
SUSTAINABILITY 2014



SUSTAINABILITY AT VORNADO: 2014 KEY ACHIEVEMENTS

ENERGY STAR
PARTNER OF THE YEAR, 2014
SUSTAINED EXCELLENCE 2015

GLOBAL REAL ESTATE
SUSTAINABILITY
BENCHMARK (GRESB)
GREEN STAR RANKING 2014

NAREIT LEADER IN
THE LIGHT AWARD 2014
5TH YEAR IN A ROW

\$450 MILLION
OF GREEN BONDS ISSUED



2014 SUSTAINABILITY

Sustainability and energy efficiency are elements central to Vornado Realty Trust's business strategy. These programs enable our properties to compete in a competitive market with services and amenities that are expected of Class A office buildings, thereby creating long-term value for our stakeholders.

In our 2013 sustainability report, we examined Vornado's goals, strategies, and programs around sustainability. Our 2014 Sustainability Report will turn from a discussion of plans to the actual progress we've made this past year.

In his "Chairman's Letter" included in Vornado's 2014 Annual Report, Steven Roth reiterated his personal commitment—and the company's—to sustainability and energy efficiency. In 2014, we continued to implement energy-optimizing upgrades to infrastructure and to integrate those upgrades into our smart building and demand-response strategies with an ongoing view toward resiliency. Additionally, Vornado continued to focus on wider issues like air quality, green cleaning, and water efficiency, all of which are increasingly important as the link between human health and the office environment becomes clear. We also raised \$450 million in green bonds with the use of proceeds tied to LEED construction, renovation and retrofits, and energy efficiency projects.

We continue to be recognized for our work in this area: as a GRESB Green Star, NAREIT Leader in Light or most recently as an Energy Star Partner of the Year Sustained Excellence winner. We are steadfast in our ambitions to lead on sustainability issues and look forward to discovering new and innovative ways to deliver results.

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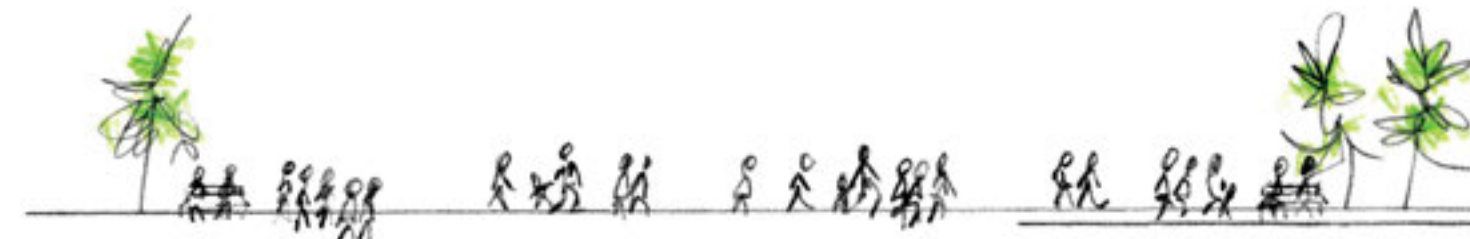
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OUR RESULTS*

Here are our results for 2014.

