2019 Sustainability Report

Taubman

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Overview

CEO LETTER

To Our Employees, Investors, Tenants and Communities:

Taubman Centers, Inc.'s 2019 Sustainability Report outlines the progress our company has made towards our sustainability goals in the United States. We're proud to be meeting or exceeding the goals we have set, and we continue to identify new ways to lessen our impact on the environment and strengthen the health and prosperity of the communities in which we operate.

I am pleased to report that, thanks to the dedication of our people, last year we reduced greenhouse gas emissions, increased the percentage of waste diversion and reduced overall energy use. In fact, between 2008 and 2020 Taubman has reduced controllable electrical consumption at our shopping centers across the United States by 40 percent. Our outstanding performance in 2019 was recognized by the Global Real Estate Sustainability Benchmark (GRESB), which ranked us 1st among our peer group of six regional mall companies, 1st among 33 retail companies in the Americas, and 2nd overall among all reporting companies in the Americas.

We remain committed to operational excellence and sustainable business practices and hope you find this report informative.

Sincerely,

Robert S. Taubman
Chairman, President & CEO
Taubman Centers, Inc.

Overview

ABOUT TAUBMAN

Who We Are

Taubman was founded in 1950 by real estate pioneer A. Alfred Taubman. Over the last 70 years, the company has developed more than 80 million square feet of retail and mixed-use projects.

Today, we own, manage and/or lease 26 regional, super-regional and outlet malls. Our malls are the most productive in the publicly traded, regional mall industry. Taubman is headquartered in Bloomfield Hills, Mich. Taubman Asia, founded in 2005, is headquartered in Hong Kong.

TAUBMAN PROPERTIES

	UNITED STATES PROPERTIES	
1	Beverly Center	Los Angeles, California
2	Cherry Creek Shopping Center	Denver, Colorado
3	City Creek Center	Salt Lake City, Utah
4	Country Club Plaza	Kansas City, Missouri
5	Dolphin Mall	Miami, Florida
6	Fair Oaks Mall	Fairfax, Virginia
7	Great Lakes Crossing Outlets	Auburn Hills, Michigan
8	International Market Place	Honolulu, Hawaii
9	International Plaza	Tampa, Florida
10	Miami Worldcenter	Miami, Florida
11	Sunvalley Shopping Center	Concord, California
12	The Gardens Mall	Palm Beach Gardens, Florida
13	The Gardens on El Paseo	Palm Desert, California
14	The Mall at Green Hills	Nashville, Tennessee
15	The Mall at Millenia	Orlando, Florida
16	The Mall at Short Hills	Short Hills, New Jersey
17	The Mall at University Town Center	Sarasota, Florida
18	The Mall of San Juan	San Juan, Puerto Rico
19	The Shops at Belmond Charleston Place	Charleston, South Carolina
20	Twelve Oaks Mall	Novi, Michigan
21	Waterside Shops	Naples, Florida
22	Westfarms	West Hartford, Connecticut
	ASIA PROPERTIES	
23	CityOn.Xi'an	Xi'an, China
24	CityOn.Zhengzhou	Zhengzhou, China
25	Starfield Anseong	Anseong, South Korea
26	Starfield Hanam	Hanam, South Korea

Overview

UNITED STATES PROPERTIES
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ASIA PROPERTIES
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SOUTH KOREA
CHINA
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Overview

Governance

We recognize that strong, diverse governance improves corporate decision making and strengthens our company. Taubman's 2019 Board of Directors made company history with women holding more than 50 percent of the nine member seats. The Board also adopted certain corporate governance principles that established a common set of expectations to assist directors and committees in performing duties in compliance with applicable requirements. Visit http://investors.taubman.com for more information.

Ethics

Everything we do is guided by the following values:

We Take the High Road

We Pursue Excellence

We Play For the Team

We Honor Tomorrow Today

We Respect Everyone

We Are Accountable For Our Results

We Push the Envelope

We Love What We Do

Our **Code of Business Conduct and Ethics** sets out basic principles to guide the actions and decisions of all employees, officers, and directors of Taubman Centers, Inc. and its affiliates.

Overview

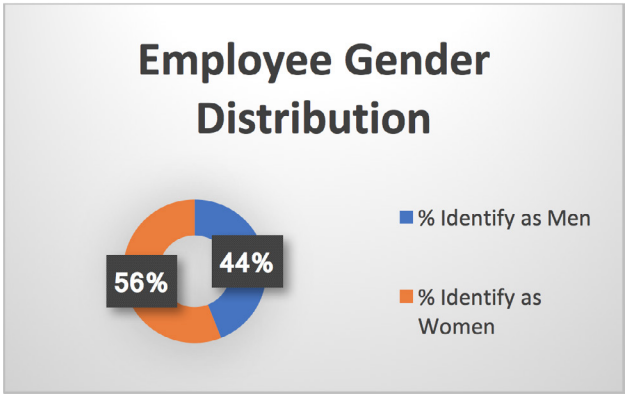
Corporate Family

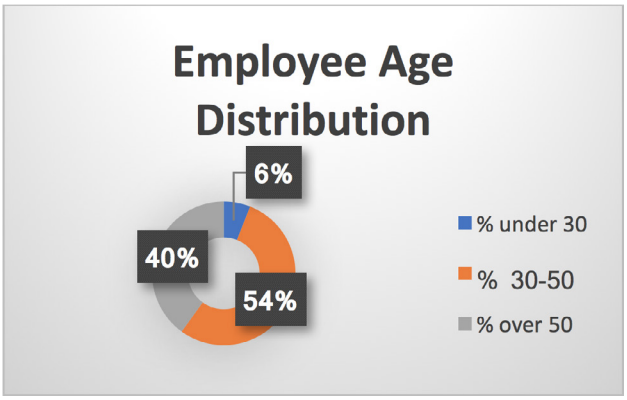
Our people are at the heart of our success. We boast a nearly 50-50 gender split and diverse age distribution, and everybody's talents and contributions are respected. Our employee programs and benefits support our associates' physical, emotional, financial and social well-being. Comprehensive healthcare plans and wellness programs are just two of the reasons Taubman received the following distinctions:

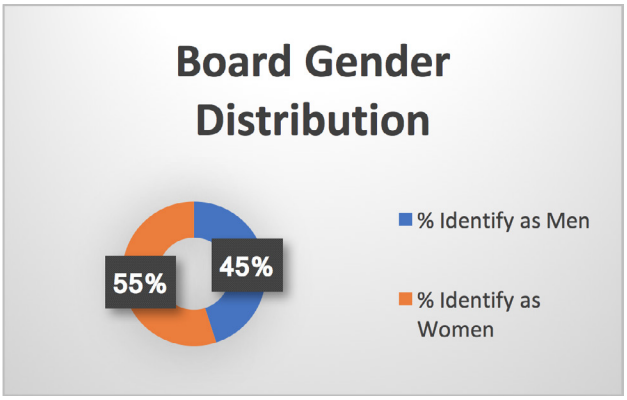
- Crain's Top 100 Cool Places to Work
- Detroit Free Press' Top Work Places
- Metropolitan Detroit's Best and Brightest Companies to Work For
- Best and Brightest Winner in Wellness

Awards

- ICSC Global Awards, U.S. Design & Development – 2018 U.S. Gold, New Developments – International Market Place
- ICSC Global Awards, MAXI – 2018 Silver, Excellence in Public Relations – International Market Place, Don Ho Statue Unveiling and Dedication Ceremony
- ICSC Global Awards, MAXI – 2019 Silver, Excellence in Marketing – Beverly Center Launch







Overview

ENVIRONMENTAL, SOCIAL, GOVERNANCE (ESG) STRATEGY

Our ESG Commitment: ESG Mission Statement

Consistent with our history and core values, we are committed to sustainable business practices that respect people, lessen our environmental impact, and benefit the communities we serve.

Sustainability Task Force

A Sustainability Task Force, representing all functions of the company, guides our sustainability efforts and helps set the company's improvement goals. Thanks in large part to the Sustainability Task Force, many employees are enthusiastically engaged in sustainability programs and initiatives.

SUSTAINABILITY TASK FORCE

Operating Committee Sponsor:

Denise Anton	Executive VP, Center Operations

Project Leaders:

Steve Moore	Director, Facilities, Energy and Sustainability
Maria Mainville	Director, Strategic Communications

2019 Members:

Stephanie Bessette	Assistant Tenant Coordinator, Tenant Coordination
Jeff Boes	Director, Planning & Design
Kenny Dixon	Manager, Office Services
Dave Harris	Regional VP, Center Operations
Ryan Hurren	Vice President, Investor Relations, Chief Accounting Officer
Matthew Kalasho	Director and Senior Attorney
Sarah Lee	Energy Analyst
David Richardson	Vice President, IT
John Treter	Director, Tenant Coordination
Bethany Yeager	Director, HR Business Partner

Overview

Risk Management

To help manage and mitigate risks, the annual business plan is analyzed by Taubman's Board who then assess projected opportunities and challenges. Special committees review performance on internal and external audits, regulatory and ethical compliance functions, structure and governance policies, as well as risks related to finances and compensation plans. An enterprise risk management framework includes review of specific material risks and risk mitigants, and participation in presentations led by key employees and leadership teams.

