

# Energy Management Policy

Effective Date: August 2021

## Objective

---

Columbia Property Trust places great importance on pursuing energy efficiency throughout its real estate investments, with the goal of continual improvement. This policy aims to aid Columbia Property Trust in decreasing energy consumption and reducing costs, while making sound decisions on energy metric tracking and energy efficiency improvement criteria.

## Goals

---

- Reach 50% portfolio wide reduction in site energy intensity by 2050.
- Demonstrate leadership within the real estate industry and align with our peers.
- Track energy at the whole-building level, wherever possible, throughout the real estate portfolio.
- Maintain up-to-date and accurate ENERGY STAR and Measurabl profiles quarterly across the portfolio.
- Pursue ENERGY STAR Labels for all buildings with scores above a 75.
- Educate and engage tenants on the benefits of joint participation in energy efficiency opportunities.
- Prioritize underperforming assets for further energy engineering studies.
- Comply with all national and/or local energy benchmarking rules and regulations.
- Ensure any energy conservation efforts pursued by Columbia Property Trust align with requisite financial criteria of organization.
- Implement an energy management operations and maintenance plan.
- Complete interim target goals of 11% energy reduction by 2025, 20% by 2031, 30% by 2037, and 39% by 2043.

## Responsibility

---

The Corporate ESG Team, Property Managers, and Chief Engineers are responsible to be aware of the best practices and guidelines provided in this plan and to implement them wherever possible.

## Plan Guidelines

---

The following guidelines have been created to assist Property Managers and Building Staff in executing the Energy Management Policy to reduce energy consumption.

### Summary Guidelines

1. Commitment to improvement: Identify all relevant stakeholders. Stakeholders should commit to a continual improvement with respect to the above goals.
2. Assess Performance: Ensure all properties are being benchmarked through ENERGY STAR Portfolio Manager (ESPM) and/or Measurabl.
  - Energy data should be tracked at least quarterly. In addition to entering data into ESPM, property managers should be responsible for identifying trends in building energy usage.
  - For properties that are in regions where aggregate data from the utility is available, and/or have access to tenant direct and submeter data, whole building energy data should be tracked.
  - Tenant submeter data, where available, should also be monitored on a quarterly basis to identify anomalies, spikes in usage, or high-energy consuming tenants.
3. Create Action Plan: Create ENERGY STAR Portfolio Manager profiles and Measurabl for any property without an existing profile, while ensuring existing profiles are up to date with current data.
  - Determine which properties fall within any regions governed by any energy-related requirements and resolve any violations that may already exist.
  - Track any properties that have already received the ENERGY STAR label designation and complete the process for those currently eligible. Prioritize any under-performing properties for further energy studies (example: properties with ENERGY STAR Score < 75 or with YOY energy reduction target > 20%).
4. Understand which properties are required to comply with any national and/or local energy regulations and determine if those properties are currently in compliance.
  - Closely monitor local and federal energy regulation. Types of energy regulation can include benchmarking, grading, audit, or energy/emissions caps.
  - Corporate ESG Team and Property Managers should be aware of changing regulation and should conduct analysis to ensure compliance.
5. Implement Action Plan: Communicate the action plan to the relevant stakeholders, ensuring that communication displays senior-level support. Create a quarterly monitoring system to include updates on the Columbia Property Trust's energy reduction goal of reaching 50% portfolio wide reduction in site energy intensity by 2050.
6. Tracking and monitoring should occur on a quarterly basis, at a minimum to help maintain building performance. Implement an operations and maintenance plan to address building operating efficiencies. Complete any identified energy studies. Identify and prioritize no-cost and low-cost asset-level improvements, plans, and budget for identified needed capital improvements.
7. Evaluate opportunities: Consider implementing energy efficiency technologies and strategies. Evaluate the property's potential to install common energy efficiency measures such as LED lights and ENERGY STAR certified appliances (reference Appendix A for more options). Evaluate the potential for the property to install renewable energy technologies or consider the purchase of RECs (Renewable Energy Credits) or carbon offsets to offset the building's energy usage.
8. Evaluate Progress: Review tracking results on a quarterly basis to identify performance trends, isolating the top-level and bottom-level performers. Identify specific asset-level action items for the lesser performing properties to improve. Solicit feedback from the relevant stakeholders to identify any internal or external factors that may require revisions to the action plan. Try to identify any potential additional fringe benefits from the plan that may not have been accounted for originally.

