief Financial Officer, our Corporation Counsel, our Lead Trustee, and our Head of Investor Relations on the Corporate ESG Team, and implements strategy through the Sustainability Operations group, which also includes four people in New York, our VP of Engineering and Sustainability for theMART, and two dedicated employees in our BMS, LLC Division.



SUPPLY CHAIN

GRI 102-9

VENDOR CODE OF CONDUCT

As part of our standard form of vendor contract, our vendors also must sign Vornado's Vendor Code of Conduct, which addresses issues that include, but are not limited to:

- Ethics and integrity; and
- All applicable laws, including those pertaining to
 - freedom of association and collective bargaining;
 - human trafficking;
 - forced labor and child labor;
 - wages and working hours;
 - discrimination, including, but not limited to:
 - gender, race, disability, ethnicity, nationality, religion, and sexual orientation
 - health & safety;
 - human rights;
 - anti-harrassment;
 - environmental impact and compliance with environmental regulations;
 - air emissions;
 - waste and recycling;
 - anti-corruption and anti-bribery; and
 - gifts and hospitality.

VENDOR INTEGRITY PROGRAM

As part our supply chain audit program, Vornado also subjects our vendors to a Vendor Integrity Program (VIP). Vendors are subject to 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 include, but are not limited to:

- Criminal and civil litigations;
- Human rights violations, such as trafficking or slavery;
- Mentioning of controversy in media and internet articles;
- Illegal business practices, including money laundering, terrorism, corruption, or fraud;
- Occupational Safety and Health Administration (OSHA) violations.

Our VIP also checks and records businesses who qualify as Minority- and Women-Owned Business Enterprises, as recognized by various jurisdictions.

Rendering of rooftop terrace at PENN 2.





SOCIAL RESULTS 2019

EMPLOYEE HEALTH & SAFETY, EMPLOYEE TRAINING



65 BMS SUPERVISORS AND SENIOR-LEVEL STAFF TRAINED in GS-42 green cleaning standards.

100% OF BMS EMPLOYEES ARE TRAINED MONTHLY IN COMPLIANCE with training requirements in the OSHA standards.



BMS CONDUCTS

24 HOURS OF TRAINING, per employee, annually. GRI 404-1

The BMS Safety & Training department completed

345 SAFETY CHECKS IN 2018

41% REDUCTION IN WORKERS' COMPENSATION CLAIMS 2018-2019 for BMS Employees

SOCIAL DEMOGRAPHICS VORNADO 2019*†

GRI 102-8, 405-1

2019 EMPLOYEE
TURNOVER RATE

22.79%

2019 NUMBER
OF NEW HIRES

61

		TOTAL NUMBER OF EMPLOYEES	PERMANENT	TEMPORARY	FULL-TIME	PART-TIME	RACIAL MINORITIES [§]
GENDER							
ALL EMPLOYEES	MALE	251	246	5	250	1	27.49%
	FEMALE	304	296	8	302	2	33.88%
SVP OR ABOVE	MALE	38	38	0	38	0	5.26%
	FEMALE	8	8	0	8	0	0.00%
AGE							
ALL EMPLOYEES	< 30 YRS OLD	86	77	9	86	0	23.26%
	30-50 YRS OLD	300	296	4	298	2	36.00%
	> 50 YRS OLD	169	169	0	168	1	26.04%
SVP OR ABOVE	< 30 YRS OLD	0	0	0	0	0	0.00%
	30-50 YRS OLD	21	21	0	21	0	4.76%
	> 50 YRS OLD	24	24	0	24	0	4.16%
REGION							
NEW YORK		262	251	11	261	1	28.63%
NEW JERSEY		221	219	2	219	2	36.20%
CHICAGO		65	65	0	65	0	23.08%
SAN FRANCISCO		7	7	0	7	0	71.42%

† GRI 401-1: This table covers Vornado corporate employees only at June 30, 2019 and does not include the BMS employees detailed below, or any employees of Alexander's.

§ These figures represent the diversity of our organization and are inclusive of the following racial minority groups: Black/African American, Hispanic/Latina, Asian/Pacific Islander and American Indian/Alaskan Native.

TENANT SATISFACTION SURVEYS



TENANT OUTLOOK

8
AVERAGE
TENANT
SATISFACTION
RANKING

89%
OF TENANTS
RANK THEIR
EXPERIENCE
AS POSITIVE

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.*

OUR 2019 SURVEYS COVER 57% OF OUR OFFICE PORTFOLIO.

OUR TENANTS CARE MOST ABOUT THE QUALITY OF:



**JANITORIAL SERVICES
AND CLEANLINESS**



**THERMAL COMFORT
AND VENTILATION**



**LIGHTING QUALITY
IN WORKSPACES**



**PROMPTNESS OF BUILDING
RESPONSE TO REQUESTS**

SOCIAL DEMOGRAPHICS BMS 2019**†

GRI 102-8, 405-1

		TOTAL NUMBER OF EMPLOYEES	PERMANENT	TEMPORARY	FULL-TIME	PART-TIME	RACIAL MINORITIES [§]
GENDER							
ALL EMPLOYEES	MALE	2787	2308	230	2115	672	72.16%
	FEMALE	1517	1287	479	1016	501	75.28%
AGE							
ALL EMPLOYEES	< 30 YRS OLD	807	518	289	446	361	81.04%
	30-50 YRS OLD	1892	1598	294	1399	493	67.66%
	> 50 YRS OLD	1605	1479	126	1286	319	74.68%
REGION							
NEW YORK		2582	2306	276	2536	46	61.70%
NEW JERSEY		42	32	10	11	31	97.62%
CHICAGO		650	227	423	223	427	77.85%
SAN FRANCISCO		1030	1030		361	669	98.35%

[§] These figures represent the diversity of our organization and are inclusive of the following racial minority groups: Black/African American, Hispanic/Latina, Asian/Pacific Islander and American Indian/Alaskan Native.