Security and Emergency Readiness

Taubman's Vice President of Central Operations leads a state-of-the-art Security and Emergency Readiness program. This program includes leading a first-class security organization, local and corporate committees, documented procedures, strong police relationships, regular review of incident data, partnership with an emergency response contractor and extensive training such as regular drills and testing. All centers are closely monitored 24/7 by security professionals utilizing various technologies, including closed-circuit television.

Affiliations

Taubman is an active participant in retail, real estate, shopping center, ESG, sustainability and philanthropy programs. Following are some of the company's meaningful affiliations:

- GRESB
- ICSC
- ULI
- NAREIT
- Institute of Real Estate Management (IREM)
- ASA
- New Detroit – A Racial Justice Organization

Green Buildings

Sustainability is a part of every development project. In 2019, Beverly Center in Los Angeles debuted new, water-efficient landscaping that surrounds the building and a ribbon of skylights was added to allow for more natural light, among other updates. The center's parking garage offers sixteen electric car charging stations. At Green Hills, a new wing is efficiently cooled by a central plant system located atop a reflective roof. Inside, bright LED lights illuminate the shopping experience.

At International Plaza in Tampa, water-saving and ESG initiatives are robust. An innovative, smart water-metering system was installed in 2019 allowing for real-time diagnostics of water usage and quick detection of leaks. Additionally, IREM named the center a Certified Sustainable Property.

Overview

Science-Based Targets

We continually plan for the future, identifying the best ways to advance our ESG initiatives and help to combat climate change. For 2020, we are focused on further reducing greenhouse gas (GHG) emissions by partnering with the Science-Based Targets Initiative. This global collaboration of organizations and companies sets GHG emission reduction targets in line with the level of decarbonization required to meet the goals of the Paris Agreement, and to limit global warming to well below 2°C above pre-industrial levels. To reach this target, Taubman will increase our GHG reduction goals from 20 percent by 2025 with a 2014 baseline, to 30 percent by 2030 with a 2018 baseline.

People

STAKEHOLDER ENGAGEMENT

Engaging with leading stakeholders helps us effectively shape and execute our sustainability programs. We collaborate with individuals and organizations on a wide variety of topics, including corporate governance policies, development projects and sustainability efforts.

Community

City leaders, law enforcement and civic organizations are just some of the many community groups we collaborate with at both the corporate and center levels. During development projects, our dedicated Design and Construction department leads this interaction. We also host public gatherings, welcome mall walking groups, and feature community advertising at our centers.

We strive to make a positive difference by supporting vital nonprofits that transform our communities, respect our planet, develop tomorrow's leaders and strengthen our industry. Our volunteerism initiatives strengthen communities, and our centers serve as vibrant employment centers and drivers of much-needed municipal revenue for schools, police forces, fire departments and public works across the nation.

In 2019, Taubman employees volunteered their time for a variety of worthy causes through the Taubman Community Outreach Program (TCOP) and the company's yearly Volunteer Day. Efforts included fighting blight in Detroit-area neighborhoods, volunteering at animal shelters, organizing hurricane relief programs and running clothing, food and toy drives. Monetary donations were also made to support a variety of causes across the country.

Helping hands at an employee volunteering initiative by Team Short Hills (LEFT TO RIGHT): Maria Monte – Property Coordinator, Leslie Trifone – Senior Marketing & Sponsorship Specialist

Employees

Collaboration with employees is essential. Direct communication and feedback is encouraged and is received through regular employee surveys, annual performance reviews, quarterly earnings meetings, one-on-one interactions and via a confidential hotline. We offer a number of wellness-inspired amenities to foster a positive, healthy and interactive work environment. The personal company wins and business news is shared on the company's refreshed portal.

Investors

Taubman formally discloses investor information through public filings and strengthens investor relationships with regular investor meetings and presentations. For more information, visit investors.taubman.com.

People

Joint Venture Partners

Joint Venture Partners maintain regular contact with our Treasury and Financial Analysis department. Taubman holds frequent financial review meetings and on-site staff interactions to discuss a wide variety of topics concerning our operations.

Shoppers

Shoppers provide us with their feedback through our Concierge teams in various ways including face-to-face contact, email, our "Answers On The Spot" text program and Web chat and through a broad range of online platforms such as Facebook, Twitter and Instagram. Through various digital and online channels, we proactively connect with more than 7.5 million shoppers each week. Westfield also produces "How We Shop Now" trend reports through collating and analyzing quantitative research as part of our ongoing commitment to creating the best retail experiences in the world, by understanding what our shoppers want and what our retailers need to do to stay ahead of the evolving world of retail.

We strive to create the best retail experience for our shoppers. Through customer service and concierge desks, center management teams, traditional and digital marketing, social media and events, we create loyal shoppers. Each center's free mall app allows users to navigate with ease and find personalized style and promotion information.

Tenants

We foster positive tenant relationships through several communication channels, including through Tenant Coordination, Leasing, Center Operations, Center Marketing, Strategic Communications and just about every other company function. Tenants are regularly updated through all-tenant meetings, email, memos, newsletters and even through social media. In 2019 a tenant survey was distributed to all tenants, one of the results of which was new action plans at each center.

Community Case Study

Dolphin Mall Plays an Important Role in Hurricane Dorian Relief Effort

With wind speeds reaching 185 mph, Hurricane Dorian ravaged the Bahamas in September 2019. Fortunately, the historic Category 5 storm's strength diminished as it raced up the east coast of the United States, causing far less damage to South Florida and Miami's Dolphin Mall.

"While we were prepared for the worst, we came through the storm in good shape," said Dolphin Mall General Manager Pete Marrero. "We quickly reopened for business, and our thoughts turned to our neighbors in the Bahamas. The community's needs were great and we wanted to mobilize to help in any way we could."

LEFT TO RIGHT: two public volunteers (in Home Depot work aprons), Jose Gonzalez – Dolphin Facilities Maintenance, Patricio Garciga – Dolphin General Maintenance, A.J. "AL" Lara – Director of Facilities for Dolphin, Orlando Lopez – Mayor of the City of Sweetwater

Supporting emergency relief efforts initiated by the Mayor of Sweetwater, Miami Dade County, local police departments and popular South Florida radio personalities, Dolphin Mall served as a major collection location for donated supplies desperately needed by Bahamians. On September 5 from 6 a.m. to 10 p.m. people responded generously by coming to Dolphin Mall with canned goods, generators, tents, baby food, diapers, batteries, flashlights, blankets, sleeping bags and more. Trucks staged in the center's parking areas collected the goods and delivered the materials to Miami International Airport, just seven miles from the center.

"We played a similar role in 2017 when Hurricane Maria devastated Puerto Rico," said Marrero. "We knew the drive's success would rely upon us quickly getting the word out. Our marketing team deployed our traditional and digital resources and the result was a terrific turnout. During this storm, we also contributed needed goods and provided food vouchers to our restaurants for the volunteers who managed the collection site."

A favorite destination in south Florida, Dolphin Mall is frequented by tourists from all over the world. "We're an international destination operating in market with wonderful diversity and with people who have very big hearts. In fact, many residents have Caribbean roots and they were anxious to lend a helping hand to Bahamians. The turnout was nothing short of extraordinary."

Livability Scores

Taubman tracks and monitors the walkability, livability, housing, and health scores of each community that we operate within. This helps the company identify and help with community needs and best serve our customers.

