

The Inside Scoop on Buildings:

***Lighting, Furniture, and
Refrigerant-Using Equipment***

Green Purchasing Roundtable

June 9, 2025



Alameda County

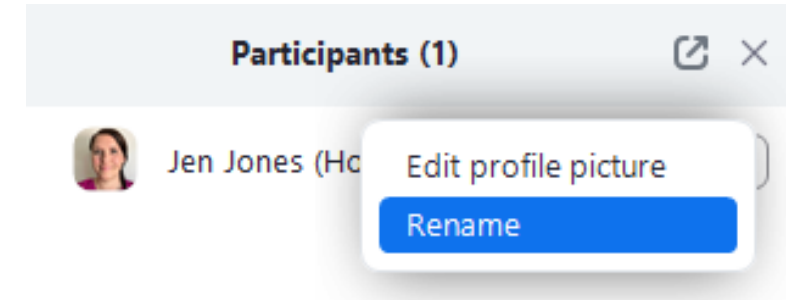
SUSTAINABILITY

Local Action, Global Impact.

Welcome & Please Introduce Yourself

1. Let everyone know who you are:

- Select “Participants” in the bottom menu bar.
- In the window that pops up to the right, click the dots next to your name.
- Choose “Rename”.
- Add your name and jurisdiction/org.



2. Sign in:

- Click on **Google Doc link** in chat
- Add your name and requested information.
- Scroll to see who else is present!

Agenda

- Welcome and Intros
- Resource Highlights – Karl Bruskotter, *Sustainable Procurement Advisors*
 - Sustainable Purchasing Guides (SPGs)
 - Consultations for member agencies
- Presentations
 - Lighting – Alicia Culver
 - Furniture – Kelly Panciera
 - Refrigerant-Using Equipment – Alicia Culver
- Breakouts with reflection
- Close

Housekeeping



- We welcome you to enable video.
- Use the chat to ask questions to anyone at any time.
- This will be recorded, and the recording + slide deck will be shared.
- Please don't forget to sign in.

Introducing Our Presenters

(Anyone can advise you!)



Karl Bruskotter

Sustainable Procurement Advisors



Alicia Culver

Responsible Purchasing Network



Kelly Panciera

Responsible Purchasing Network

Resource Highlights: Purchasing Guides and More

**Karl Bruskotter,
Sustainable Purchasing Advisors**



New and Updated Resources

- *New and updated* Sustainable Purchasing Guides and Compliant Product Lists for you!
- New and updated SPGs – Refrigerant-Using Equipment, Furniture, Lighting Products
- Coming soon – Meetings and Events, Reusable Food Service Ware, Trash Can Liners

Sustainable Purchasing Guide Indoor Furniture



Use this Guide When Purchasing

- Chairs and stools
- Desks and workstations
- Tables
- Bookcases and shelving
- Filing and storage cabinets
- Lounge furniture (e.g., couches, side chairs)

Furniture can contain hidden toxic chemicals that can off-gas or leach out over time, posing risks to human health. The Minimum Requirements in this guide focus on reducing exposures to harmful chemicals, among other beneficial attributes.



How to Purchase

Prior to purchasing new furniture, check for surplus furniture available from other departments. Otherwise, check with your central procurement office or administrative or facilities staff to find out if you have any furniture standards (required brand/model) and/or contracts that employees are required to use to purchase furniture. When you are seeking these products in a store or online, check the product details to confirm it meets the Minimum Requirements listed below. If furniture is being specified by hired consultants, such as architects or interior designers, ensure they are referencing these Minimum Requirements as well.