OVER \$5.45 MILLION dedicated Energy Efficiency CAPEX in 2014

Installed over **100 NEW MOTORS** and variable frequency drives in 2014

VORNADO OWNS AND MANAGES OVER 31 MILLION SF OF LEED-CERTIFIED PROPERTIES

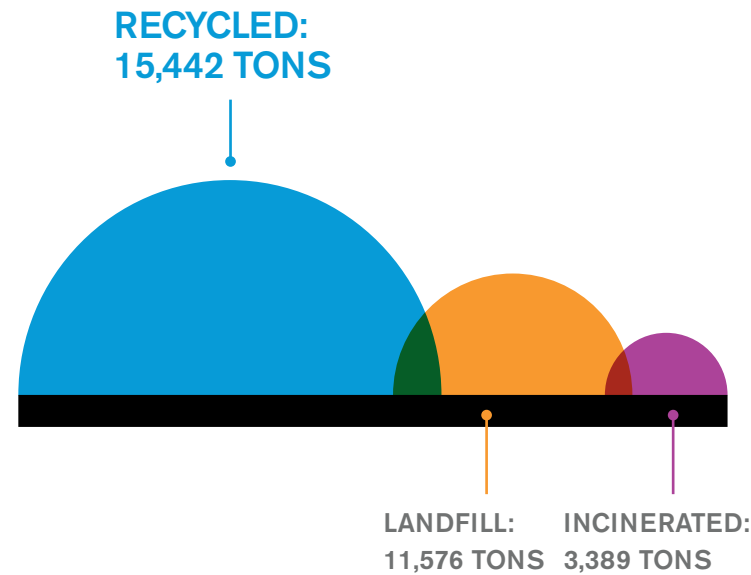


8MW OF DEMAND-RESPONSE CAPACITY

25 MILLION SF OF ENERGY STAR CERTIFIED PROPERTIES



2014 WASTE TOTAL: 30,407 TONS

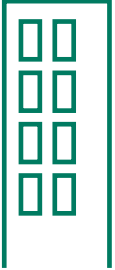


WATER CONSUMPTION 2014 1,028,017 kgal

WHICH WAS A **30,953 kgal WATER USE REDUCTION**

in 2014—equivalent to the water in 46 olympic swimming pools

ENERGY CONSUMPTION 2014 27,231 Mwh ENERGY REDUCTION



in 2014—similar to the energy consumption of a million SF building**

GHG EMISSIONS 2014 417,987 GHG IN TONS



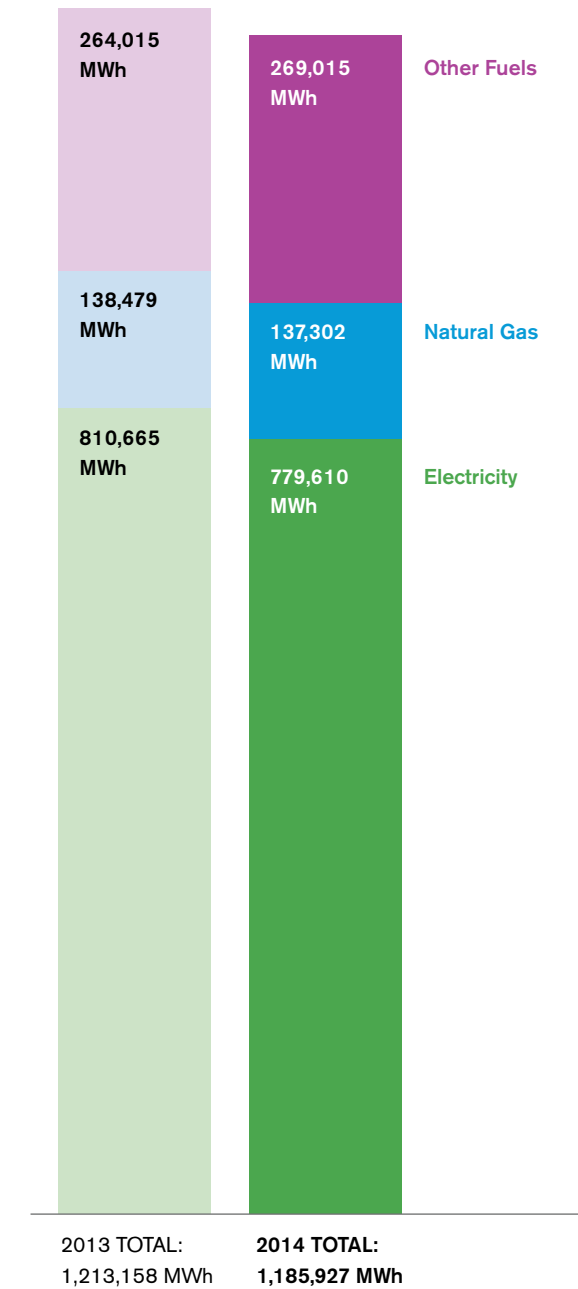
WHICH WAS A **9,846 TON REDUCTION**



in 2014—representing the carbon sequestered by 8057 acres of US forest in one year

The data on this page accounts for change in portfolio.
**2013 data based on performance, 2014 data based on capacity.

ENERGY CONSUMPTION (PORTFOLIO WIDE)



*2014 performance data were third-party verified.



GREEN BONDS

Vornado is one of only two US real estate investment trusts to issue green bonds. In June 2014, we raised \$450 million in green bonds, with the use of proceeds tied to five specific categories of eligible green projects as follows.

1 NEW BUILDING DEVELOPMENT COSTS

New building developments which have received, or are expected to receive, a LEED silver, gold or platinum certification.

TOTAL 2013-2014 SPEND IN MILLIONS: \$61.9

2 EXISTING BUILDING REDEVELOPMENT COSTS (BUILDING IS LEED CERTIFIED OR ANTICIPATED TO BE LEED CERTIFIED)

Existing building redevelopments which have received, or are expected to receive, any LEED certification level (Certified, Silver, Gold or Platinum).