Center	Walkability	Livability	Housing	Health
Beverly	93	52	42	72
Cherry Creek	89	67	78	89
City Creek	92	56	81	63
Country Club Plaza	92	55	57	57
Dolphin	37	45	41	52
El Paseo	78	45	64	69
Fair Oaks	60	59	61	82
Great Lakes Crossing	37	41	41	54
Green Hills	71	48	27	65
International Market Place	92	60	58	74
International Plaza	45	43	58	43
Millenia	51	52	73	43
San Juan	62			
Short Hills	42	44	0	65
Sunvalley	72	51	48	66
Twelve Oaks	41	47	43	58
University Town Center	47	53	54	68
Waterside	51	49	46	60
Westfarms	46	48	24	58

1. https://www.walkscore.com/
2, 3, 4. https://livabilityindex.aarp.org/

People

HEALTH AND WELLNESS

Facilitating a healthy work environment and shopping experience are top priorities at Taubman. We offer a multitude of programs and events at our home office, as well as at our centers, to engage employees, retailers, customers and local communities in living a healthy lifestyle. Our 2019 offerings included:

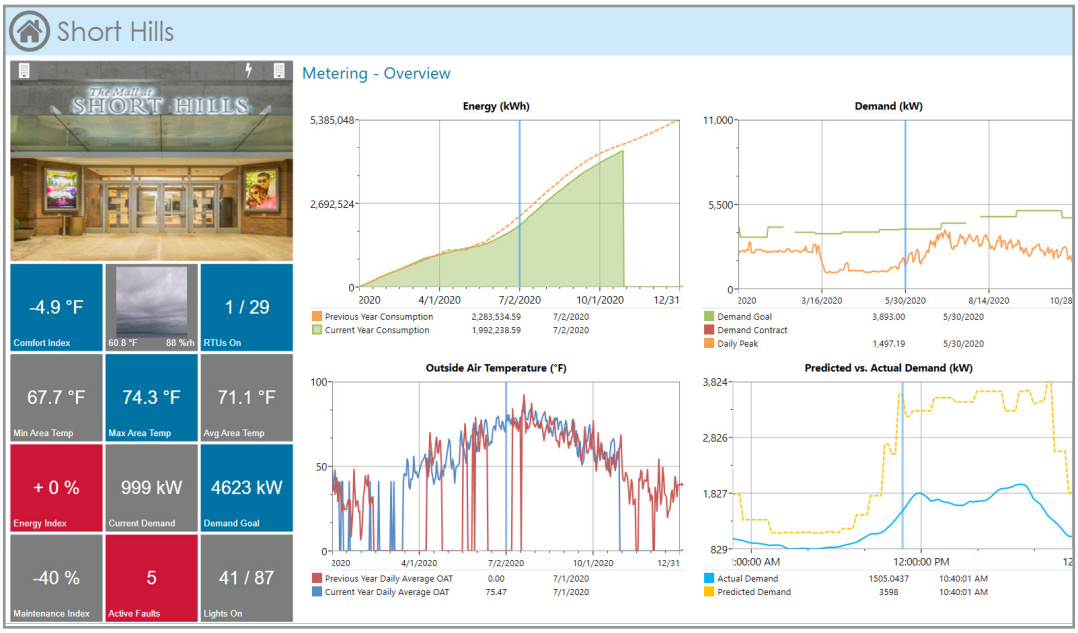
- Free fitness classes such as Fit4Mom, yoga, boot camp and barre
- Mall walker programs
- Monthly wellness sessions
- Massage therapy
- Flu shots
- Disaster relief drives
- A healthy Plum Market café at the Bloomfield Hills office
- Employee social gatherings
- Self-managed time off
- Flexible work hours and locations
- Discounts through TicketsAtWork and Corporate Perks
- Book club
- Volunteer opportunities
- Health, dental and vision insurance including Telehealth
- Life and disability insurance
- Paid maternity and paternity leave
- Confidential reporting hotlines
- Tuition reimbursement
- Professional development training

Safety

Safety and injury prevention are serious business at Taubman. Work station checks and safety trainings are available to all employees. Injuries are tracked at our centers and are reported monthly. In 2019, Taubman saw a 1.57 injury rate (recordable injuries per year per 100 employees) across all employees at all locations.

Properties

ENERGY



We have implemented a number of initiatives in recent years to better manage and reduce energy throughout our portfolio. Many of these initiatives were expanded or enhanced in 2019, including:

- Taubman Smart Buildings and the Enterprise Energy Management System

  Software upgrades were made to enhance fault detection and diagnostic models and begin the implementation of machine learning for energy modeling.

- LED lighting conversions

  Building on the success of over 50 projects since 2010, an additional five projects were implemented in 2019 – more on these projects can be found in the Projects section of this report.

- Peak demand management

  Utilizing the Enterprise Energy Management software, automated peak alerts are sent to each facility to alert staff that peak electrical usage is approaching both a day ahead and in real-time – these efforts have seen a reduction of peak costs by an average of 2.7% since implemented in 2014 and a 3.1% reduction in 2019.

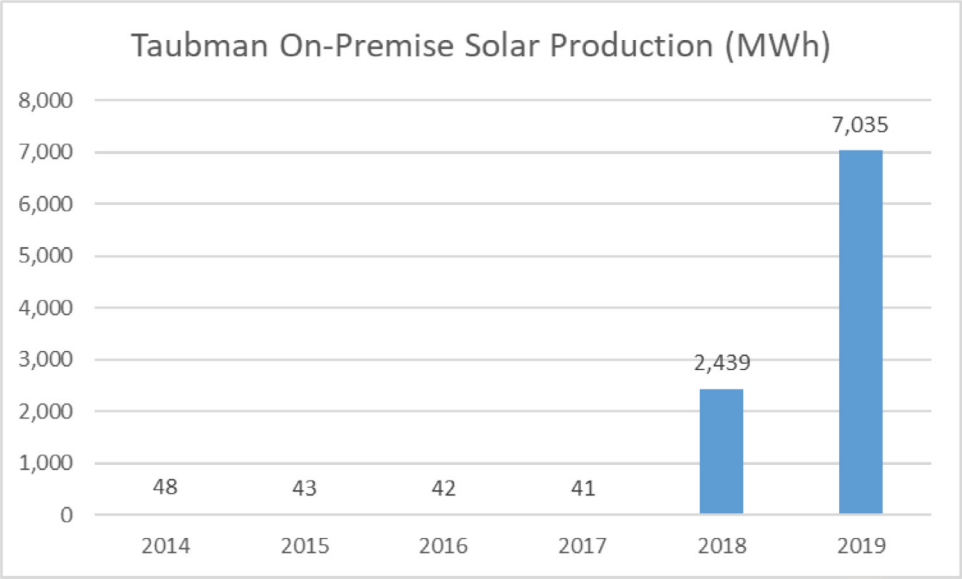
- Energy dashboard

  Developed an internal dashboard to report energy usage and savings versus budget monthly, providing transparency and helping to identify any areas that need additional focus.

Through these and other ongoing initiatives, in 2019 controllable energy usage was reduced by 3.8% compared to 2018. This brings controllable energy savings to 40% since 2008.

RENEWABLES

We have invested heavily in renewables over the last few years to drastically increase the solar generating capacity throughout our portfolio. Prior to 2018, Taubman had one minimal solar installation at the Gardens on El Paseo, in Palm Desert, California. From 2018 forward, three additional solar installations have been completed and are located at The Mall at Short Hills in New Jersey, The Mall at Cherry Creek in Colorado and Westfarms Mall in Connecticut. Now, 22 percent of Taubman's U.S. managed properties have solar installations. The increase in production is evidenced by the chart below.



Solar Case Study

Solar Power Installations Generating Clean, Renewable Energy at Taubman Centers

Over the last three years, solar energy installations have been completed at three Taubman properties: The Mall at Short Hills in New Jersey (2018), Cherry Creek Shopping Center in Denver (2019) and Westfarms in Connecticut (2020). In late 2020, the solar system at The Gardens on El Paseo in Palm Desert, California, already in place when Taubman acquired the center in 2011, will be expanded.

"The use of renewable energy sources is one important element of our sustainability commitment," said Steve Moore, Taubman director of facilities, energy and sustainability. "The solar systems up and running in our portfolio today have the capacity to generate 9.5 megawatts (MW) of power — generating enough energy since they were installed to satisfy the annual electricity needs of about 1,200 homes."

At Short Hills and Cherry Creek, solar panels have been installed on portions of the centers' roofs and upper-level parking decks, where they are supported by steel structures over the existing parking spaces. At Westfarms, in addition to a roof-mounted installation, there is a canopy of panels in a surface parking field, under which shoppers can park their cars.

"We've made efficient use of the space at these centers, and no existing parking spaces were lost with the installations," said Moore. "There has been very positive feedback from our shoppers who appreciate the contributions clean, renewable energy can make to the future of their communities."

At El Paseo, the existing solar system will be augmented with the installation of over 300 additional state-of-the-art photovoltaic panels. The energy output will increase by over 130 kW.

The project is on schedule to be completed by the end of 2020.

"In addition to the planned upgrade at El Paseo, we are working with local utilities and are studying the feasibility of installations at several other centers," said Moore. "In addition to advancing our sustainability goals and protecting the environment, we believe that we will recover the investment costs of our solar systems in just a few years."

Properties

WATER

Water conservation at Taubman has taken on increased importance, as droughts were experienced from Puerto Rico to California over the last few years. To ensure we are doing our part, we have invested in a number of efforts to reduce water usage, including:

- Remote water-metering

  Our three newest locations, University Town Center in Sarasota, Florida, the Mall of San Juan in San Juan, Puerto Rico, and International Market Place in Honolulu, Hawaii, all have remote-read water meters throughout the facilities, allowing for constant monitoring and identification of leaks or issues throughout the buildings.

- Smart water-metering

  At International Plaza in Tampa, Florida, we installed a smart water-meter system that identifies unusual usage patterns, leaks, and other anomalies to help us better manage the water usage at this location.