Product Requirements - *specify or seek:*

MINIMUM REQUIREMENTS/ SPECIFICATIONS

- Product is BIFMA LEVEL 1 certified or higher with Credit 7.4.4: Targeted Chemical Elimination achieved

LEADERSHIP OPPORTUNITIES

- Minimum Requirements plus one or more of the following:*
- Product is BIFMA LEVEL 2 certified or higher with Credit 7.4.4: Targeted Chemical Elimination achieved
 - Product is Forest Stewardship Council (FSC) certified (for wood or bamboo)



Sustainable Purchasing

Sustainable Purchasing (or Sustainable Procurement) is the practice of making purchasing decisions that intentionally strengthen our environment, society, and economy. It is a purchasing approach that aligns an agency's values with its market influence. When looking through an environment-only lens, sustainable purchasing can also be referred to as environmentally preferable purchasing (EPP) or green purchasing. Sustainable purchasing can support a variety of sustainability-related agency values, from reducing greenhouse gas emissions and waste generation, to supporting ethical working conditions and thriving communities. To support public agencies within Alameda County with implementing sustainable purchasing practices, StopWaste hosts informational workshops and maintains the following suite of online resources:



At Work

Sustainable Purchasing

- [Implementation Resources](#)
- [Sustainable Purchasing Benefits](#)
- [Sustainable Purchasing Collaboration](#)

[Business Hazardous Waste](#)

[Recycling Business Waste](#)

[Reduce, Reuse, Repair](#)

[Built Environment](#)

[Landscapes](#)

[English](#) >

- 
- [Sustainable Purchasing Implementation Resources](#)
 - [Sustainable Purchasing Benefits](#)
 - [Sustainable Purchasing Collaboration](#)

Sustainable Purchasing Implementation Resources

These sustainable purchasing resources are intended to assist public agencies in developing and implementing sustainable purchasing best practices at their organization. Whether your agency is just getting started or is looking to enhance a mature sustainable purchasing program, there are resources on these pages to assist you. A few things to note about how to use these resources:

1. **They are intended to build off each other.** Starting with foundational resources, such as the Sustainable Purchasing Policy Template, and then moving to more “living resources” such as product category-specific guidance and compliant product lists.
2. **They are designed to be “off-the-shelf-usable” or customizable,** depending on how much you want to tailor these resources to your agency’s goals and priorities.
3. **They are modular,** in that your agency can pick and choose what combination of resources to use depending on your agency’s goals and priorities.

- [Sustainable Purchasing Guides](#)
- [Sustainable Purchasing Policy Template](#)
- [Compliant Product Lists](#)
- [Cooperative Contracts for Sustainable Products and Services](#)



At Work

Sustainable Purchasing

• Implementation Resources

- Sustainable Purchasing Guides
- Sustainable Purchasing Policy Template
- Compliant Product Lists
- Cooperative Contracts

- Sustainable Purchasing Benefits
- Sustainable Purchasing Collaboration

Business Hazardous Waste

Recycling Business Waste

English >

Full List of SPGs

Sustainable Purchasing Guide Computers & Monitors



Use this Guide When Purchasing

- Desktop computers
- Laptops
- Tablets
- Monitors
- Electronic displays/signage

Electronics are key feature of most workplaces today. Consequently, purchasing more sustainable electronics represents a significant opportunity to further an agency's sustainability goals - whether focused on energy consumption, toxics reduction, human/worker rights, and/or waste reduction.



How to Purchase

Check with your information technology (IT) and/or central procurement office to find out if you have any standards (brand/model) and/or existing contracts that employees are required to use to purchase IT equipment. When you are seeking these products in a store or online, check the product details to confirm that it meets the Minimum Requirements listed below.

Product Requirements - specify or seek:

MINIMUM REQUIREMENTS/SPECIFICATIONS

- Product currently has at least one of the following multi-attribute certifications:
 - EPEAT Silver Registered
 - TCO Certified

LEADERSHIP OPPORTUNITIES

Minimum Requirements plus one or more of the following:

- EPEAT Gold Registered
- TCO Certified

Ecolabels to Look



Sustainable Purchasing Guide Refrigerant-Using Equipment



Use this Guide When Purchasing

- Commercial ice machines
- Commercial refrigerators and freezers
- Lab grade refrigerators and freezers
- Light commercial HVAC equipment
- Residential refrigerators and freezers
- Room air conditioners
- Vending machines

Purchasing more sustainable refrigerant-using appliances and HVAC equipment can significantly reduce energy consumption and contribute less to global warming than conventional alternatives.