TOTAL 2013-2014 SPEND IN MILLIONS: \$151.7

3 TI PROJECT COSTS (FUNDED BY LANDLORD, LEED COMMERCIAL INTERIORS [CI] CERTIFIED)

Tenant improvement projects funded by us that receive, or are expected to receive, any LEED certification level (Certified, Silver, Gold or Platinum).

TOTAL 2013-2014 SPEND IN MILLIONS: \$108.3

4 CAPITAL PROJECTS, INCLUDING ENERGY EFFICIENCY (LEED-CERTIFIED BUILDINGS)

Capital projects, executed in a manner which is consistent with Vornado's sustainability policies and which enhance energy efficiency, at buildings which currently are LEED certified at any level.

TOTAL 2013-2014 SPEND IN MILLIONS: \$53.8

5 ENERGY EFFICIENCY CAPITAL PROJECTS (NON-LEED BUILDINGS)

Capital projects at buildings which improve, based on a third-party engineering study, the operating and energy efficiency of a building.

TOTAL 2013-2014 SPEND IN MILLIONS: \$7.0

PORTFOLIO TOTAL SPEND IN MILLIONS: \$382.8

Use of proceeds verified by Deloitte & Touche LLP.

OUR PEOPLE

"Each year, our dedicated energy and sustainability team, our expert team of engineers, our talented property managers, and our creative design team focus not only on getting the basics right but also on finding new and innovative solutions to move our programs forward."

Sukanya Paciorek
Senior Vice President
Corporate Sustainability
Vornado Realty Trust

At Vornado, we view our sustainability efforts as resting on three pillars. A dedicated team of professionals with highly specialized expertise in sustainability matters represents the first pillar. Senior management, which assembles the resources required to turn our sustainability plans into reality, represents the second pillar. The third pillar is embodied in Vornado's organizational culture, which seeks to inspire all of our

employees to come along with us on our journey toward a more sustainable future.

Our dedicated sustainability team—which includes our Senior Vice President of Corporate Sustainability, Directors of Energy and Sustainability in New York and Washington, Directors of Sustainability at BMS, and Engineering Directors—collaborates, shares best practices, sets goals and implements programs.

We encourage and support all Vornado employees to participate in sustainability education and training programs. These programs are intended to instill an understanding of best practices regarding resource conservation, environmentally preferable procurement, alternative transportation, waste reduction, and improved indoor air quality.