- Native landscaping and smart irrigation

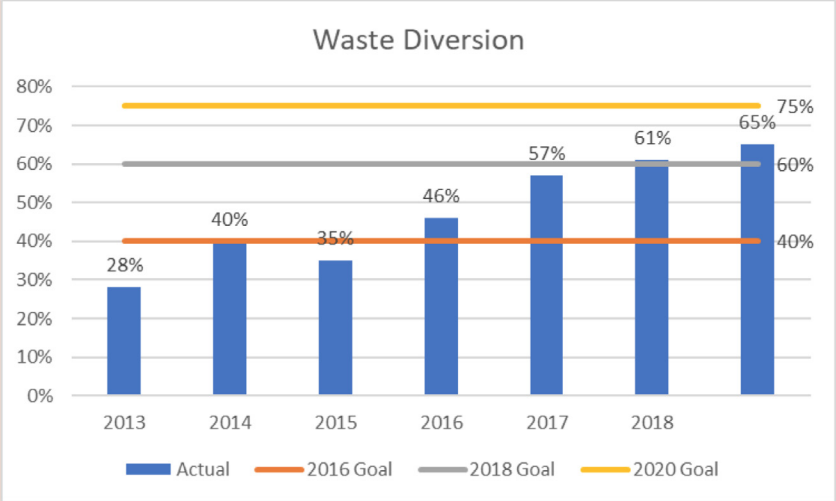
  Most of the landscaping we have added over the last five years has been native to the locations in which it is installed, helping to reduce water needs for irrigation. Additionally, we have invested in smart irrigation systems to further reduce water usage at multiple locations.

Through these and other ongoing initiatives, in 2019 comparable center water usage was reduced by 9.1 percent over 2018. This brings comparable center water usage savings to 13 percent since 2015.

Properties

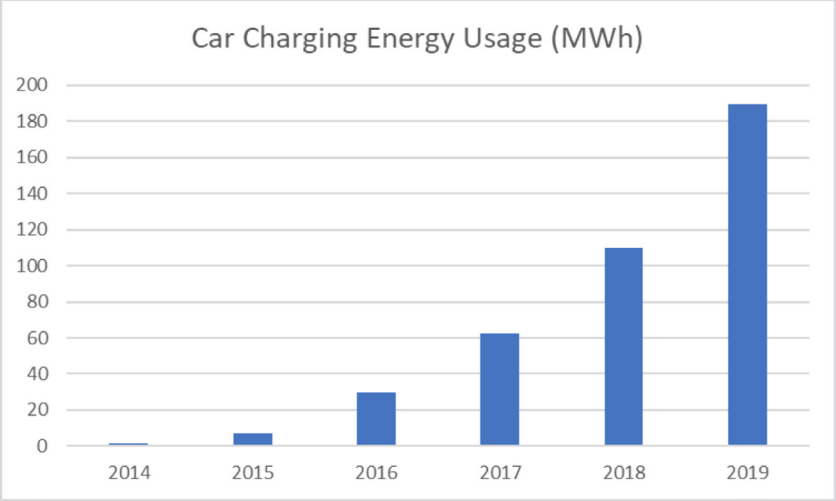
WASTE

Waste diversion has steadily increased over the past few years due to both large and small efforts. Initiatives include training for every tenant on recycling and waste services, composting programs at multiple centers, the use of waste-to-energy facilities where possible, and the collection and recycling of cardboard and other materials. Due to these initiatives, our comparable center diversion rate has increased from 28 percent in 2013 to 65 percent in 2019.



TRANSPORTATION

We have invested in improved transportation at multiple centers to benefit both tenants and customers. These investments include the installation of bike racks, improving public transportation access, securing partnerships with ride sharing companies and adding electric vehicle car charging stations. Taubman now has 87 car charging stations across nine different properties. Usage of the stations has increased every year, with over 180 MWh of electricity delivered to electric vehicles in 2019.



Properties

PROJECTS

The sustainability program at Taubman continually progresses through the implementation of new projects. We target specific issues such as energy or water conservation or assist with larger goals such as understanding and improving tenant usage through the installation of metering. In 2019, our sustainability program was enriched through the full execution of more than 40 projects.

Project Name	Quantity
Drought Tolerant/Low Water Exterior or Interior Landscaping	12
Interior or Exterior Lighting Upgrades to High Efficiency/LED	9
Building Envelope/Window Upgrades	7
Roof Replacement	6
HVAC/Central Plant Upgrades	5
BAS System Upgrades	2
Restroom Renovation	1
Water Meter Replacement	1

Properties

CLIMATE RISK

The earth's changing climate poses a physical risk to our centers today and well into the future. To help prepare for and mitigate the effects of natural disasters and adverse weather, we completed a climate risk assessment at each U.S. location. Climatological records and forecasts from various government and partner databases were examined to determine a center's likelihood in ten risk categories: earthquakes, heat stress (current and projected), temperature change, drought, projected water stress, projected sea level rise, hurricanes, storm surge, and flooding. The results below are color coded to represent low (green ■), moderate (yellow ■), high (red ■) or severe (magenta ■) risk.

	Earthquakes[1]	Future Heat Stress[2]	Current Heat Stress[3]	Temperature Change[4]	Drought[5]	Water Stress[6]	Sea Level Rise[7]	Hurricanes[8]	Storm Surge[9]	Floods[10]
Beverly	Magenta	Yellow	Yellow	Yellow	Green	Green	Yellow	Green	Green	Red
Cherry Creek	Green	Red	Green	Red	Green	Yellow	Green	Green	Green	Magenta
City Creek	Red	Yellow	Green	Red	Red	Green	Green	Green	Green	Magenta
Country Club Plaza	Green	Yellow	Yellow	Red	Green	Green	Green	Green	Green	Yellow
Dolphin	Green	Magenta	Red	Green	Green	Yellow	Yellow	Red	Yellow	Red
El Paseo	Magenta	Yellow	Magenta	Yellow	Green	Green	Green	Green	Green	Green
Fair Oaks	Green	Red	Green	Yellow	Green	Red	Green	Green	Green	Green
Great Lakes Crossing	Green	Yellow	Green	Red	Green	Green	Green	Green	Green	Red
Green Hills	Green	Red	Yellow	Yellow	Green	Green	Green	Green	Green	Green
International Market Place	Yellow	Gray	Green	Green	Red	Green	Yellow	Green	Yellow	Red
International Plaza	Green	Red	Magenta	Green	Green	Yellow	Yellow	Red	Green	Yellow
San Juan	Red	Gray	Red	Green	Red	Yellow	Yellow	Red	Green	Green
Short Hills	Green	Yellow	Green	Yellow	Green	Red	Green	Yellow	Green	Green
Sunvalley	Red	Yellow	Yellow	Green	Red	Yellow	Yellow	Green	Green	Yellow
Twelve Oaks	Green	Yellow	Green	Red	Green	Green	Green	Green	Green	Red
University Town Center	Green	Magenta	Red	Green	Green	Red	Yellow	Red	Green	Magenta
Westfarms	Green	Yellow	Green	Red	Green	Red	Green	Yellow	Green	Green

1. Federal Emergency Management Agency's (FEMA) Earthquake Hazard Maps, https://www.fema.gov/emergency-managers/risk-management/earthquake/hazard-maps

2, 3. U.S. Climate Resilience Toolkit's Climate Explorer, https://crt-climate-explorer.nemac.org/

4. University Corporation for Atmospheric Research's (UCAR) GIS Climate Change Scenarios Climate Inspector, https://gisclimatechange.ucar.edu/inspector

5. Climate Prediction Center's U.S. Seasonal Drought Outlook, https://www.cpc.ncep.noaa.gov/

6. UCAR's GIS Climate Change Scenarios Climate Inspector: https://gisclimatechange.ucar.edu/inspector

7. CLIMsystems' Sea Level Rise and Vertical Land Movement map, http://slr.climsystems.com/
Global Change's Projected Sea Level Rise and Flooding by 2050 Resource, https://www.globalchange.gov/browse/multimedia/projected-sea-level-rise-and-flooding-2050

8, 9. Environmental Prediction Center (EPA)'s Storm Surge Inundation Map, https://epa.maps.arcgis.com/apps/MapSeries/index.html?appid=852ca645500d419e8c6761b923380663

10. Flood Factor, https://floodfactor.com/
FEMA's Flood Map Service Center, https://msc.fema.gov/portal/home

Planet

GOALS

Reduction in Energy Consumption Goals

From a 2013 baseline, reduce consumption by:

2018	2025
10%	20%

Renewable Energy Goal

Achieve a level of use from renewable energy sources.