How to Purchase

Check with your facility maintenance department and/or central procurement office to find out if you have any standards and/or existing contracts employees are required to use to purchase appliances and/or HVAC equipment. When you are seeking these products in a store or online, check the product details to confirm that it meets the Minimum Requirements listed below.

Product Requirements - specify or seek:

MINIMUM REQUIREMENTS/SPECIFICATIONS

- Product currently has an ENERGY STAR Most Efficient certification
- The refrigerant type is listed as "lower impact on global warming"

Eco-Labels to Look For



Sustainable Purchasing Guide Lighting Products



Use this Guide When Purchasing

- Lamps (light bulbs)
- Luminaires (light fixtures - interior and exterior)
- Lighting retrofit kits

In 2022, California passed AB 2208, which bans the sale of most fluorescent lamps—including compact fluorescent lamps (CFLs) and fluorescent tube lamps (e.g., linear, u-shaped, circular). As a result, government agencies, businesses, and consumers must transition to LED lamps, retrofit kits compatible with existing fixtures, or new luminaires. This Sustainable Purchasing Guide is intended to help purchasers select high-performance LED lighting products that also offer environmental benefits such as reducing toxic chemicals like lead and preventing light pollution.

How to Purchase



Check with your facility maintenance department and/or central procurement office to find out if you have any standards and/or existing contracts employees are required to use to purchase lighting products. When you are seeking these products in a store or online, check the product details to confirm that it meets the Minimum Requirements listed below.

LEADERSHIP OPPORTUNITIES

Minimum Requirements plus one or more of the following:

- DLC Premium certification
- Labeled RoHS-compliant, which means it is free of lead and other persistent toxic chemicals
- Dimmable
- Compatible with programmable lighting systems such as timers and sensors
- Outdoor luminaires are DLC Luna certified or DarkSky Approved

Sustainable Purchasing Guide - Lighting Products 1

- Cleaning Chemical Products
- Janitorial Paper
- Disinfectants
- Computers & Monitors
- White Copy Paper
- Imaging Equipment
- Indoor Furniture
- Lighting Products
- Paper Office Supplies
- Print Services
- Servers
- Toner Cartridges
- Single-Use Food Service Ware
- Refrigerant-Using Equipment

SPG-Compliant Products Lists



At Home

At Work

At School

A public agency reducing waste in Alameda County

[Home](#) / [At Work](#) / [Sustainable Purchasing](#) / [Implementation Resources](#) / [Compliant Product Lists](#)

Compliant Product Lists

The following Compliant Product Lists identify specific products (manufacturer, brand, product name) that meet the Minimum Requirements contained in the Sustainable Procurement Guides (at the time of publication). The Lists allow the end user to filter data by product attribute and contain other useful information that can aid in identifying products that meet the Minimum Requirements and align with agency values. These Lists can be helpful when trying to find compliant products online, in vendor catalogs, or in stores. An agency can also use the data in the Lists when putting together a bid sheet or similar document for a competitive solicitation.

- [White Copy Paper - Compliant Product List](#) (SB 1383 Compliant), September 2023
- [Paper Office Supplies - Compliant Product List](#) (SB 1383 Compliant), September 2023
- [Napkins - Compliant Product List](#) (SB 1383 Compliant), September 2023
- [Janitorial Paper Products - Compliant Product List](#) (SB 1383 Compliant), September 2023
- [Disinfectants - Compliant Product List](#), December 2024

Search Site



At Work

Sustainable Purchasing

• Implementation Resources

- [Sustainable Purchasing Guides](#)
- [Sustainable Purchasing Policy Template](#)

• Compliant Product Lists

- [Contracting Resources](#)

Sustainable Procurement Technical Assistance

- Newsletters
- Survey on technical assistance and development of new SPGs and CPLs
- We want to hear from you!

The logo for STOPWASTE, featuring the word "STOPWASTE" in a white, stylized, handwritten-style font against a solid green rectangular background.