[†] This table covers BMS employees for the year ended December 31, 2019, inclusive of all hires that took place throughout the year. BMS employees represent Vornado's technical staff.

[‡] The Company provides equal employment opportunities to all employees and applicants for employment without regard to race, color, creed, citizenship status, religion, sex, sexual orientation, gender identity, national origin, age, disability, marital status, domestic partner status, protected veteran status, or any other characteristic protected by applicable federal, state, and local laws. This applies to all terms and conditions of employment including, without limitation, hiring, placement, promotion, termination, lay-off, recall, transfer, leaves of absence, compensation, and training. The Company will not tolerate unlawful discrimination and expressly prohibits any form of unlawful employee harassment based on race, color, creed, citizenship status, religion, sex, sexual orientation, gender identity, national origin, age, disability, marital status, domestic partner status, protected veteran status, or any other characteristic prohibited by applicable law.

VORNADO VOLUNTEERS

In 2019, Vornado Volunteers continued its commitment to community activism in each of our divisions. Through a combination of employee engagement and social impact assessments, we identified the following localized community priorities: vulnerable populations, environmental restoration and protection, and health and wellness. With those priorities in mind, our 2019 campaign included the following:

- Host Sponsorship and participation in the American Lung Association's ninth annual Fight for Air Stair Climb, PENN 1. In 2019, the event raised over \$200,000 for research and awareness programs to combat lung disease in New York. We also hosted the San Francisco Fire Department for a First Responders Stair Climb at 555 California Street in San Francisco.
- Vornado's NJ employees volunteered for over 600 hours to assist in revitalizing the interior and exterior of the Norman S. Weir Public School in Paterson, NJ, along with providing mentoring support for students on class projects.
- Partnership with Jersey Cares to provide shelters, hospitals, and food banks with supply kits and care packages.
- Sponsorship of 2019 Construction Awards and support of the Greater Chicago Food Depository. The event collected over 150,000 lbs of food, to provide over 230,000 meals for the Depository's beneficiaries.
- Park cleanup efforts in Central Park in NYC as well as Liberty State Park in Jersey City, NJ.



Vornado Volunteers efforts with Central Park Conservancy; Vornado's 2019 Fight for Air Stair Climb team.



OUR PARTNERSHIPS

GRI 102-13



Rendering of rooftop terrace at PENN 2.

Our employees engage in memberships and board positions in associations focused on furthering the conversation of Environmental, Social, and Governance priorities in real estate. Below is a selection of our involvement.

NATIONAL

- EPA ENERGY STAR Partner
- US Green Buildings 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)
- 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 (Board)
- Urban Green Council
- New York City Buildings Technical Working Group
- Retrofit Chicago
- Building Owners and Managers Association (BOMA) New York, Chicago, and San Francisco
- BOMA-New York Pinnacle Earth Award Sub-Committee (Chair)
- AIA Committee on the Environment (COTE) Zero Waste Design Guidelines Advisory Board



GLOBAL REPORTING INITIATIVE (GRI) INDEX

GRI 102-55

Management of Vornado Realty Trust is responsible for the completeness, accuracy, and validity of the disclosures in the Global Reporting Initiative Index (the "sustainability disclosures") included within the Environmental, Social, and Governance 2019 Report of Vornado Realty Trust. Management is responsible for the collection, quantification, and presentation of the sustainability disclosures and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the sustainability disclosures. Measurement of certain disclosures includes estimates and assumptions that are subject to inherent measurement uncertainty resulting for example from accuracy and precision of conversion and other factors. 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 sustainability disclosures in the Global Reporting Initiative Index included within the Environmental, Social, and Governance 2019 Report of Vornado Realty Trust for the year ended December 31, 2019 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