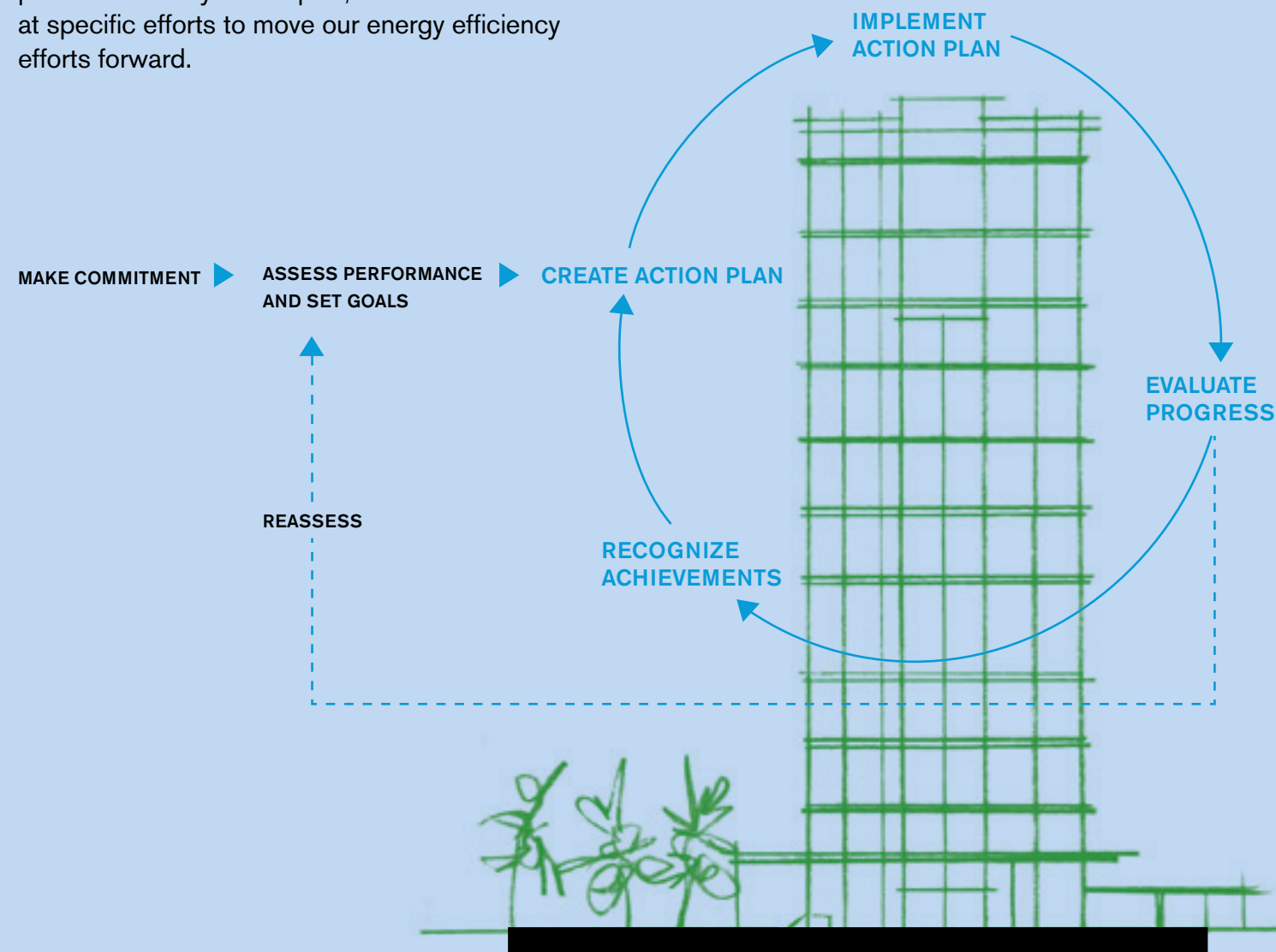


Members of Vornado's sustainability team at Greenbuild 2014. From left to right: Mark Bettin, Alyssa Zucker, Jonathan Gritz, Sukanya Paciorek, Daniel Egan and, Erin Mulberg.

Eddie Dunlap, SVP of Engineering, presents at Green Fair 2014.

VORNADO'S ENERGY MANAGEMENT PLANNING CYCLE

Our previous sustainability report discussed how we've used the ENERGY STAR energy management guidelines to create, implement, and monitor energy management programs and strategies across our portfolio. In this year's report, we take a closer look at specific efforts to move our energy efficiency efforts forward.



CREATE ACTION PLAN

During 2014, we continued our practice, first begun in 2012, of establishing an annual capital program dedicated solely to energy efficiency improvements. The capital program provides the necessary resources to equip our buildings with best-in-class energy infrastructure and technology that helps attract

and retain tenants while lowering our own operating costs. By funding those efforts from a stand-alone capital pool we're better able to manage individual projects, maximize the number of rebates we receive, and pass appropriate costs through to tenants as per our lease terms.



90 Park Avenue efficiency work completed in 2012-2014.

IMPLEMENT ACTION PLAN

Vornado's energy and sustainability teams are on the front lines of our efforts to implement the action plans funded by our energy efficiency capital program. Often those plans originate from the findings of previously conducted audit and retrocommissioning reports. As the plans mature, input and analyses are sought from

Vornado's engineering and property management teams as well as from third-party consultants. Following completion of approved projects, we track results through our metering and energy information data platforms. By monitoring each project's impact, we can replicate and scale up successful projects and provide

meaningful reporting on the energy improvement that we've been able to achieve. One of the keys to ensuring the success of our energy efficiency projects lies in education and training. In 2014, we held training sessions across our property portfolio including a "Green Fair", variable frequency drive training, and steam

technology training. Such events help keep our operators on top of the latest energy efficiency innovations. In total, we spent over \$5.4 million on energy efficiency projects that we calculate will have an approximately three-year payback.