9. Recognize Achievements: Internally recognize the top performers to provide context for why their energy consumption reduction is important and how it relates to the overall portfolio goals. Additionally, seek out any available public recognition for any achievements via ENERGY STAR, local real estate group awards, or through any other public or governmental organizations.
10. Review and Revise Plan: A crucial step in creating a valuable energy management plan is frequent re-assessment to ensure goals and implementation strategies continue to push continual improvement (see Phases of Energy Management Plan).

## Energy Efficiency Strategies & Best Practices

---

1. Efficiency Measures: When replacing roofs, specify white TPO roofing with a solar reflective value of 82, or higher. When replacing lighting, specify LED fixtures. Reference the checklist of energy saving measures for commercial properties (Appendix A).
2. Renewable Energy: Evaluate opportunities for onsite solar installations at properties throughout the portfolio.
3. Energy Data Tracking: Identify all sources of energy consumption at the property, including all tenant energy sources wherever possible. Collect and track available energy data through the use of ENERGY STAR Portfolio Manager and/or Measurabl, for all properties within the portfolio. Where tenant direct meters are implemented and tenant energy usage information is not available, track common area energy sources. It is best practice for property managers to update data within ESPM and/or Measurabl on a quarterly basis to create a habit of knowing and understanding their property's energy consumption patterns throughout the year.
4. Ongoing Reporting: Ensure that all data is accurately entered into the ENERGY STAR and Measurabl platforms on a quarterly basis. Each property within the portfolio should report, at a minimum, its energy use intensity and ENERGY STAR score after each data update in comparison to the prior reporting period.
5. ENERGY STAR Label Certification: Annually, each property should be certified for the ENERGY STAR Label designation if its score is a 75 or higher.
6. Comply with national and/or local rules and regulations: Whenever required, properties shall ensure that compliance with any energy-related regulations are adhered to.
7. Stakeholders can reference available resources below to identify specific rules and regulations that may apply.
8. Prioritize lower performing properties for further energy studies: Create a target for all property's performance to meet or establish a specific number of poor performing properties to target each year for further energy studies. Utilize third party engineering firms or internal teams that align with operational and financial goals (ex. Energy audit, retro-commissioning study, ENERGY STAR Energy Treasure Hunt<sup>1</sup>).
9. Tenant education and engagement: Tenants often account for the largest portion of energy consumption. It is important to keep tenants engaged and educated regarding the benefits of energy efficiency and conservation efforts. Property management should craft messages and events aimed at detailing successes and opportunities.
  - a. Promote the ENERGY STAR for Tenants<sup>2</sup> program to eligible tenants