DISCLOSURE	DESCRIPTION	GRI DISCLOSURE
ORGANIZATIONAL PROFILE		
102-1	Name of the organization	Vornado Realty Trust
102-2	Activities, brands, products, and services	We currently own all or portions of: New York: 19.1 million square feet of Manhattan office in 35 properties; 2.3 million square feet of Manhattan street retail in 70 properties; 1,991 units in 10 residential properties; the 1,700 room Hotel Pennsylvania, and a 32.4% interest in Alexander's, Inc. ("Alexander's") (NYSE:ALX) which owns seven 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 aggregating 1.8 million square feet; a 25.0% interest in Vornado Capital Partners, our real estate fund (the "Fund"). We are the general partner of the Fund; and other real estate and investments.
102-3	Location of headquarters	888 Seventh Avenue, New York, NY
102-4	Location of operations	United States of America
102-5	Ownership and legal form	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 93.1% of the common limited partnership interest in the Operating Partnership as of December 31, 2019.
102-6	Markets served	Our primary property types are office and retail with geographic locations in New York, Chicago, and San Francisco.
102-7	Scale of the organization	Our people, p. 22 of this report; 35+ office properties in New York, Chicago and San Francisco; 70+ retail properties in New York and surrounding regions, Miami Beach, FL, and Annapolis, Maryland; 1,991 residential apartments in New York City; \$1.925 billion total revenues.
102-8	Information on employees and other workers	Social Results, pp. 24-25 of this report
102-9	Supply chain	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.
102-10	Significant changes to the organization and its supply chain	No significant changes
102-11	Precautionary Principle or approach	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.
102-12	External initiatives	2019 Environmental, Social, & Governance Report, p. 1 of this report
102-13	Membership of associations	Our Partnerships, p. 27 of this report
STRATEGY		
102-14	Statement from senior decision maker	p. 1 of this report
ETHICS AND INTEGRITY		
102-16	Values, principles, standards, and norms of behavior	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.
GOVERNANCE		
102-18	Governance structure	Our People, p. 22 of this report
102-20	Executive-level responsibility for economic, environmental, and social topics	Our People, p. 22 of this report.
102-32	Highest governance body's role in sustainability reporting	Our People, p. 22 of this report.



GLOBAL REPORTING INITIATIVE (GRI) INDEX

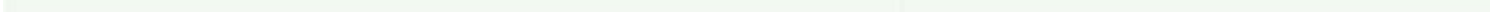
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GRI 102: GENERAL DISCLOSURES (CONTINUED)

DISCLOSURE	DESCRIPTION	GRI DISCLOSURE
STAKEHOLDER ENGAGEMENT		
102-40	List of stakeholder groups	ESG Materiality Assessment, p. 10 of this report
102-41	Collective bargaining agreements	82.4% of our Vornado corporate and BMS employees at 12/31/2019 are covered by collective bargaining agreements. This figure excludes employees of Alexander's.
102-42	Identifying and selecting stakeholders	ESG Materiality Assessment, p. 10 of this report.
102-43	Approach to stakeholder engagement	ESG Materiality Assessment, p. 10 of this report.
102-44	Key topics and concerns raised	ESG Materiality Assessment, p. 10 of this report.
REPORTING PRACTICE		
102-45	Entities included in the consolidated financial statements	Vornado Realty Trust; BMS; Alexander's, Inc.; JBG Smith
102-46	Defining report content and topic boundaries	2019 Environmental, Social & Governance Report, p. 1 of this report Materiality Assessment, p. 10 of this report.
102-47	List of material topics	Energy, Water, and Waste Management; Climate Change Risk and Mitigation; Human Capital Management; Diversity and Inclusion; Carbon Emissions and Carbon Footprint Reporting; Local Communities; Management Succession Plan; Executive Compensation; Health and Wellness; Sustainable Development; Board Structure, Tenure, and Refreshment; Board Engagement on ESG; Community Impact, p. 10 of this report.
102-48	Restatements of information	No restatements.
102-49	Changes in reporting	No significant changes.
102-50	Reporting period	January 2019 - December 2019
102-51	Date of most recent report	2018 Sustainability Report, dated April 5, 2019
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Daniel Egan, SVP, Sustainability & Utilities, degan@vno.com
102-54	Claims of reporting in accordance with the GRI Standards	This report has been prepared in accordance with the GRI Standards: Core option.
102-55	GRI content index	GRI Index, pp. 27-29 of this report.
102-56	External assurance	The Independent Accountants' Review Report can be found on p. 31 of this report, available online at www.vno.com .