Janitorial Supplies & Services Roundtable – Webinar/Resources Now Available.

December's Green Purchasing Roundtable hosted by Alameda County GSA covered green and healthy janitorial supplies and services. Sixteen jurisdictions from in and around Alameda County learned about and discussed new and updated resources for specifying green cleaning chemicals, asthma-safe disinfectants, and recycled-content janitorial paper products. The Alameda County Sustainability website has a **recording of the webinar and the [presentation slides](#) available on their website.**

Sustainable Purchasing Guide

Lighting Products



Lighting Products

Alicia Culver, RPN

Updated SPG on Lighting Products

Sustainable Purchasing Guide

Lighting Products



This *Sustainable Purchasing Guide* is intended to help purchasers select high-performance LED lighting products that also offer environmental benefits:

- Reducing toxic chemicals
- Preventing light pollution



Background

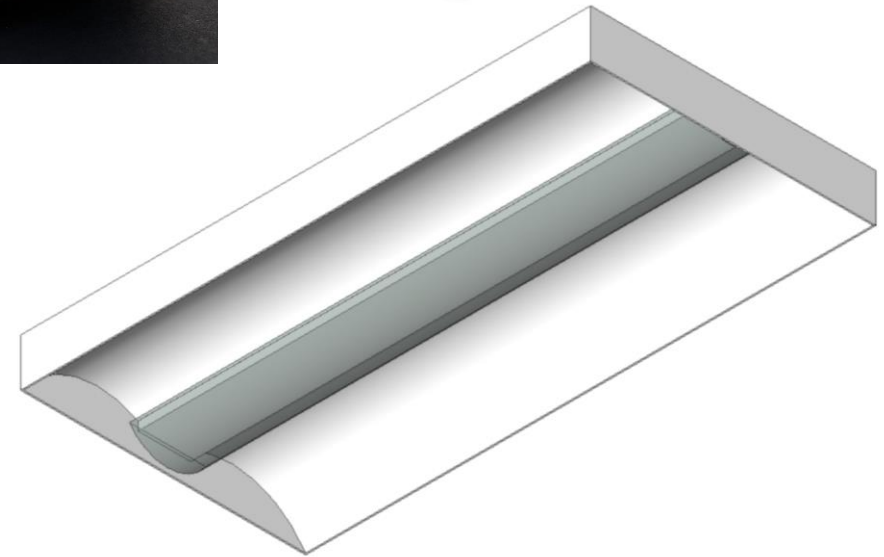
AB 2208: California State Law: *Mercury Lamp Pollution Prevention Act* (September 2022)

- **Bans the sale of most fluorescent lamps**
 - Compact fluorescent lamps (CFLs)
 - Fluorescent tube lamps (linear, u-shaped, circular)
- **Government agencies must transition to LEDs**



Types of LED Lighting Products

- **Lamps (light bulbs)**
 - Compact (screw- and pin-base)
 - Tube lamps
- **Luminaires (light fixtures)**
 - Interior
 - Exterior
- **Lighting retrofit kits**



Minimum Requirements/Specifications

Eco-Labels to Look For



MINIMUM REQUIREMENTS/SPECIFICATIONS

- All lamps, retrofit kits, and fixtures (except emergency and specialty products) must use LEDs as their only light source
- The following types of lighting equipment must be certified by the DesignLights Consortium (DLC) or ENERGY STAR:
 - All luminaires and retrofit kits
 - Linear and u-shaped tube lamps (e.g., T8s, T5s)
 - Four-pin replacement lamps for CFLs
- Outdoor luminaires must be dark-sky friendly, which means they:
 - Are fully shielded (eliminate upward-directed light)
 - Are directional (light only the area that needs it)
 - Minimize blue-light emissions (use “warmer” color lights)



Leadership Opportunities

Minimum Requirements plus one or more of the following:

- DLC Premium certification
- Labeled RoHS-compliant, which means it is free of lead and other persistent toxic chemicals
- Dimmable
- Compatible with programmable lighting systems such as timers and sensors
- Outdoor luminaires are DLC Luna certified or DarkSky Approved