10% 2025

Reduction in Water Consumption Goal

From a 2015 baseline, reduce consumption by:

2025 10%

Reduction in Greenhouse Gas Goals

From a 2014 baseline, reduce controllable Scope 1 and Scope 2 greenhouse gas emissions by:

2019	2025
10%	20%

Waste Diversion Goals

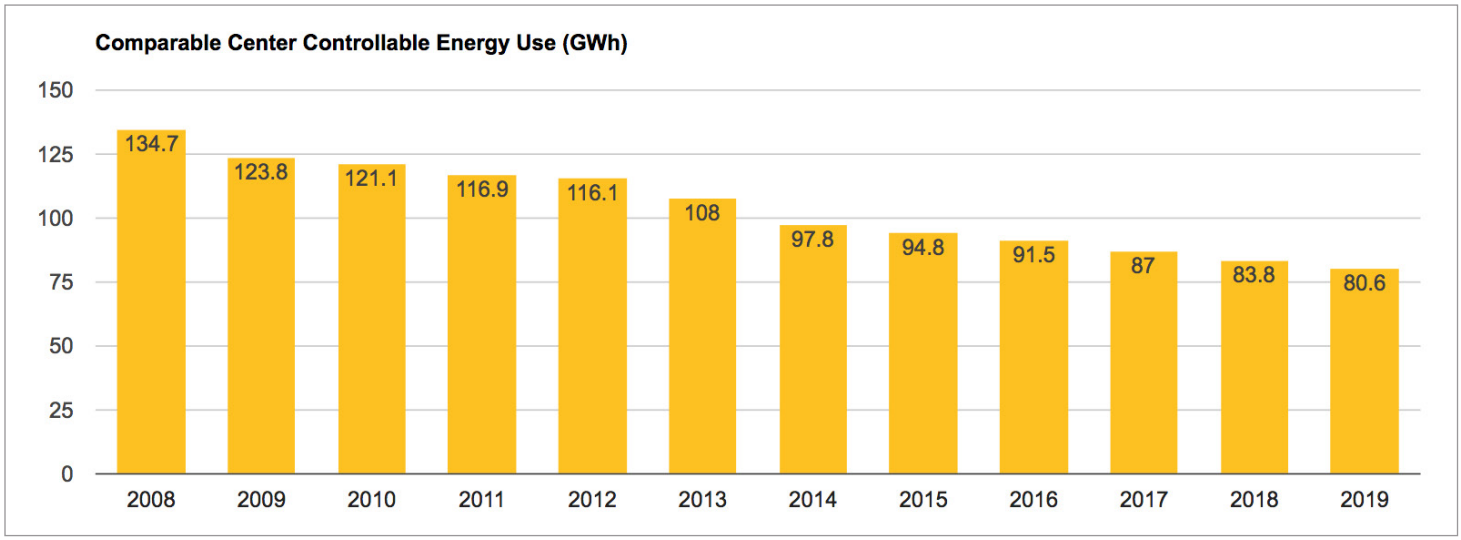
We have set diversion targets of:

2018	2020
50%	75%

PERFORMANCE/DATA

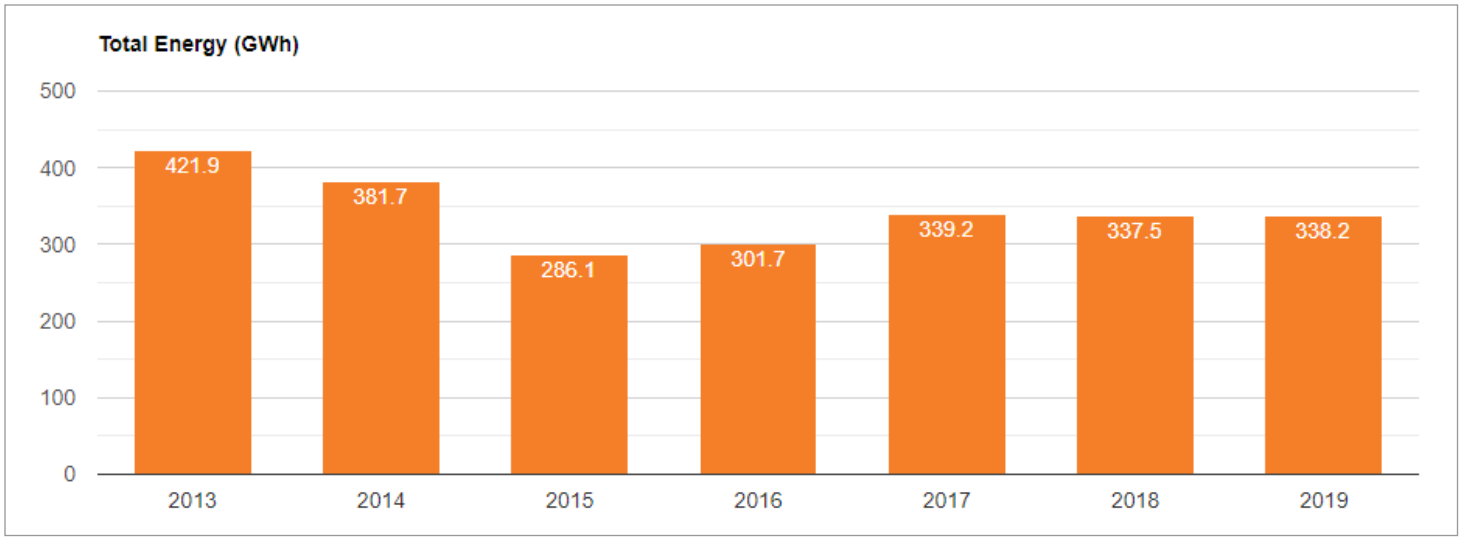
Controllable Electric Consumption

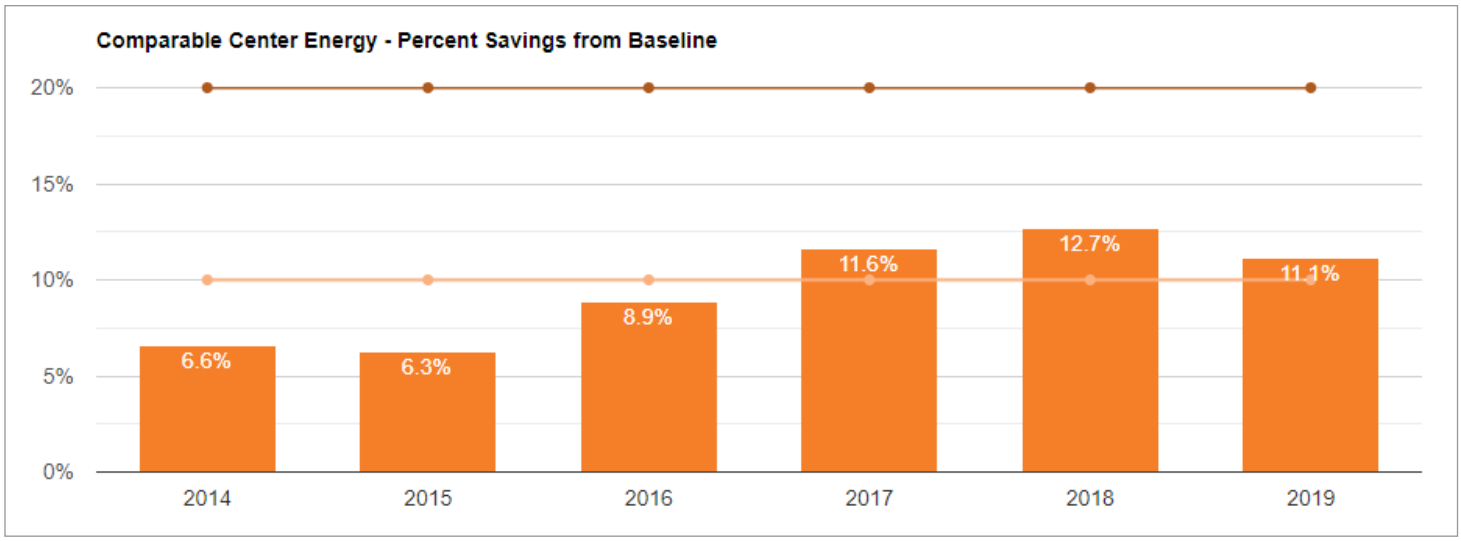
2019 Comparable Center Controllable Energy Use: 80.6 GWh
2019 Reduction from 2008 Baseline: 40%



Energy Consumption

2019 Comparable Center Controllable Energy Use: 80.6 GWh
2019 Total Energy Use: 338.2 GWh
2019 Total Energy Reduction from 2013 Baseline: 20%
2019 Total Energy Use/sq. ft. GLA: 33.6 kWh/sq. ft.