GRI 103: MANAGEMENT APPROACH

DISCLOSURE	DESCRIPTION	GRI DISCLOSURE																																																				
103-1	Explanation of the material topic and its boundary	The ESG topics listed in GRI 102-47 are deemed material based on our recurring stakeholder engagement, which is described on p. 10 of this report. Reporting boundaries for environmental disclosures are found in the footnote at the end of this GRI Index on p. 30. Reporting boundaries for GRI topics 401 and 405 are found in the footnote on pp. 24-25. 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.																																																				
103-2	The management approach and its components	<table border="1"> <thead> <tr> <th></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. 2-3, p. 4</td> <td>pp. 2-3</td> <td rowspan="9">Our People, p. 22</td> <td>p. 34</td> </tr> <tr> <td>GRI 302: Energy</td> <td>pp. 2-3</td> <td>pp. 6-7, pp. 8-9</td> <td>pp. 12-13, p. 32</td> </tr> <tr> <td>GRI 305: Emissions</td> <td>pp. 2-3</td> <td>pp. 8-9</td> <td>pp. 4-5</td> </tr> <tr> <td>GRI 303: Water</td> <td>pp. 2-3, p. 7</td> <td>pp. 6-7, pp. 8-9</td> <td>pp. 12-13, p. 33</td> </tr> <tr> <td>GRI 306: Effluents & Waste</td> <td>pp. 2-3, p. 18</td> <td>pp. 6-7, pp. 8-9</td> <td>pp. 12-13, p. 18</td> </tr> <tr> <td>GRI 401: Employment</td> <td>p. 22</td> <td></td> <td>p. 22, including reference to grievance mechanism</td> </tr> <tr> <td>GRI 404: Training and Education</td> <td>p. 1, p. 17, p. 19, p. 22</td> <td></td> <td>p. 17, p. 19</td> </tr> <tr> <td>GRI 413: Local Communities</td> <td>pp. 20-21, p. 26</td> <td></td> <td></td> </tr> <tr> <td>GRI 416: Customer Health and Safety</td> <td>pp. 16-17</td> <td></td> <td>pp. 16-17, p. 19</td> </tr> <tr> <td>GRI 405: Diversity and Equal Opportunity</td> <td>p. 22, endnote, p. 25</td> <td></td> <td></td> <td></td> </tr> <tr> <td>GRI 419: Socioeconomic Compliance</td> <td>10-K, FN 22 p. 135</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Policies/ Commitments	Goals and Targets	Responsibilities	Processes/ Projects / Programs	GRI 201: Economic Performance	pp. 2-3, p. 4	pp. 2-3	Our People, p. 22	p. 34	GRI 302: Energy	pp. 2-3	pp. 6-7, pp. 8-9	pp. 12-13, p. 32	GRI 305: Emissions	pp. 2-3	pp. 8-9	pp. 4-5	GRI 303: Water	pp. 2-3, p. 7	pp. 6-7, pp. 8-9	pp. 12-13, p. 33	GRI 306: Effluents & Waste	pp. 2-3, p. 18	pp. 6-7, pp. 8-9	pp. 12-13, p. 18	GRI 401: Employment	p. 22		p. 22, including reference to grievance mechanism	GRI 404: Training and Education	p. 1, p. 17, p. 19, p. 22		p. 17, p. 19	GRI 413: Local Communities	pp. 20-21, p. 26			GRI 416: Customer Health and Safety	pp. 16-17		pp. 16-17, p. 19	GRI 405: Diversity and Equal Opportunity	p. 22, endnote, p. 25				GRI 419: Socioeconomic Compliance	10-K, FN 22 p. 135			
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103-3	Evaluation of the management approach	Evaluation of climate-related topics: Environmental Results, pp. 8-9 of this report, and progress against environmental goals, found on pp. 6-7. Evaluation of management approach to social topics: Social Results, found on pp. 24-25.																																																				



GLOBAL REPORTING INITIATIVE (GRI) INDEX

(CONTINUED 2)

GRI 200-400: TOPIC-SPECIFIC DISCLOSURES

GRI TOPICS	DISCLOSURE	DESCRIPTION	GRI DISCLOSURE
ECONOMIC			
GRI 201: Economic Perf. 2019	201-2	Financial implications and other risks and opportunities due to climate change	TCFD scenario analysis, p. 4 of this report and SASB disclosure on climate change adaptation, p. 34 of this report
ENVIRONMENTAL			
GRI 302: Energy 2019	302-1	Energy consumption within the organization	2019 Results, pp. 8-9 of this report.
	302-3	Building energy intensity	2019 Results, pp. 8-9 of this report. Our denominator is the square footage as outlined in the boundaries found in the endnotes of this report.
	302-4	Reduction of energy consumption	2019 Results, pp. 8-9 of this report. Energy converted from source unit of measure to megawatt hours (MWh).
GRI 303: Water 2019	303-1	Water withdrawal by source	2019 Results, pp. 8-9 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.
GRI 305: Emissions 2019	305-1	Scope 1 GHG emissions	2019 Results, pp. 8-9 of this report. Gases included are CO ₂ , CH ₄ , and N ₂ O. We utilized the latest available emission factors for each energy type and Global Warming Potential factors from the Fifth Assessment Report published by the Intergovernmental Panel on Climate Change to calculate our GHG inventory. No significant recalculations occurred. Consolidation approach as defined in the reporting boundary endnoted in this report.
	305-2	Scope 2 GHG emissions	2019 Results, pp. 8-9 of this report. Scope 2 emissions include emissions attributable to consumption of electricity, district steam, and district chilled water. All qualifiers for Disclosure 305-1 also apply to this disclosure.
	305-4	GHG emissions intensity	2019 Results, pp. 8-9 of this report. Our denominator is the square footage as outlined in the boundaries found in the endnotes of this report.
	305-5	Reduction of GHG emissions	2019 Results, pp. 8-9 of this report.
GRI 306: Effluents and Waste 2019	306-2	Waste by type and disposal method	2019 Results, p. 8 of this report. 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.
SOCIAL			
GRI 401: Employment 2019	401-1	New employee hires and employee turnover	Social Results, pp. 24-25 of this report. We have omitted new hire and turnover rates for the BMS division due to seasonal fluctuations. We will consider reporting these metrics in the future.
	401-2	Full-time benefits not provided to temporary/part-time employees	Medical and prescription plan at low employee cost; Dental plan at no employee cost; Tax-deferred 401(k) plan; Flexible spending accounts for medical and dependent care; Life insurance at two times an employee's annual compensation and at no employee cost; Paid time off for vacations, holidays, and personal days; Employee Assistance Program; Tuition reimbursement and professional reimbursement development plan
GRI 404: Training and Education 2019	404-1	Average hours of training per year per employee	Social Results, pp. 24-25 of this report. Green Cleaning, p. 19 of this report. We have omitted hours of training per employee for our corporate staff but will plan to report on this metric in the future.
GRI 405: Diversity and Equal Opportunity 2019	405-1	Diversity of governance bodies and employees	Social Results, pp. 24-25 of this report. As of December 31, 2019, our Board consisted of 22% women; 0% under age 30; 0% between ages 30 and 50, and 100% over 50 years old.
GRI 413: Local Communities 2019	413-1	Operations with local community engagement, impact assessments, and development programs	Tenant and Community Development, pp. 20-21 of this report. Materiality Assessment, p. 10 of this report.
GRI 416: Customer Health and Safety 2019	416-1	Assessment of the health and safety impacts of product and service categories	Health and Wellness, pp. 16-17 of this report. Green Cleaning, p. 19 of this report.
GRI 419: Socioeconomic Compliance 2019	419-1	Non-compliance with laws and regulations in the social and economic area	None. We consider "significant" fines as those listed in Vornado Form 10-K for the fiscal year ended December 31, 2019, "Note 22: Contingencies" on p. 135.