	2014 SPEND (\$000s)	PROJECTED PAYBACK (YEARS)
NEW YORK OFFICE	2,475	1.9
theMART	571	3.4
WASHINGTON	2,400	4.0
TOTAL	\$5,446	3.0



Variable Frequency Drive (VFD) training 2014, New York

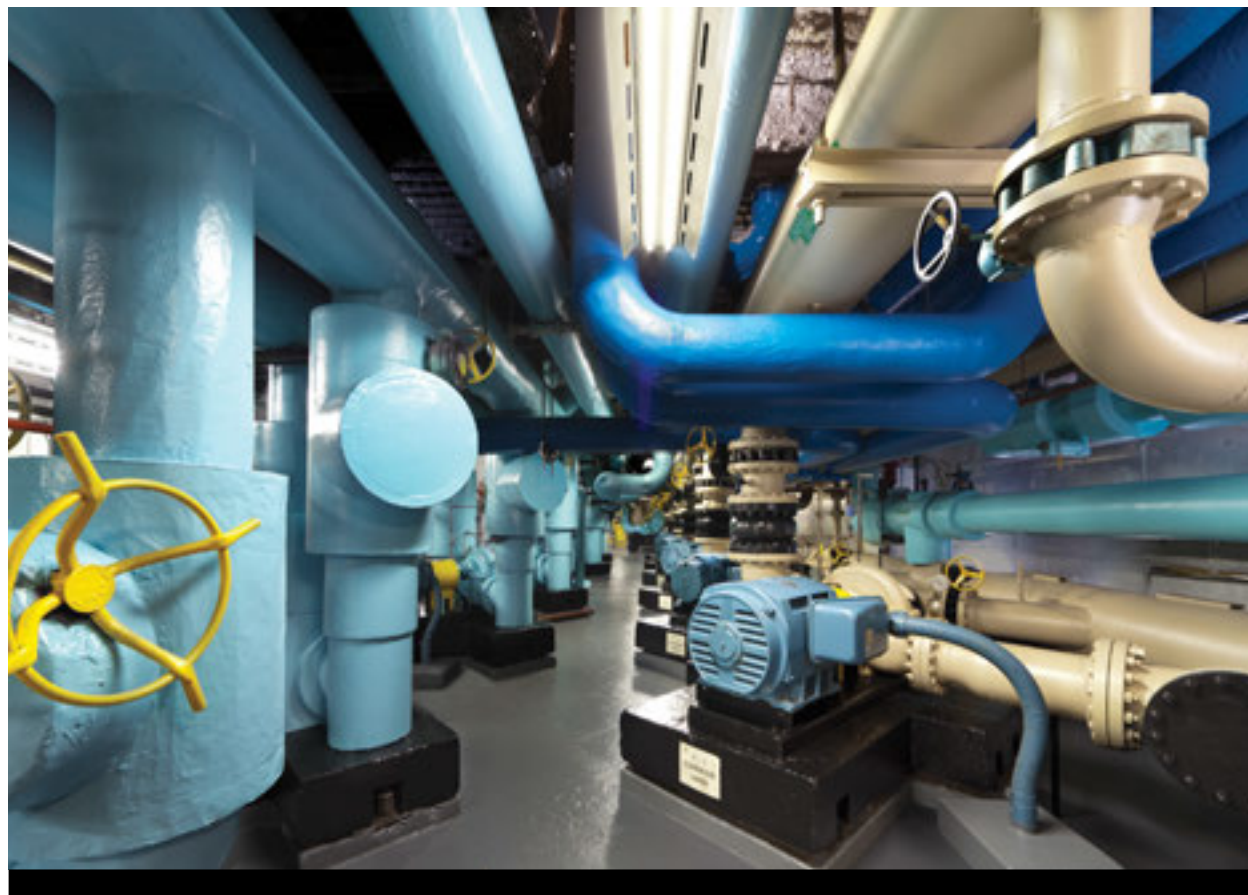


Vornado had a portfolio-wide capacity to shed over

8MW

OF DEMAND-RESPONSE CAPACITY IN 2014

The equivalent energy use of a million square foot building



Efficiency work completed at 11 Penn Plaza.

EVALUATE PROGRESS

We track all of our energy efficiency projects using robust metering and by data management platforms. Most of our projects in 2014 involved new motors, variable frequency drives, LED lighting, and enhanced controls for building management systems. Our

projected paybacks will be evaluated as real-time data from these projects gets collected throughout 2015.

We also accrue benefit from these projects through revenue generation as a result of Vornado's enrollment in

demand-response programs. Demand-response supports the grid while enabling us to generate revenue through programs when we shed electrical loads during peak-usage periods. In 2014, Vornado had a portfolio-wide capacity to shed over 8 megawatts of load.



Top photo shows our 2014 energy reduction winners: The engineering teams at 330 Madison Avenue, 666 Fifth Avenue, 350 Park Avenue, 1290 Avenue of the Americas, and 11 Penn Plaza



Bottom photo shows our chief engineers recognized for their 2014 energy efficiency work, from left to right: Dennis Auriemma, Luis Leon, Mike Fallon, Kevin Kiernan, and Antonio Araujo.