## Ongoing Evaluation

---

<sup>1</sup> ENERGY STAR Energy Treasure Hunt

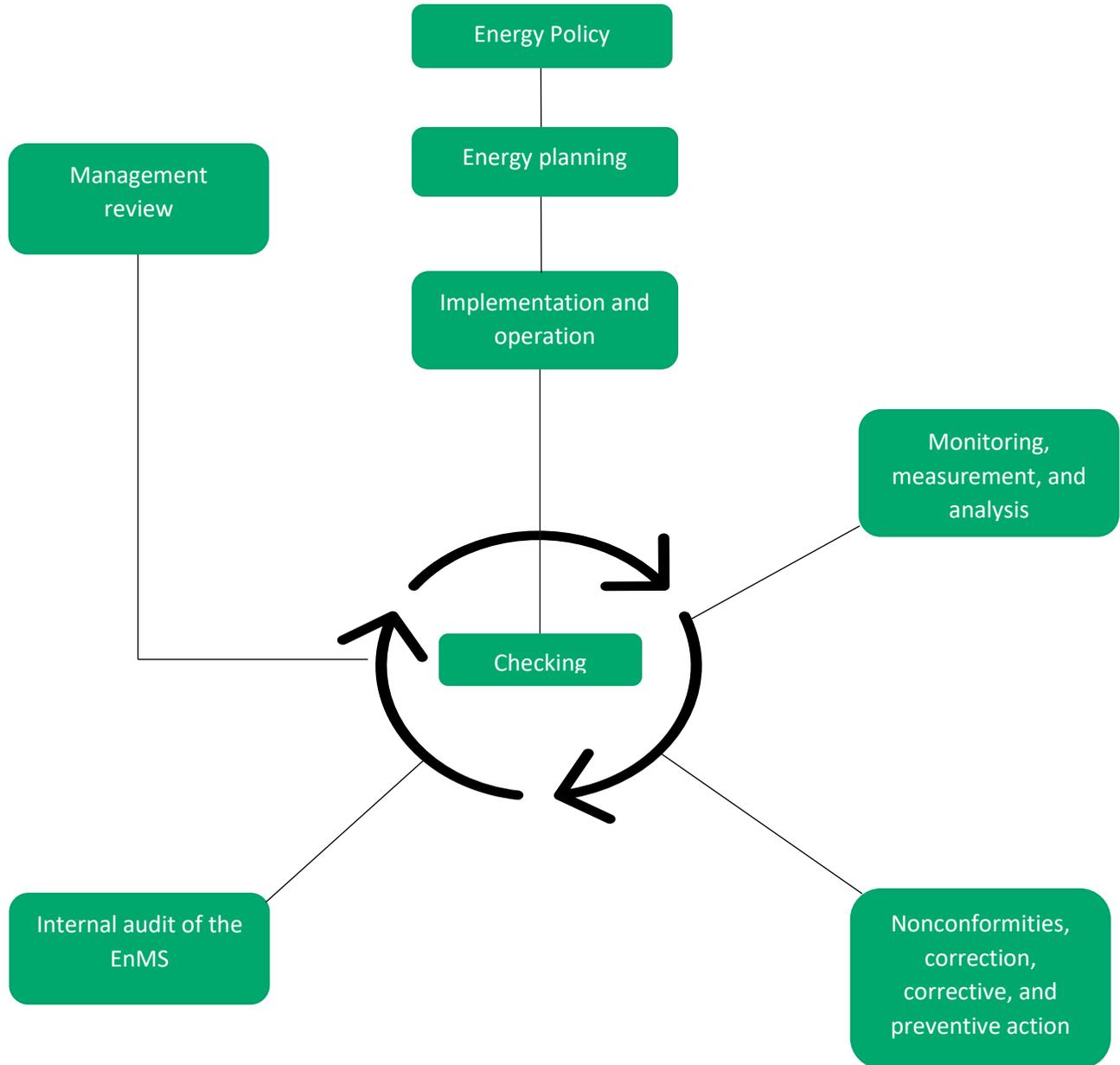
<sup>2</sup> ENERGY STAR for Tenants

It is crucial for property management to perform building energy usage evaluations on a quarterly basis, at minimum. Because energy performance can change relatively quickly and rules and regulations can be adopted throughout the year, it is important to identify trends as soon as possible. Therefore, quarterly updates (or more frequently) should be made to the ENERGY STAR Portfolio Manager and/or Measurabl platforms for all whole-building data. Additionally, at those same intervals, key metric reporting of progress toward energy reduction goals should be made available to all stakeholders within the portfolio.

DRAFT

## Phases of Energy Management Plan

The International Standard (ISO) outlines an energy management system (EnMS) Columbia Property Trust will use to establish the systems and processes necessary to improve energy performance, including energy efficiency, use, and consumption. Please see the ISO 50001 EnMS framework model below.



(Figure 1 Energy management system model for ISO 50001)<sup>3</sup>

<sup>3</sup> ISO 50001 Energy Management Systems

## Annual Policy Evaluation

---

The Corporate ESG Team and Property Management Teams are responsible for reviewing this policy on an annual basis to ensure the policy guidelines are being enacted and progress is being made toward the policy goals.