Goals/Performance

2018 Comparable Center Savings Goal: 10% Savings

2019 Comparable Center Reduction from 2013 Baseline: 11%

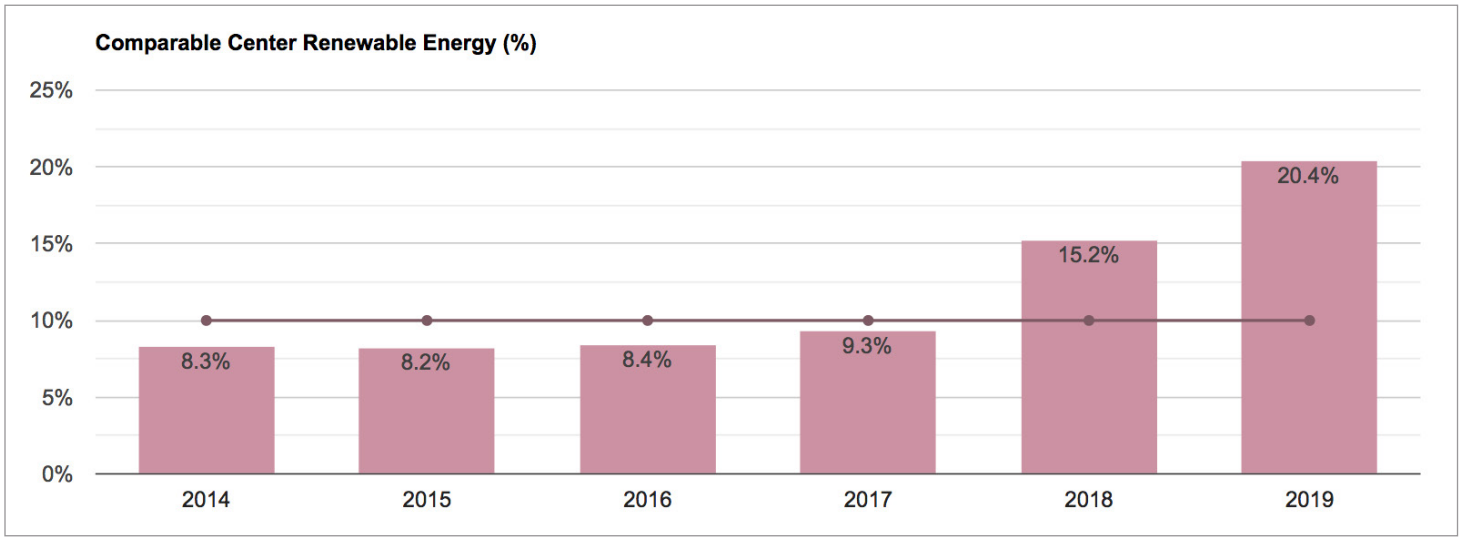
2025 Comparable Center Savings Goal: 20% Savings