RECOGNIZE ACHIEVEMENTS

Each year, Vornado recognizes achievements related to the reduction of energy consumption through award programs and incentives aimed at our engineering and property management staff. We believe this kind of recognition is essential because it reinforces the company's commitment to energy efficiency and energy management, and it highlights outstanding successes that in turn spread innovative ideas and best practices across the wider Vornado workforce.

In our New York division, Vornado has established an iPad award program for chief engineers and property managers who reduce energy consumption at the properties they are responsible for

We estimate that these projects saved over

33

MILLION KBTU

of energy from 2013 to 2014—the equivalent of CO₂ emissions from 761,006 gallons of gas consumed.

by 10% or more, year over year. In 2014, five buildings qualified for that recognition: 330 Madison Avenue, 666 Fifth Avenue, 350 Park Avenue, 1290 Avenue of the Americas, and 11 Penn Plaza. Those buildings were part of a multiyear capital and operational effort to reduce energy usage. We estimate that the projects saved over 33 million KBTU of energy from 2013 and 2014.

Vornado's Washington division also has annual award programs that recognize and celebrate the contributions of our engineering teams in promoting teamwork, tenant satisfaction, and community service.

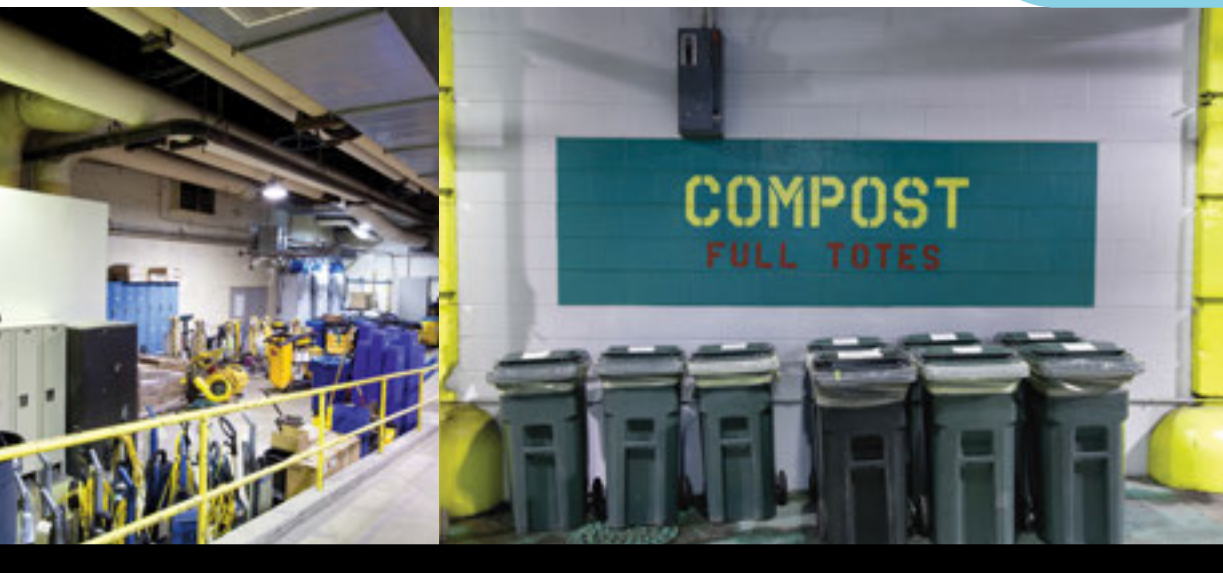
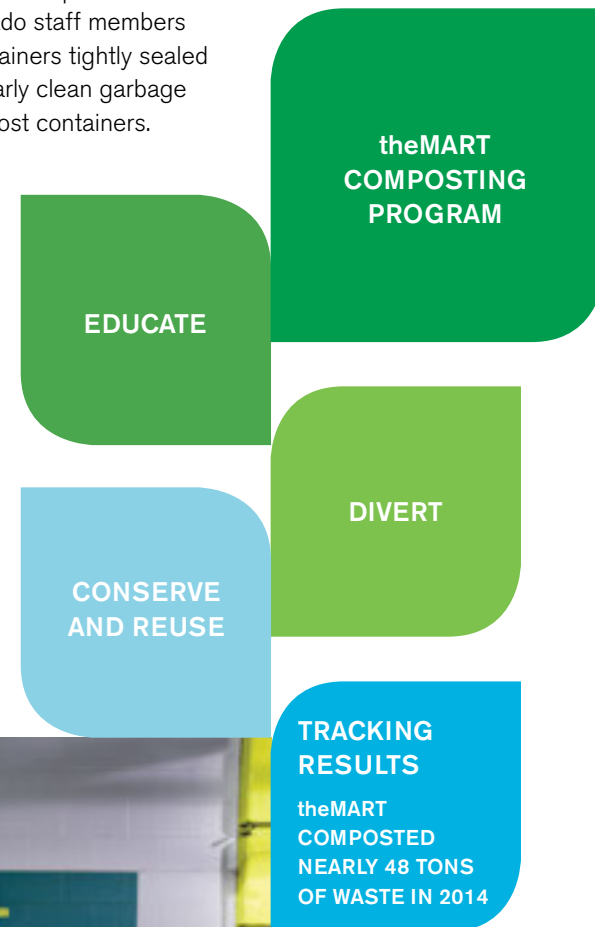
RECYCLING