## Terminology

---

**Energy Audit:** A building or campus-level assessment of major energy consuming systems, for the purposes of identifying opportunities for energy conservation.

**Energy Benchmarking:** Ongoing review of energy performance to determine if a building is improving or declining performance in comparison to its previous performance, other buildings within a portfolio, or similar buildings.

**Retro-commissioning:** The application of the commissioning process to an existing building to ensure that building equipment and systems function as designed, taking into account both the original design and past major system alterations.

**ENERGY STAR score:** a measure of how well your property is performing relative to similar properties, when normalized for climate and operational characteristics (1- 100 point scale).

**Source Energy Use Intensity (Source EUI):** The total amount of all the raw fuel required to operate your property, including losses that take place during generation, transmission, and distribution of the energy divided by the building's square footage.

**Site Energy:** the amount of heat and electricity consumed by a building.

## Resources

---

- [ENERGY STAR history](#)
- [ENERGY STAR Certification Process](#)
- [ASHRAE \(American Society of Heating, Refrigerating and Air-Conditioning Engineers\)](#)
- [ISO 50001 Energy Management](#)
- [EPA's Target finder tool](#)
- [ENERGY STAR Checklists of Energy-Saving Measures](#)

## Summary Disclaimer

---

The contents of this policy have been prepared by referencing the following relevant green building certification guidance documents.

- LEED O&M v4 Reference Guide
- LEED O&M v4.1 Reference Guide
- LEED O&M v3 Reference Guide
- WELL Building Standard v2
- Fitwel v2.1 Workplace Reference Guide

## Appendix A

### Checklists of Energy-saving Measures for Commercial Buildings

#### Operations and Maintenance:

##### *Low-cost measures*

<input type="checkbox"/>	Conduct a nighttime audit to find out what's on after hours that should not be.
<input type="checkbox"/>	Improve operations and maintenance practices by regularly checking and maintaining equipment to ensure that it's functioning efficiently.
<input type="checkbox"/>	Optimize start-up time, power-down time, and equipment sequencing.
<input type="checkbox"/>	Revise janitorial practices to reduce the hours that lights are turned on each day. Consider switching to day-cleaning, which takes place while occupants are in the building and has shown to also reduce complaints.
<input type="checkbox"/>	Review and emphasize the financial and environmental results of a preventative maintenance program for major systems and components.
<input type="checkbox"/>	Set goals and a methodology to track and reward improvements.
<input type="checkbox"/>	Visually inspect insulation on all piping, ducting and equipment for damage (tears, compression, stains, etc.).
<input type="checkbox"/>	Ask your utility if they offer free or inexpensive energy audits.
<input type="checkbox"/>	Retro or re-commission the building to make sure it's running the way it was intended.
<input type="checkbox"/>	Consider energy audits to identify areas where building systems have become inefficient over time and bring them back to peak performance.

#### Lighting:

##### *Low-cost measures*

<input type="checkbox"/>	Maximize daylighting. After all, sunlight is free! Open or close blinds to make the best use of natural daylight and take advantage of skylights or other natural daylight sources to reduce lighting during daytime hours.
<input type="checkbox"/>	Turn off lights when not in use or when natural daylight is sufficient. This can reduce lighting expenses by 10 to 40 percent.
<input type="checkbox"/>	Use task lighting where feasible.
<input type="checkbox"/>	Implement a regular lighting maintenance program.
<input type="checkbox"/>	Remove unnecessary lamps (de-lamp) in over lit areas. Check your light levels against standards from the Illuminating Engineering Society (IES) to see if you have areas that are over- or under-lit.