How to Find Certified Products

PRODUCT REGISTRIES

Find/verify certified lighting products by using the following online certified product registries:

For All Lighting Equipment

- [Design Lights Consortium \(DLC\) Qualified Product List \(QPL\)](#)
- [ENERGY STAR Product Registry: Light Fixtures \(Downlights\)](#)

For Outdoor Fixtures Only

- [Dark Sky Approved Products List](#)
- [DLC Luna QPL](#)

DLC Product Registry



Find Qualified Products

By Model or Manufactur

Solid State Ligh



Classification

- ☐ Premium (189,910)
- ☐ Standard (171,278)

Category

- ☐ Four Pin-Base Replacement Lamps For CFLs (716)
- ☐ Indoor Luminaires (158,769)
- ☐ Indoor Retrofit Kit (12,367)
- ☐ Linear Replacement Lamp (15,487)
- ☐ Mogul (E39) Screw-Base Replacements For HID Lamps (3,534)
- ☐ Outdoor Luminaires (168,086)
- ☐ Outdoor Retrofit Kit (2,229)

<https://qpl.designlights.org/qpl/solid-state-lighting>

Other Purchasing Considerations



- **Brightness** (in lumens)
- **Energy consumption** (in watts)/dimmability
- **Lifespan/rated life** (in hours)
- **Color temperature:** warm versus cool (in degrees Kelvin)

Did You Know?

- **LED lamps and retrofit kits are often compatible with existing light fixtures:**
 - No need to replace light fixtures
 - Many lamps have a built-in driver
- **It is often cost-effective to replace lamps early due to energy savings**
- **Fluorescent lamps, which contain mercury, must be managed as hazardous waste**



Why is Light Pollution a Problem?

“Light pollution disrupts wildlife, impacts human health, wastes money and energy, contributes to climate change, and blocks our view of the universe.”

~Dark Sky



How to Prevent Light Pollution

- **Outdoor lighting should:**
 - **Eliminate upward-directed light**
(choose luminaires on DLC Luna or DarkSky Approved lists)
 - **Only be on when needed**
(consider light/motion sensors)
 - **Only light the area that needs it**
 - **Be no brighter than necessary**
 - **Minimize “blue” light emissions**



Questions?



Sustainable Purchasing Guide

Indoor Furniture



Indoor Furniture

Kelly Panciera, RPN

Types of Indoor Furniture

- Chairs and stools
- Desks and workstations
- Tables
- Bookcases and shelving
- Filing and storage cabinets
- Lounge furniture
(e.g., couches, side chairs)



Minimum Requirement/Specification

Product is BIFMA LEVEL 1 or higher with Credit
7.4.4 Targeted Chemical Elimination achieved

7.4.4 Targeted Chemical and Material Elimination (Optional Criteria)

The intent of this credit is to eliminate or minimize targeted chemicals and materials of concern, which include antimicrobials, flame retardants, formaldehyde, per- and poly-fluorinated alkyl substances, and polyvinyl chloride.

The applicant may voluntarily opt to conform to these criteria if it meets all the applicable requirements [per Health Care Without Harm's Healthy Interiors criteria](#), and publicly discloses such conformance on (1) the e3 Scorecard, for any tier of achievement, and (2) the product chemical disclosure document per 7.5 for Tier 3 conformance.

The applicant may select a subset of the product scope to achieve these criteria contingent upon disclosing such conformance for the applicable products and product options/variants on the e3 Scorecard and product chemical disclosure document, as described above.

BIFMA LEVEL

LEVEL® BY BIFMA

The trusted furniture sustainability certification program created to provide a comprehensive and transparent means to confidently source responsibly manufactured products.

Evaluated by third-party certifiers, products are measured against the multi-attribute criteria defined in the ANSI/BIFMA e3 Furniture Sustainability Standard and listed in an industry-wide public product registry. The LEVEL mark demonstrates that the product, the manufacturing facility, and the company responsible for the product brand, have achieved the necessary requirements for certification.