Composting programs are becoming more and more common in buildings and cities across the United States. But creating and implementing an effective composting program is complex. Our composting program at theMart building in Chicago continues to grow and evolve as we work with Vornado staff, tenants, and vendors to expand the program's reach. In 2014, our recycling center collected compost from 25 tenants, resulting in nearly 48 tons of compost material to be turned, eventually, into fertilizer.

One vital element in getting a composting program started involves educating staff and tenants about what can and cannot be composted. At theMart, we use events such as a tenant Green Fair as well

as brochures and educational materials to get the word out about composting.

Fruit flies, in particular, can become a tremendous annoyance for any composting program. To keep fruit flies at bay, Vornado staff members keep containers tightly sealed and regularly clean garbage and compost containers.



Composting program at theMart.

GREEN CLEANING

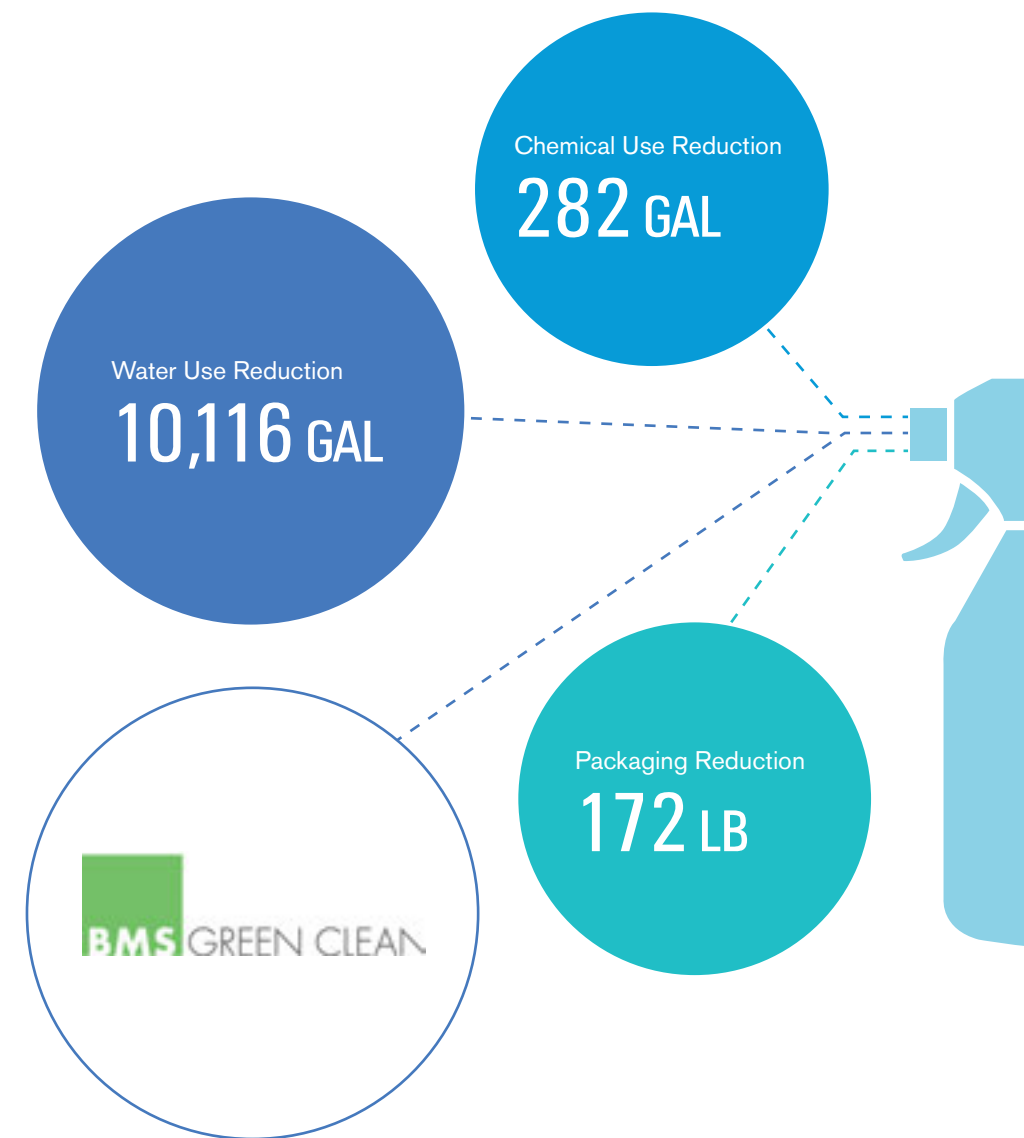
In 2014, Vornado's green cleaning program received ISSA Cleaning Industry Management Standard (ISSA CIMS) certification and recognition from the Green Seal certification for its commitment to environmentally preferable cleaning methods. Through our cleaning company subsidiary, Building Maintenance Services LLC (BMS), we are able to ensure that our green cleaning services meet our LEED and sustainability building standards. Certifications were