##### *Rapid Payback Measures:*

<input type="checkbox"/>	Replace old fluorescent and incandescent lighting with ENERGY STAR certified LEDs, T-8 (or even T-5) fixtures, ENERGY STAR certified LEDs, and other energy-efficient lighting systems that improve light quality and reduce heat gain. LEDs use up to 90% less energy than incandescent lighting and last 35 to 50 times longer.
--------------------------	---

<input type="checkbox"/>	Install LED exit signs. These signs can dramatically reduce maintenance by eliminating the need to replace lamps and can save \$10 per sign annually in electricity costs.
<input type="checkbox"/>	Swap out incandescent light bulbs with ENERGY STAR certified LEDs in your desk, task, and floor lamps.
<input type="checkbox"/>	Install occupancy sensors to automatically turn off lights when no one is present and back on when people return. Storage rooms, back-of-house spaces, meeting rooms, and other low-traffic areas are often good places to start. Occupancy sensors can save between 15 and 30 percent on lighting costs. And don't forget — even good equipment can be installed incorrectly, so don't install the sensor behind a coat rack, door, bookcase, etc. It must be able to "see" an approaching person's motion to turn on the light as they enter an unlit room.
<input type="checkbox"/>	Examine the opportunity to switch from high-pressure sodium lamps to metal halide lamps in parking lots and consider upgrading to LED lighting for outdoor signage.

### Plug Load: Office Equipment:

#### Low-cost measures

<input type="checkbox"/>	Enable the power management function on office computers, which automatically puts monitors to sleep when not in use. To learn how to enable this function, visit <a href="http://www.energystar.gov/powermanagement">www.energystar.gov/powermanagement</a> .
<input type="checkbox"/>	Activate sleep settings on all printers, copiers, fax machines, scanners, and multifunction devices so that they automatically enter a low-powered sleep mode when inactive. Use the owner's manual to make the setting changes yourself or ask your service vendor to ensure your machines are configured to take full advantage of these features.
<input type="checkbox"/>	Consolidate stand-alone office equipment to achieve a ratio of one device (typically a networked multifunction device) per 10 or more users. Typical cost savings can reach 30 to 40 percent for electricity, hardware, consumables (paper, ink, and toner), and maintenance.
<input type="checkbox"/>	Plug electronics into a "smart" power strip that let you designate which electronics should always be on, and which ones do not need power when they're not in use.
<input type="checkbox"/>	Purchase energy-efficient products like ENERGY STAR certified office equipment and electronics, and establish a procurement policy for energy-saving products.

### Heating and Cooling:

#### Low-cost measures

<input type="checkbox"/>	Set back the thermostat in the evenings and other times when the building isn't occupied.
<input type="checkbox"/>	Perform monthly maintenance of heating and cooling equipment to guarantee efficient operation throughout the year.
<input type="checkbox"/>	Regularly change or clean HVAC filters every month during peak cooling or heating season. Dirty filters cost more to use, overwork the equipment, and result in lower indoor air quality.
<input type="checkbox"/>	Plug air leaks with weather stripping and caulking.
<input type="checkbox"/>	Calibrate thermostats to ensure that their ambient temperature readings are correct, and adjust temperature set points for seasonal changes.

<input type="checkbox"/>	<p>Use shades and blinds to control direct sun through windows in both summer and winter to prevent or encourage heat gain.</p> <ul style="list-style-type: none"> <li>• During cooling season, block direct heat gain from the sun shining through glass on the east and especially west sides of the facility. Depending on your facility, options such as "solar screens," "solar films," awnings, and vegetation can help. Over time, trees can attractively shade the facility, and help clean the air. Interior curtains or drapes can help, but it's best to prevent the summer heat from getting past the glass and inside.</li> <li>• During heating season, with the sun low in the south, unobstructed southern windows can contribute solar heat gain during the day.</li> </ul>
<input type="checkbox"/>	<p>Make sure that areas in front of vents are clear of furniture and paper. As much as 25 percent more energy is required to distribute air if your vents are blocked.</p>
<input type="checkbox"/>	<p>Clean the evaporator and condenser coils on heat pumps, air-conditioners, or chillers. Dirty coils inhibit heat transfer; keeping coils clean saves energy.</p>
<input type="checkbox"/>	<p>Repair leaks and adjust pressure in compressed air systems.</p>
<input type="checkbox"/>	<p>Repair steam trap leaks; replace malfunctioning steam traps.</p>
<input type="checkbox"/>	<p>Repair damaged insulation and replace missing insulation with thicknesses calculated for the operating and ambient conditions of the mechanical system.</p>
<input type="checkbox"/>	<p>Keep exterior doors closed while running your HVAC. It sounds simple, but it will help avoid wasteful loss of heated or cooled air! If your building is equipped with revolving doors, encourage or require their use as opposed to swinging doors.</p>