The “Hazardous Handful”

- Formaldehyde*
- Per- and polyfluoroalkyl substances (PFAS)
- Polyvinyl chloride (PVC/vinyl)
- Antimicrobials
- Flame retardants

**meets low-emitting criteria for VOCs*



How to Find Certified Products

level®

+ Category

- Sustainability Criteria *

- ☒ Targeted Chemical Elimination (7.4.4)
- ☐ Chemicals Assessed
- ☐ Embodied Energy Reduction
- ☐ Extended Product Responsibility
- ☐ Life Cycle Assessment
- ☐ Low Emitting
- ☐ Optimization Global
- ☐ Harmonization Sys Classification
- ☐ Recycled Content

+ LEVEL

+ Brand

+ Certifier

- Rating Systems

Search products by name, brand

1 - 18 of 2,216 results



Nightingale Corporation

24/7hd High Back Intensive Task

Category Seating

Subcategory Task

add to

documentation



Nightingale Corporation

24/7hd High Back Intensive wit...

Category Seating

Subcategory Task

add to

documentation



<https://level.bifma.org>

RPN Market Assessment

BIFMA LEVEL with 7.4.4 Optional Credit

Category	Number of Manufacturers	Number of Products
Seating	28	1,578
Desks, Workstations, & Tables	25	505
Casegoods & Storage	14	133
Systems	10	84
TOTAL	29	2,300

BIFMA LEVEL 7.4.4

Manufacturers

Allseating (38)
Allsteel (96)
Andreu World (102)
Arcadia (42)
Bernhardt Design (148)
Carolina (68)
Division Twelve (17)
Global Furniture Group (224)
Gunlocke (62)
Haworth (20)
Haworth Asia-Pacific (30)
HBF (165)
Herman Miller (107)
HON (28)
Humanscale (34)
Integra Seating (130)

Keilhauer (78)
Knoll (78)
Knú Healthcare LLC (55)
Krug Inc. (76)
Nightingale Corporation (158)
OFS (121)
Orangebox (1)
Pyrotech Workspace Solution Pvt.
Ltd (9)
SitOnIt Seating (49)
Steelcase (210)
Stylex (65)
Versteel (47)
Via Seating (42)

Leadership Opportunities

- BIFMA LEVEL 2 or higher with Credit 7.4.4
- Product is Forest Stewardship Council (FSC) Certified (for wood and bamboo)
- Product contains post-consumer recycled content
- Manufacturer or vendor has an end-of-life take-back and recycling program
- If upholstered, fabric has one of the following certifications:
 - Cradle to Cradle
 - GOTS
 - GreenScreen
 - NSF/ANSI 336 (FACTS label)
 - OEKO-Tex 100



Other Purchasing Considerations

- Check for surplus furniture
- Choose modular, configurable, or easily repairable furniture
- Consider repairing or reupholstering existing furniture and purchasing remanufactured furniture
- Purchasing BIFMA LEVEL certified furniture with 7.4.4 can help meet green building goals (e.g., LEED, WELL)



Questions?



Sustainable Purchasing Guide
Refrigerant-Using Equipment



Refrigerant-Using Equipment

Alicia Culver, RPN

Types of Refrigerant-Using Equipment

- Commercial ice machines
- Commercial refrigerators and freezers
- Lab-grade refrigerators and freezers
- Light commercial HVAC equipment
- Residential refrigerators and freezers
- Room air conditioners
- Vending machines

** Large HVAC systems also addressed in SPG*



Background

- **All refrigerants are greenhouse gases (GHGs)**
- **The potency of refrigerants with respect to climate change is measured as global warming potential (GWP)**
- **Some refrigerants have a higher impact on climate change than others**
 - Fluorinated refrigerants (e.g., hydrofluorocarbons, HFCs) typically have high GWP
 - “Natural” refrigerants (e.g., propane, butane, ammonia, etc.) typically have a low GWP