1 Reporting boundaries:

Intensities: 2019 intensities were calculated by dividing the energy consumption, water consumption, and GHG emissions from the properties owned by Vornado at December 31, 2019 by the total square footage of that same list of properties.

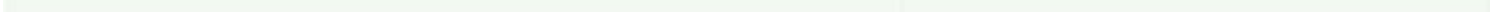
Energy: 100% of all in-service square footage as of 12/31/2019, not listed as under development, with more than 20% VNO ownership. Consumption in Q4 2019 has been estimated.

Estimates provided where actual data not readily available. Of the consumption represented in the first 3 quarters of 2019, 2.65% is estimated based on average use based on property type.

Water: 100% of all in-service square footage as of 12/31/2019, not listed as under development, with more than 20% VNO ownership. Consumption in Q4 2019 has been estimated.

Estimates provided where actual data not readily available. Of the consumption represented in the first 3 quarters of 2019, 2.39% is estimated based on average use based on property type.

Waste: 79.48% of all in-service square footage as of 12/31/2019, not listed as under development, with more than 20% VNO ownership. Waste generation in 2018 and 2019 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.





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INDEPENDENT ACCOUNTANTS' REVIEW REPORT

**Board of Trustees
Vornado Realty Trust
New York, NY**

We have reviewed management of Vornado Realty Trust's assertion that the sustainability disclosures in the Global Reporting Initiative Index included within the accompanying Environmental, Social and Governance 2019 Report of Vornado Realty Trust (the "Company") for the year ended December 31, 2019 are presented in accordance with the Global Reporting Initiative Sustainability Reporting Standards under its Core option (the "GRI Standards – Core option"). The Company's management is responsible for its assertion. Our responsibility is to express a conclusion on management's assertion based on our review.

Our review 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 210, *Review Engagements*. Those standards require that we plan and perform the review to obtain limited assurance about whether any material modifications should be made to management's assertion in order for it to be fairly stated. A review is substantially less in scope than an examination, the objective of which is to obtain reasonable assurance about whether management's assertion is fairly stated, in all material respects, in order to express an opinion. Accordingly, we do not express such an opinion. We believe that our review provides a reasonable basis for our conclusion.

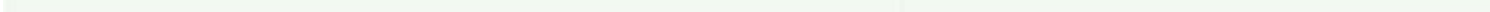
In performing our review, we have complied with the independence and other ethical requirements of the Code of Professional Conduct issued by the AICPA. We applied the Statements on Quality Control Standards established by the AICPA and, accordingly, maintain a comprehensive system of quality control.

The preparation of the sustainability disclosures in the Global Reporting Initiative Index included within the Environmental, Social and Governance 2019 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 reported information. Measurement of certain disclosures includes estimates and assumptions that are subject to inherent measurement uncertainty resulting for example from accuracy and precision of greenhouse gas emission conversion factors. Obtaining sufficient, appropriate review evidence to support our conclusion does not reduce the inherent uncertainty in the amounts and 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.

The Environmental, Social and Governance 2019 Report includes certain information relating to goals and progress against goals and such information is denoted by an asterisk (*). Any information relating to goals and progress against goals were not subject to our review and, accordingly, we do not express a conclusion or any form of assurance on such information. Information for periods prior to December 31, 2017 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 sustainability disclosures in the Global Reporting Initiative Index included within the accompanying Environmental, Social and Governance 2019 Report of the Company for the year ended December 31, 2019 are presented in accordance with the GRI Standards – Core option, in order for it to be fairly stated.

April 3, 2020



APPENDIX A – SUSTAINABILITY ACCOUNTING STANDARDS BOARD (SASB)

Management of Vornado Realty Trust is responsible for the completeness, accuracy, and validity of the specified metrics included in Appendix A (the "specified metrics") of the Environmental, Social, and Governance 2019 Report of Vornado Realty Trust. Management is responsible for the collection, quantification, and presentation of the specified metrics and for the selection of the criteria, which management believes provide an objective basis for measuring and reporting on the specified metrics. Measurement of certain metrics includes estimates and assumptions that are subject to inherent measurement uncertainty resulting from precision of conversion and other factors, and assumptions used for the weather and occupancy normalization of energy data. 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 specified metrics included in Appendix A of the Environmental, Social, and Governance 2019 Report of Vornado Realty Trust for the year ended December 31, 2019 are presented in accordance with the Sustainability Accounting Standards Board (SASB) Real Estate Sustainability Accounting Standard.