*Rapid Payback Measures*

<input type="checkbox"/>	<p>Tune up your heating, ventilation, and air conditioning (HVAC) system with an annual maintenance contract. Even a new HVAC system, like a new car, will decline in performance without regular maintenance. A contract automatically ensures that your HVAC contractor will provide "pre-season" tune-ups before each cooling and heating season. Your chances of an emergency HVAC breakdown also decrease with regular maintenance.</p>
<input type="checkbox"/>	<p>Install variable frequency drives (VFDs) and energy-efficient motors.</p>
<input type="checkbox"/>	<p>Balance air and water systems.</p>
<input type="checkbox"/>	<p>Install window films and add insulation or reflective roof coating to reduce energy consumption.</p>

**Occupant Behavior and Education:**

*Low-cost measures*

<input type="checkbox"/>	<p>Create a mechanism for occupants or employees to share their suggestions with you. Make sure you respond to comments and act on recommendations when feasible. You may even offer a reward for the best energy-saving ideas.</p>
--------------------------	---

<input type="checkbox"/>	Educate staff members about the basic principles of energy management and empower them to establish their own departmental green teams. Check out the ENERGY STAR Green Team Checklist for steps and considerations to take into account when establishing a green team.
<input type="checkbox"/>	Share your energy efficiency goals. Transparency is the first step to getting the people inside your building or space interested in what you're doing. When you share your energy reduction goals and progress toward saving, employees and occupants sit up and take notice of your efforts.
<input type="checkbox"/>	Display the past 6–12 months of energy use information in a high-traffic area or distribute it as part of a regular report. Seeing the data and any trends in energy use can inspire occupants and employees to contribute to continued savings.
<input type="checkbox"/>	Encourage actions that apply to most of your employees' workspaces, or that can be practiced at work and at home, like turning off lights when not in use and activating computer power management features.
<input type="checkbox"/>	Print and hang banners, posters, and signs with energy-saving messages in high-traffic areas in your space or in areas like lobbies, elevators, hallways, over water fountains, and in break rooms.
<input type="checkbox"/>	Create door hangers, post-it note reminders, or light switch covers to help occupants or employees remember to take action. Some K-12 schools have started energy patrols, in which students pass out "oops" and "wow" stickers to encourage behavior change.
<input type="checkbox"/>	Hold an energy fair, conduct an energy awareness event in the lobby, or offer building tours to give occupants a sneak peek at the inner workings of the building.
<input type="checkbox"/>	Host a brownbag, hold a webinar, or present about why it's important to save energy at staff meetings, tenant meetings, or other get-togethers. You can also integrate information about your energy program into your organization's orientation training.
<input type="checkbox"/>	Give incentives and recognition. Consider starting small with something like a pizza party, ice cream social, bagel breakfast, or other food rewards for hitting goals or making progress. Depending on savings levels, you may also consider awarding cash or prizes for great energy-saving ideas or to energy champions.

4

---

<sup>4</sup> ENERGY STAR Checklists of Energy-Saving Measures

## Appendix B:

### Green Building Certification Alignment Matrix

Strategy	Green Building Rating System									
	LEED O&M v4.0	Points	LEED O&M v4.1	Points	IREM CSP	Points	Fitwel v2	Points	WELL v1	Points
ENERGY STAR Rating > 75	EAc4	1-20								
Metering/Benchmarking	EAp3	R	EAp3	13-33	B.7	R				
Equipment Checks					E.3	1				
Renewable Energy					E.9	2				
Tenant Education					E.4	1				
Whole Policy					B.6	R				