Renewable Energy

2019 Renewable Energy Consumed: 52.9 GWh

2019 Total Electricity Consumed: 320.6 GWh

2019 Renewable Energy Usage: 17%



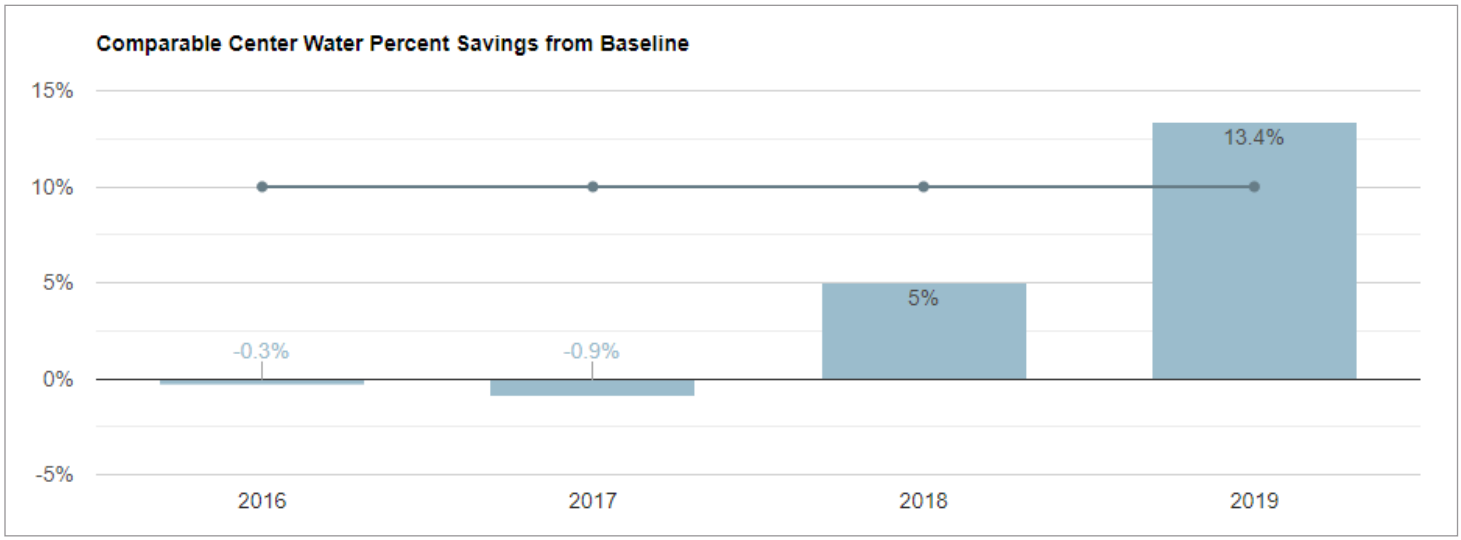
Goals/Performance

2019 Comparable Center Renewable Energy Usage: 20%

2025 Comparable Center Renewable Energy Goal: 10% Renewable Energy Usage

Water Consumption

2019 Comparable Center Water Use: 1.40 million cubic meters
2019 Total Water Use: 2.35 million cubic meters

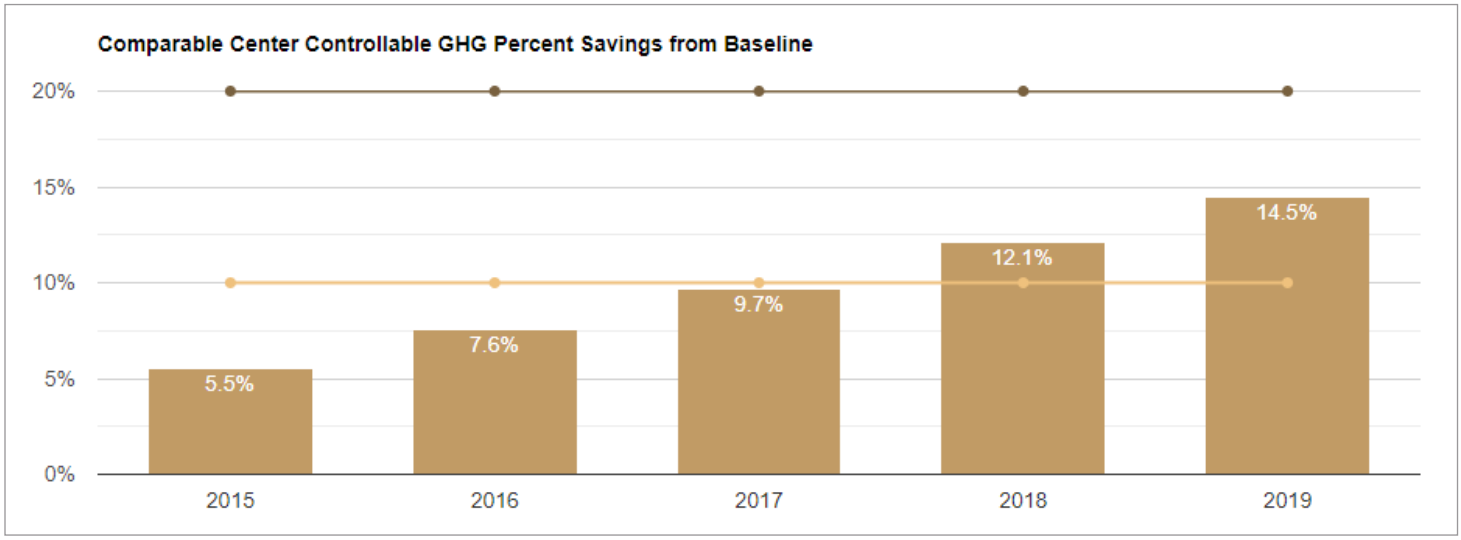


Goals/Performance

2019 Comparable Center Reduction from 2015 Baseline: 13%
2025 Comparable Center Water Savings Goal: 10% Savings

Greenhouse Gas

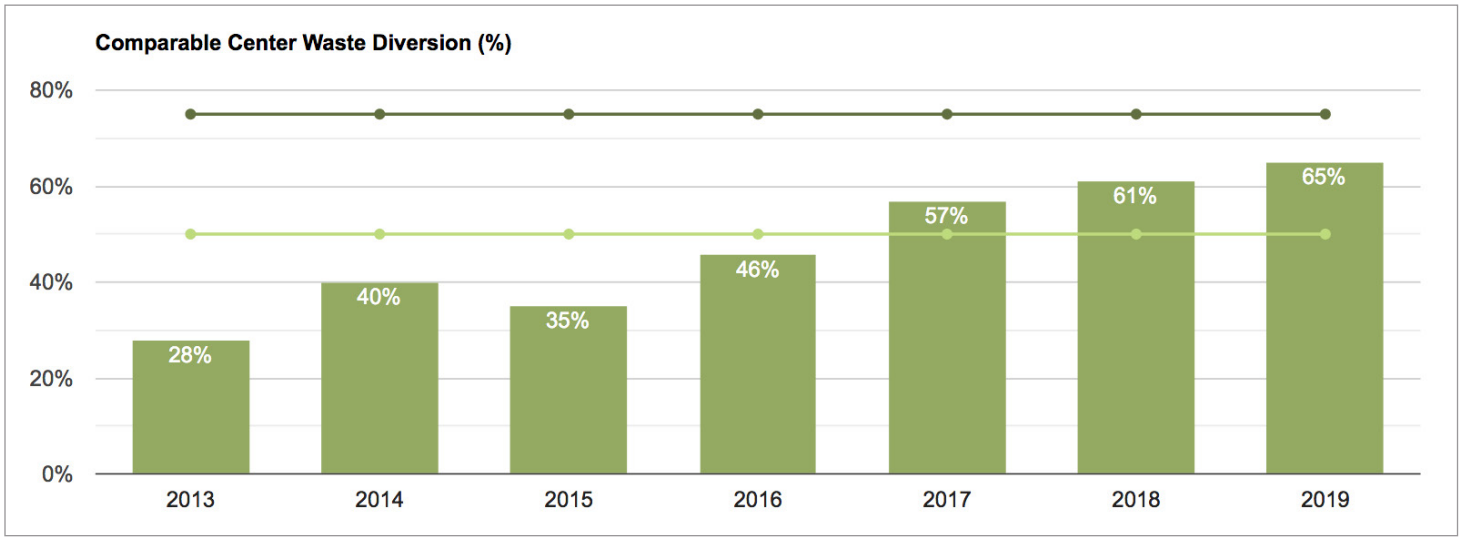
2019 Comparable Center Controllable GHG Emissions: 47.4 thousand tonnes
2019 Total Scope 1 GHG Emissions: 3.2 thousand tonnes
2019 Total Scope 2 GHG Emissions: 117.1 thousand tonnes
2019 Total Emissions per sq. ft. GLA: 0.012/sq. ft.
2019 Total GHG Emissions Reduction from 2014 Baseline: 32%



Goals/Performance
2019 Goal: 10% Savings
2019 Comparable Center GHG Emissions Reduction from 2014 Baseline: 15%
2025 Comparable Center GHG Emissions Reduction Goal: 20%

Waste Diversion

2019 Comparable Center Total Waste: 28.8 thousand tons
2019 Comparable Center Diverted Waste: 18.7 thousand tons
2019 Comparable Center Diversion: 65%
2019 Total Waste Diversion: 63%



Goals/Performance
2018 Comparable Center Waste Diversion Goal: 50% Diversion
2019 Comparable Center Waste Diversion: 65%
2020 Comparable Center Waste Diversion Goal: 75% Diversion

REPORTING METHODOLOGY

The data and information contained in this report comes from many sources as documented in Taubman's Environmental Management System (EMS) that was created in 2019. Taubman's EMS is aligned with ISO 14001 and follows the "Plan, Do, Check, Act" paradigm. Specifically, the EMS is centered around our ESG goals related to energy, renewable energy, water, greenhouse gas and waste. Each of these areas are addressed in the EMS and reported in this sustainability report.

At our centers, energy data comes from utility bills, or from aggregated utility data where access to tenant energy usage information is not available to us. Energy data, along with renewable energy production and water data, are tracked with various tools, including Energy Star, Measurabl and manual spreadsheets. Scope 1 and Scope 2 greenhouse gas data is also tracked through Measurabl. Taubman is gathering information on Scope 3 emissions and hopes to report on this variable in the future.

Waste data and hazardous waste data is tracked through a national vendor for nearly all centers, and the rest are tracked manually through local waste providers.

We also report comparable center data for controllable electric, controllable energy, water and controllable GHG emission reductions. The comparable center list is based on centers owned and operated since the baseline year for each metric. Controllable usage is defined as usage for common area and HVAC systems where we manage and operate the HVAC systems.

All data in this sustainability report for absolute usage/consumption aligns with data reported to GRESB for calendar year 2019.

GRI Index

GRI Indicator	Disclosure	Reference/Location
GRI 102: General Disclosures		
	Organizational Profile	
102-1	Name of the organization	Taubman Centers, Inc.
102-2	Activities, brands, products, and services	Taubman's Annual Report, p. 2
102-3	Location of headquarters	200 E. Long Lake Rd. Suite 300, Bloomfield Hills, MI 48304
102-4	Location of operations	Taubman's Annual Report, pp. 32-33
102-5	Ownership and legal form	Taubman is a publicly traded company registered on the NYSE: TCO, Taubman is a Michigan corporation that has elected to be taxed as a UPREIT
102-6	Markets served	Taubman's Annual Report, pp. 32-33
102-7	Scale of the organization	Taubman's Annual Report, pp. 13, 32-33, 39
102-8	Information on employees and other workers	People – Employees
102-10	Significant changes to the organization and its supply chain	Taubman's Annual Report, pp. 7-9
102-11	Precautionary Principle or approach	Properties – Climate Risk
102-12	External initiatives	People – Community, People – Case Study
102-13	Membership of associations	Overview – Affiliations
	Strategy	
102-14	Statement from senior decision-maker	Overview – CEO Letter
102-15	Key impacts, risks, and opportunities	Overview – ESG Strategy, Overview – Risk Management, Overview – Science-Based Targets, Properties – Climate Risk
	Ethics and Integrity	
102-16	Values, principles, standards, and norms of behavior	Our Code of Business Conduct and Ethics, pp. 4-6, Overview - Ethics
102-17	Mechanisms for advice and concerns about ethics	Our Code of Business Conduct and Ethics, pp. 7-8

GRI Index

GRI Indicator	Disclosure	Reference/Location
	Governance	
102-18	Governance structure	2019 Proxy Statement, pp. 27-31
102-19	Delegating authority	2019 Proxy Statement, p. 23
102-20	Executive-level responsibility for economic, environmental, and social topics	2019 Proxy Statement, pp. 27-31
102-21	Consulting stakeholders on economic, environmental, and social topics	People – Community, People – Employees, People – Tenants
102-22	Composition of the highest governance body and its committees	2019 Proxy Statement, pp. v-x
102-23	Chair of the highest governance body	2019 Proxy Statement, p. 11
102-24	Nominating and selecting the highest governance body	2019 Proxy Statement, pp. 12-14
102-25	Conflicts of interest	Our Code of Business Conduct and Ethics, pp. 10-11
102-26	Role of highest governance body in setting purpose, values, and strategy	2019 Proxy Statement, p. 28
102-27	Collective knowledge of highest governance body	2019 Proxy Statement, p. 14
102-29	Identifying and managing economic, environmental, and social impacts	Properties – Climate Risk
102-30	Effectiveness of risk management processes	2019 Proxy Statement, p. 22
102-31	Review of economic, environmental, and social topics	2019 Proxy Statement, p. 22, Properties – Climate Risk
102-32	Highest governance body's role in sustainability reporting	Overview – ESG Strategy
102-33	Communicating critical concerns	Our Code of Business Conduct and Ethics, pp. 7-8
102-35	Remuneration policies	2019 Proxy Statement, pp. 36-44, Our Code of Business Conduct and Ethics, p. 17
102-36	Process for determining remuneration	2019 Proxy Statement, pp. 36-44
102-38	Annual total compensation ratio	2019 Proxy Statement, p. 58

GRI Index

GRI Indicator	Disclosure	Reference/Location
Stakeholder Engagement		
102-40	List of stakeholder groups	People – Stakeholder Engagement
102-42	Identifying and selecting stakeholders	People – Stakeholder Engagement
102-43	Approach to stakeholder engagement	People – Stakeholder Engagement
Reporting Practice		
102-45	Entities included in the consolidated financial statements	Overview – Who We Are
102-46	Defining report content and topic Boundaries	Planet – Reporting Methodology
102-48	Restatements of information	None
102-49	Changes in reporting	None
102-50	Reporting period	Calendar Year 2019
102-51	Date of most recent report	This is the first GRI-aligned sustainability report
102-52	Reporting cycle	Annual
102-53	Contact point for questions regarding the report	Steve Moore
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	Planet – GRI Index
GRI 200: Economic Topics		
Economic Performance		
201-1	Direct economic value generated and distributed	Taubman's Annual Report, pp. F6-F10
201-2	Financial implications and other risks and opportunities due to climate change	Properties – Climate Risk
201-3	Defined benefit plan obligations and other retirement plans	Taubman's Annual Report, pp. F46
Indirect Economic Impacts		
203-1	Infrastructure investments and services supported	People – Community