ENERGY MANAGEMENT

CODE	ACCOUNTING METRICS	TOTAL	NEW YORK	theMART**	555 CALIFORNIA**	OTHER	UNIT OF MEASURE
IF-RE-130a.1	Energy consumption data coverage as a percentage of floor area, by property subsector.	100%	100%	100%	100%	100%	Percentage (%) by floor area (SF)
IF-RE-130a.2	Total energy consumed in 2019 by portfolio area with data coverage.	3,640,806	3,033,130	270,050	164,441	173,185	Gigajoules (GJ)
IF-RE-130a.2	Percentage of total energy that is grid electricity, by property subsector.	100%	100%	100%	100%	100%	Percentage (%)
IF-RE-130a.2	Percentage of total energy that is renewable, by property subsector.	1.68%	0%	22.65%	0%	0%	Percentage (%)
IF-RE-130a.3	Like-for-like change in energy consumption of portfolio area with data coverage, by property subsector (see note on normalization).	-0.73%	-1.03%	-0.44%	2.40%	1.22%	Gigajoules (GJ), Percentage (%)
IF-RE-130a.4	Percentage of eligible portfolio that has obtained an energy rating.	85.62%	82.69%	99.51%	87.08%	100%	Percentage (%) by floor area (SF)
IF-RE-130a.4	Percentage of eligible portfolio that is certified to ENERGY STAR, by property subsector.	14.33%	17.31%	0%	12.92%	0%	Percentage (%) by floor area (SF)

IF-RE-130A.5 DESCRIPTION OF HOW BUILDING ENERGY MANAGEMENT CONSIDERATIONS ARE INTEGRATED INTO PROPERTY INVESTMENT ANALYSIS AND OPERATIONAL STRATEGY

As a real estate company, 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 2016, we set an energy reduction target of 35% below a 2009 baseline, to be achieved by 2026. This 35% reduction includes energy consumed by both the landlord and the tenant. As of 12/31/2019 we have reduced 24% towards this goal. Also in 2019, we decided to increase our target reduction from 35% to 50%, and extend our performance period from 2026 to 2030. This plan is a critical component to our Vision 2030 plan, whose goal is to achieve carbon neutrality for our New York, Chicago, and San Francisco properties within the next 10 years.* Further information on this plan can be found on pp. 2-3 of this report.

We incorporate energy management into our acquisition due diligence process. We tour properties in person 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 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 an ASHRAE Level I audit, 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. 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, that 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. More information on our technical assessments can be found on pp. 12-13 of this report.

Vornado uses Environmental Management Systems and Data Management Systems as part of our strategy. More information on these systems can be found on pp. 12-13 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 the 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. We believe off-site renewable energy investment should carry the qualities of additionality, so the investment results in the creation of new renewable power generation sources, and should be physically connected to the utility grids in the geographic regions where our properties are located. We have purchased renewable certificates to offset 19.8 mWh of our 2018 and 170 mWh of our 2019 energy consumed at theMART property, which represents about 23% of annual energy reported at the property or 2% of our company's total energy consumption.

We also will plan to purchase carbon offsets between 2020 and 2030 to reduce the effective balance of our Scope 1 emissions. 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 align with those which are defined in the Climate Leadership and Community Protection Act (CLCPA) passed in New York State in 2019. We will re-account for the necessary balance of carbon offsets to maintain carbon neutrality on an annual basis.

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

** Divisions are presented as disclosed in Vornado Form 10-K for the fiscal year ended December 31, 2019.

APPENDIX A – SASB

(CONTINUED 1)

WATER MANAGEMENT

CODE	ACCOUNTING METRICS	TOTAL		NEW YORK		theMART**		555 CALIFORNIA**		OTHER		UNIT OF MEASURE
IF-RE-140a.1	Water withdrawal data coverage as a percentage of total floor area, by property subsector.	100%		100%		100%		100%		100%		Percentage (%) by floor area (SF)
IF-RE-140a.1	Percentage of floor area in regions with High or Extremely High Baseline Water Stress, each by property subsector.	7.49%		6.58%		0%		0%		46.29%		Percentage (%) by floor area (SF)
IF-RE-140a.2	Total water withdrawn in 2019, (1) by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, each by property subsector.	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Thousand cubic meters (m ³); Percentage (%)
		3,187,066	12.36%	2,850,437	10.05%	114,969	0%	61,319	0%	160,341	67.00%	
IF-RE-140a.3	Like-for-like change in water withdrawn for portfolio area with data coverage, by property subsector.	-3.70%		-3.55%		0.57%		12.79%		-13.55%		Thousand cubic meters (m ³); Percentage (%)

IF-RE-140A.4. DESCRIPTION OF WATER MANAGEMENT RISKS AND DISCUSSION OF STRATEGIES AND PRACTICES TO MITIGATE THOSE RISKS

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 water consumption used for landscaping or 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. Approximately 7% of our total properties operate in some regions with high or extremely high baseline water stress. As referenced in the 2018 SASB codified standards, 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.