awarded after third party audits were conducted that extensively examined our quality systems, service delivery, documentation processes, systems for toxicity reduction, and management commitment.

In 2014, Vornado's BMS also announced a national agreement with the Tennant Company. Through this agreement, BMS will utilize the Tennant Company's T1, T3, T5, and 5680 floor scrubbers, which convert water into an effective cleaning solution.

Because water is used as a cleaning agent, no chemical residue is left behind, thus improving floor traction for pedestrians. And in forgoing the use of harsh chemical agents, BMS can minimize harmful impacts on the environment. Additionally, the scrubbing machines operate with up to 70% less water than conventional floor scrubbing methods.

Our projections suggest that each scrubber can yield the annual reductions shown below:



BMS employee using energy-efficient scrubber at 1290 Avenue of the Americas, New York.

GLOBAL REPORTING INITIATIVE (GRI) INDEX

The GRI has developed an internationally recognized framework for sustainability reporting. The report contains standard disclosures from the GRI Sustainability Reporting Guidelines (G4). The following table indicates the location of or direct response to GRI and associated construction and real estate (CRE) sector-specific disclosures included in this report and other publicly available Vornado documents.

INDICATOR NUMBER	DESCRIPTION	REFERENCE/RESPONSE
STRATEGY AND ANALYSIS		
G4-1	CEO statement	Form 10-K vno.com
ORGANIZATIONAL PROFILE		
G4-3 – G4-9, G4-13	Organizational profile details	2014 Vornado Annual Report 10-K
G4-16	Participation or in-depth membership in industry or community associations.	Our Partnerships, inside back cover
REPORT PROFILE		
G4-28	Reporting period	Calendar year 2014
G4-29	Date of most recent report	This is Vornado's fifth sustainability report.
G4-31	Contact for report information	www.vno.com/contact-us
G4-33	External assurance	Data was third-party verified.
CATEGORY: ENVIRONMENT		
CRE-2, G4-EN3, G4-EN5, G4-EN6, G4-EN8, G4-EN15, G4-EN16, G4-EN18, G4-EN19, G4-EN23	Energy, water, GHG, and waste	Our Results, pages 2-3
CATEGORY: PRODUCT RESPONSIBILITY		
CRE-8	Awards, certifications, and labels	Sustainability at Vornado: 2014 Key Achievements, inside front cover Our Results, pages 2-3 http://www.vno.com/commitment-and-awards



OUR PARTNERSHIPS

NATIONAL

- ENERGY STAR Partner
- U.S. Green Building Council Corporate Member
- NAREIT Leader in the Light working group
- The Real Estate Roundtable Sustainability Policy Advisory Committee (member)
- U.S. General Services Administration Green Building Advisory Committee

REGIONAL

- Real Estate Board of New York Sustainability Committee (Committee Co-chair)
- Urban Green Council (board)
- New York City Sustainability Technical Working Group
- Green Light New York (board)
- Arlington County Community Energy Plan Implementation Review Committee
- Retrofit Chicago
- New York Energy Consumers Council (board)