GRI Index

GRI Indicator	Disclosure	Reference/Location
Anti-corruption		
205-1	Operations assessed for risks related to corruption	Our Code of Business Conduct and Ethics, p. 22
205-3	Confirmed incidents of corruption and actions taken	There were no confirmed incidents of corruption in the reporting year
Anti-competitive Behavior		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	There were no legal actions for anti-competitive behavior, anti-trust, or monopoly practices in the reporting year
GRI 300: Environmental Topics		
Energy		
302-1	Energy consumption within the organization	Planet – Performance/Data, Planet – Reporting Methodology
302-3	Energy intensity	Planet – Performance/Data
302-4	Reduction of energy consumption	Planet – Performance/Data
Water		
303-5	Water consumption	Planet – Performance/Data
Emissions		
305-1	Direct (Scope 1) GHG emissions	Planet – Performance/Data
305-2	Energy indirect (Scope 2) GHG emissions	Planet – Performance/Data
305-4	GHG emissions intensity	Planet – Performance/Data
305-5	Reduction of GHG emissions	Planet – Performance/Data
Waste		
306-3	Waste generated	Planet – Performance/Data
306-4	Waste diverted from disposal	Planet – Performance/Data
306-5	Waste directed to disposal	Planet – Performance/Data
Environmental Compliance		
307-1	Non-compliance with environmental laws and regulations	There were no incidences of non-compliance with environmental laws and regulations in the reporting year

GRI Index

GRI Indicator	Disclosure	Reference/Location
GRI 400: Social Topics		
	Occupational Health and Safety	
403-5	Worker training on occupational health and safety	People – Safety
403-9	Work-related injuries	People – Safety
	Training and Education	
404-3	Percentage of employees receiving regular performance and career development reviews	People – Employees
	Diversity and Equal Opportunity	
405-1	Diversity of governance bodies and employees	Overview – Corporate Family
	Local Communities	
413-1	Operations with local community engagement, impact assessments, and development programs	People – Community

Independent Assurance Statement

Independent Assurance Statement
Provided by ISOS Group, Inc.
On selected environmental metrics included in:
Taubman Centers, Inc.
2020 Sustainability Report.

Scope of Assurance

ISOS Group ["Assurer", "ISOS"] was commissioned to carry out moderate assurance for Taubman Centers, Inc. ["Client" or "Taubman"] from March through the end of July 2020 for CY2019 total energy consumption, total greenhouse gas emissions (Scopes 1 - 2), total water consumption, and waste reported in non-financial disclosure platforms, such as its Sustainability Report. Verification was restricted a portion of Taubman's portfolio; twenty (20) operational properties within the United States and did not include diversion rates, year-over-year reductions and/or other performance in light of corporate goals.

Objectives

The assurance process was intended to provide an independent opinion confirming that the Client has complied with procedures for data management at the company and minimized degrees of error by adequately:

1. Sourcing utility and waste hauler data to populate relevant data management systems,
2. Enforcing management and quality controls across the reporting period,
3. Aggregating and converting metrics into the correct unit of measure,
4. Calculating greenhouse gas emissions, and
5. Transferring all aggregated detail correctly into reporting platforms.

Criteria for Assurance and Level of Assurance

ISOS carried out a moderate assurance arrangement by evaluating the accuracy of the metrics, underlying management systems, limitations and the process or effective corporate environmental reporting.

Assurance has been provided in accordance with the AccountAbility 1000 Assurance Standard (2008) ("AA1000AS 2008") Type 2 moderate-level assurance. For greenhouse gas (GHG) assertions, assurers were informed by the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

ISOS Group's assurance procedures targeted a quality threshold of 95% for all measures, limiting the level of error within a threshold of 5%. Quantitative data, underlying worksheets, and original utility detail from the properties sampled, have been recalculated and compared to public disclosures to determine the level of accuracy. Similarly, qualitative responses have been vetted to match reporting protocols and methods for transparency used by the Client.

ISOS Group, Inc. | 1223 Cleveland Ave, Ste 200-13, San Diego, CA 92103 | www.isosgroup.com

Boundary

Organizational Boundary	Taubman owns, manages and/or leases twenty-six (26) regional, super-regional and outlet shopping centers in the U.S. and Asia.
Reporting Boundary	Taubman's GRESB report focuses on US-only investments, as Taubman's Asia operations are structured differently and run from the Asia management team.
Assurance Boundary	The boundary of assurance was limited to the Client's twenty-one (21) operational properties located in the United States, consisting of retail centers and offices, which are landlord or tenant controlled.
GHG Emissions Boundary	The GHG emissions boundary followed the operational control methodology specified in the GHG Protocol.

Limitations and Exclusions

Several smaller scope 1 GHG emission sources (i.e., refrigerant releases, mobile sources, emergency generators), and non-leased asset scope 3 GHG emissions have been excluded from this review. No visit to the Client's headquarters or facilities was conducted throughout this engagement. However, a sample set of sites was reviewed in more granularity and therefore, site-level questionnaires were sent to collect information from site data managers. It was determined that these limitations and exclusions do not materially impact the performance criteria or assurance engagement.

Methodology

The assurance procedures undertaken were to determine the strength of the systems in place. ISOS Group:

- Engaged a sample of individuals responsible for performance measurement,
- Evaluated current management systems for performance data collection, compilation, calculation, reporting, and validation,
- Determined consistency of assessing materiality, management approach, and application of quality control procedures,
- Reviewed sustainability disclosures, supporting data, and justification for rectifying discrepancies,
- Validated alignment to standard reporting protocols and GRESB's technical guidance to ensure accurate claims to the quantitative methodology and approach and assurance claims,
- To verify quantitative claims, both at the aggregate level and on a sample basis, and test accuracy, consistency, completeness, and reliability, ISOS Group:
    1. Engaged site managers via online survey for added context and analysis at:
        a. Country Club Plaza (Kansas City, MO)
        b. Westfarms (Farmington, CT)
    2. Analyzed performance results to determine coverage, anomalies, and gaps,
    3. Cross-referenced primary and secondary data to uncover variances and address any exclusions and other limitations,
    4. Brought all findings to the Client's attention to address.

Conclusions

Based on the process and procedures conducted, there is no evidence that the following metrics reported by the Client in its Sustainability Report are not materially correct and provide a fair representation of the Client's environmental impacts to stakeholders for the stated period and reporting boundary.

Parameter	Absolute	Assurer Calculated	Difference	Discrepancy
Total Energy Consumption (GWh)	338.2	345.1	6.9	2.0%
Total Scope 1 GHG Emissions (KMT CO_2e)	3.2	3.2	-	-
Total Scope 2 GHG Emissions (KMT CO_2e)	117.1	112.7	4.4	3.8%
Total Water Consumption (Million m^3)	2.35	2.34	.01	0.4%

Application of the AA1000AP

Findings and conclusions concerning adherence to the AA1000 AccountAbility Principles:

Inclusivity	Taubman Centers leverages research and stakeholder engagement conducted by both industry associations and related interest groups. Its membership in the National Association of Real Estate Investment Trusts (NAREIT), the International Council of Shopping Centers (ICSC), and Urban Land Institute (ULI) constitute its efforts towards inclusivity. For future development, it is recommended that Taubman conduct its own sustainability-focused stakeholder engagement program to better understand direct stakeholder needs.
Materiality	Taubman's annual participation in the GRESB Real Estate Assessment, considered industry best practice, signifies its identification of the sustainability topics that matter most. To improve efforts, it is recommended that Taubman conduct a stakeholder-informed materiality assessment to detect any company-specific sustainability topics and to prioritize those that matter most to its stakeholders.
Responsiveness	In addition to its annual GRESB submission, Taubman publishes an annual sustainability report. This disclosure enables stakeholders to understand how Taubman manages the sustainability topics that are relevant to the organization. To continue along the path of improvement, it is recommended that Taubman consider future reporting aligned to recognized standards, such as GRI.
Impact	Taubman's sustainability report clearly identifies performance goals related to environmental topics managed by the organization. These are publicly stated and progress towards these targets is updated on an annual basis. It is recommended that Taubman consider the expansion of its publicly stated goals beyond its environmental footprint to social performance goals as well.

Independent Assurance Statement

Statement of Competency and Independence

ISOS Group is an independent professional services firm that specializes in sustainability reporting under the Global Resources Initiative (GRI), CDP, and GRESB and is a provider of external assurance services. ISOS Group is a Global Reporting Initiative Certified Training Partner for the United States and a CDP Silver Education and Training Partner in the United States. Our team of experts have the technical expertise and competency to conduct assurance to the AA1000 assurance standard, which meets the criteria for assurance of environmental data.

No member of the assurance team has a business relationship with Taubman, its Directors, or Managers beyond that required of this assignment. We conducted this assurance independently and, to our knowledge, there has been no conflict of interest. ISOS Group has a strong code of ethics and maintains high ethical standards among its staff in their day-to-day business activities. The assurance team has extensive experience in conducting assurance engagements over environmental, social, ethical, and health and safety information systems and processes.

Further information, including a statement of competencies, can be found at www.isosgroup.com.

Signed on behalf of ISOS Group: San Diego, California – USA, September 11, 2020.

Nancy Mancilla
CSAP Practitioner

Brian Noveck
CSAP Practitioner

ISOS Group

AA1000
Licensed Assurance Provider
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