We also face water-related regulatory constraints. Our water costs increase regularly to pay for developing and maintaining the infrastructure that supports our municipal water and sewer systems. We incur sewer costs to pay for the treatment of water that is discharged from our buildings. We incur additional costs to control the temperature of the water we discharge. We may incur additional costs to comply with future stormwater management regulation in our regions. We expect costs for water to continue to rise into the foreseeable future, which will increase our operating costs.

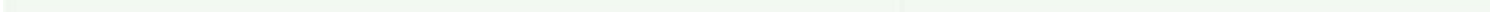
Our primary means of water risk mitigation is to reduce our water withdrawals and consumption. We have set a corporate-wide goal of reducing our water consumption 10 percent by 2020, below a 2016 base year. As of 2019 we have achieved this goal, and have set a new goal for 2030. This target is absolute in nature; our mechanisms in place for achieving this target include targeting reduction opportunities in our plumbing fixtures, our HVAC systems, our cleaning policies, and where applicable, our drip irrigation systems. Our restroom plumbing fixtures are retrofitted as part of renovation efforts, which occur annually as part of our recurring capital improvement process. Our HVAC water efficiency program includes water reduction and water re-use efforts such as the re-use of steam condensate to our cooling tower, to reduce sewer discharge; retrofitting our cooling tower with more efficient mechanical systems; and ensuring our chiller systems are serviced and maintained on an ongoing basis. Our janitorial company cleans our buildings with water conservation efforts including gray water re-use for washing and cleaning, and purchase and use of water-efficient equipment. In new construction or redevelopment projects, we also mitigate our stormwater runoff with stormwater retention tanks that re-use storm water for irrigation and cooling tower use, and green roofs and terraces to capture stormwater.

Our primary risk to 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 coincidental reductions in energy reduction, but have not yet quantified these coincidental reductions. We continue to consider these benefits and evaluate additional lifecycle impacts and tradeoffs, such as impacts to GHG emissions, as potential future opportunities to be realized.

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

** Divisions are presented as disclosed in Vornado form 10-K for the fiscal year ended December 31, 2019.



APPENDIX A – SASB

(CONTINUED 2)

CLIMATE CHANGE ADAPTATION

CODE	ACCOUNTING METRICS	TOTAL	NEW YORK	theMART**	555 CALIFORNIA**	OTHER	UNIT OF MEASURE
IF-RE-450a.1	Area of properties located in FEMA Special Flood Hazard Areas or foreign equivalent, by property subsector.	2,071,000	1,051,000	208,000	0	812,000	SF

IF-RE-450A.2 DESCRIPTION OF CLIMATE CHANGE RISK EXPOSURE ANALYSIS, DEGREE OF SYSTEMATIC PORTFOLIO EXPOSURE, AND STRATEGIES FOR MITIGATING RISKS

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 narratives and underlying assumptions 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 encounter. Each of our principal markets of 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.

Our buildings are located in regions that have had recent history of extreme weather events, including but not limited to hurricanes and superstorms, nor'easters and ice storms, tornadoes, wildfires, temperature extremes, and heavy precipitation events. A global warming scenario could bring an increase in the frequency and severity of these events between now and 2100. 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 2100. Financial impacts under various warming scenarios include, but are not limited to: increases in capital and operating costs; increases in insurance premiums; increases in energy 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 pp. 12-13 of this report. We train our operators in disaster risk management and emergency operating procedures. At the regional level, our cities and utilities adapt 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 ComEd'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 carbon 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 pp. 2-3 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, with fossil fuel intensity 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.

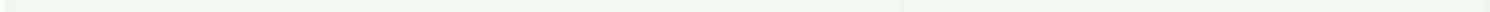
All carbon emission reduction strategies, whether property-specific or regional, present different risks and opportunities. Risks include unsuccessful investment in new technologies; costs to transition to lower emissions technology; increased pricing on GHG emissions; and uncertainty in market signals such as utility costs or carbon taxes. Financial impacts of such risks 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 emissions-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 those emissions on an ongoing basis.

Vornado Realty Trust has signed on as a supporter of the framework recommended by The Financial Stability Board's Taskforce 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.

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

** Divisions are presented as disclosed in Vornado form 10-K for the fiscal year ended December 31, 2019.



APPENDIX A – SASB

(CONTINUED 3)



MANAGEMENT OF TENANT SUSTAINABILITY IMPACTS

CODE	ACCOUNTING METRICS	TOTAL	NEW YORK	theMART**	555 CALIFORNIA**	OTHER	UNIT OF MEASURE
IF-RE-410a.1	Percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements and associated leased floor area, by property subsector.	64.19%	63.18%	78.55%	99.37%	11.99%	Percentage (%) by floor area (SF)
IF-RE-410a.2	Percentage of tenants that are separately metered or submetered for grid electricity consumption, by property subsector.	94.08%	95.75%	94.67%	99.05%	60.95%	Percentage (%) by floor area (SF)
IF-RE-410a.2	Percentage of tenants that are separately metered or submetered for water withdrawals, by property subsector.	15.01%	15.25%	2.89%	0%	53.59%	Percentage (%) by floor area (SF)

IF-RE-410A.3. DISCUSSION OF APPROACH TO MEASURING, INCENTIVIZING, AND IMPROVING SUSTAINABILITY IMPACTS OF TENANTS

At Vornado, we understand that much of the electricity consumed in our properties is from our tenants, 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 our tenants as a partner in reducing our carbon footprint. We have a responsibility to communicate 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 and 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.

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 encourages the tenant to actively both manage and measure their own carbon footprint.

Beyond the lease, we distinguish ourselves with in-person engagement with our tenants on sustainability. We host an annual tenant sustainability roundtable, where we share best practices on energy, water, and waste reduction, and discuss corporate ESG trends and regulatory updates. We collect information from our tenants that contributes to mandatory energy rating schemes, such as ENERGY STAR Portfolio Manager profiles. We meet 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.

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.

** Divisions are presented as disclosed in Vornado form 10-K for the fiscal year ended December 31, 2019.

Normalization Note:

2018 and 2019 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 Base Load is adjusted for Occupancy based on field research that demonstrates that roughly half of the baseload 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.

Q4 Estimation:

Q4 2019 energy and water data has been estimated using the following calculation:

Electricity and water were estimated using Q4 2018 data and adjusted for occupancy.

Natural gas, steam, and oil were estimated using Q4 2018 data and adjusted for occupancy and weather.

Four properties have full year estimations for energy and water.

Q4 2019 actual energy and water data were included for One Penn Plaza.





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INDEPENDENT ACCOUNTANTS' REPORT

Board of Trustees
Vornado Realty Trust
New York, NY

We have examined management of Vornado Realty Trust's assertion that the following specified metrics included in Appendix A of the accompanying Environmental, Social and Governance 2019 Report (the "specified metrics") of Vornado Realty Trust (the "Company" or "Vornado") for the year ended December 31, 2019 are presented in accordance with the Sustainability Accounting Standards Board (SASB) Real Estate Sustainability Accounting Standard:

Energy management:

- IF-RE-130a.1: Energy consumption data coverage as a percentage of floor area, by property subsector
- IF-RE-130a.2: (1) Total energy consumed by portfolio area with data coverage, (2) percentage of total energy that is grid electricity, by property subsector, and (3) percentage of total energy that is renewable, by property subsector
- IF-RE-130a.3: Like-for-like change in energy consumption of portfolio area with data coverage, by property subsector
- IF-RE-130a.4: Percentage of eligible portfolio that (1) has an energy rating and (2) is certified to ENERGY STAR, by property subsector
- IF-RE-130a.5: Description of how building energy management considerations are integrated into property investment analysis and operational strategy

Water management:

- IF-RE-140a.1: Water withdrawal data coverage as a percentage of (1) total floor area and, by property subsector, (2) percentage of floor area in regions with High or Extremely High Baseline Water Stress, each by property subsector
- IF-RE-140a.2: Total water withdrawn in 2019 (1) by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, each by property subsector
- IF-RE-140a.3: Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property subsector
- IF-RE-140a.4: Description of water management risks and discussion of strategies and practices to mitigate those risks

Climate change adaptation:

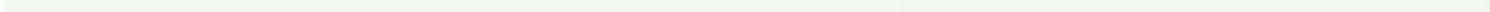
- IF-RE-450a.1: Area of properties located in FEMA Special Flood Hazard Areas or foreign equivalent, by property subsector
- IF-RE-450a.2: Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks.

Management of Tenant Sustainability Impacts:

- IF-RE-410a.1: Percentage of new leases that contain a cost recovery clause for resource efficiency related capital improvements and associated leased floor area, by property subsector
- IF-RE-410a.2: Percentage of tenants that are separately metered or sub metered for grid electricity consumption and water withdrawals, by property subsector
- IF-RE-410a.3: Discussion of approach of measuring, incentivizing, and improving sustainability impacts of tenants

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 we obtained is sufficient and appropriate to provide a reasonable basis for our opinion.



In performing our examination, we have complied with the independence and other ethical requirements of 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 specified metrics in Appendix A of the Environmental, Social and Governance 2019 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 reported information. Measurement of certain metrics includes estimates and assumptions that are subject to inherent measurement uncertainty resulting for example from precision of greenhouse gas emission conversion factors, and assumptions used for the weather and occupancy normalization of energy data. 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.

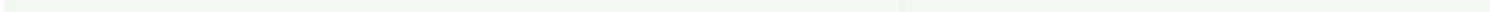
Our examination was limited to those SASB Real Estate Sustainability Accounting Standard metrics specified by management in Appendix A of the Environmental, Social and Governance 2019 Report. All other information presented within the Environmental, Social and Governance 2019 Report was not examined by us and, accordingly, we do not express an opinion on such information.

Appendix A of the Environmental, Social and Governance 2019 Report includes certain information relating to goals and progress against goals and such information is denoted by an asterisk (*) in Appendix A of the Environmental, Social and Governance 2019 Report. Any information relating to goals and progress against goals were 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 specified metrics included in Appendix A of the accompanying Environmental, Social and Governance 2019 Report for the year ended December 31, 2019 are presented in accordance with SASB Real Estate Sustainability Accounting Standard is fairly stated, in all material respects.



April 3, 2020



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