Specifications for Refrigerant-Using Equipment

MINIMUM REQUIREMENTS/SPECIFICATIONS

- Product currently has an ENERGY STAR certification
- The refrigerant type is listed as “lower impact on global warming”

How to Identify Appliances and HVAC Equipment that Use Climate-Friendly Refrigerants



Refrigerant Type ⓘ

- ✗ Clear selections
- ☒ Lower impact on global warming (92)

How to Find ENERGY STAR Products

ENERGY STAR Product Finder

Languages: English | Français

Access to ENERGY STAR Data Sets and API

Find all the information you need to start shopping for ENERGY STAR certified products, including product details, rebates, and retailers near you. Products that earn the ENERGY STAR label meet strict energy-efficiency specifications set by the U.S. EPA helping you save energy and money while protecting the environment.

Select a product category to begin. Looking for more information about how to save with ENERGY STAR products? [Learn More About Products](#)

Appliances

- Dehumidifiers
- Residential Clothes Dryers
- Residential Clothes Washers
- Residential Laundry Center
- Residential Combination All-in-One Washer-Dryer
- Residential Dishwashers
- Residential Electric Cooking Products
- Residential Freezers
- Residential Laundry Sets
- Residential Refrigerators
- Room Air Cleaners

Data Center Equipment

- Data Center Storage
- Enterprise Servers
- Large Network Equipment
- Uninterruptible Power Supplies

Electronics

- Audio/Video
- Telephones
- Televisions

Heating & Cooling

- Boilers
- Central and Mini-Split Air Conditioners
- Commercial Boilers
- Furnaces
- Geothermal Heat Pumps
- Heat Pumps
- Light Commercial HVAC
- Room Air Conditioners
- Smart Thermostats
- Ventilating Fans

Commercial Appliances

- Commercial Clothes Washers

Other

- Electric Vehicle Chargers (AC-Output)
- Electric Vehicle Chargers (DC-Output)
- Lab Grade Refrigerators and Freezers
- Pool Pumps
- Vending Machines
- Water Coolers
- Smart Home Energy Management Systems (SHEMS)

Water Heaters

- Commercial Water Heaters
- Gas Water Heaters
- Heat Pump Water Heaters
- Solar Water Heaters

REBATE FINDER

ENERGY STAR partners sponsor rebates on certified products. Enter a zip code below to find deals near you!

SUBMIT

Find and Compare

Change Product

ENERGY STAR Certified

Commercial Ice Machines

Visit the [Commercial Ice Machines](#) page for usage tips and buying guidelines.

Together we can create a healthier planet for all of us.

LEARN MORE

389 Records Found

Sort by: Energy Use (kWh/100 lbs ice) ↑↓

Share Your Results

Filter Your Results

filter by keyword

Ice Type

☐ Batch (285)

☐ Continuous (104)

☒ Do not filter

Equipment Type

☐ Ice Making Head (170)

☐ Remote Condensing Unit (74)

☐ Self Contained Unit (145)

☒ Do not filter

Brand Name

☐ Accucold (2)

☐ ATOSA (6)

☐ BERG (6)

☐ Blue Air (2)

☐ BRAMA (1)

☐ CENTRAL (3)

Rebates in your zip code: SET ZIP →

Please enter a zip code to check for rebates in your area

Howe - 1000-RLE

Equipment Type: Remote Condensing Unit

Energy Use (kWh/100 lbs ice): 2.78

Ice Type: Continuous

Harvest Rate (lbs ice/day): 1014

CLICK FOR PRODUCT DETAILS

Howe - 4000-RL

Equipment Type: Remote Condensing Unit

Energy Use (kWh/100 lbs ice): 3.04

CLICK FOR PRODUCT DETAILS

Refrigerant Type

☐ Lower impact on global warming (94)

Specifications for Refrigerant-Using Equipment

LEADERSHIP OPPORTUNITY

- Product currently has an ENERGY STAR Most Efficient certification (which automatically uses a climate-friendly refrigerant)

https://www.energystar.gov/products/most_efficient



Most Efficient 2025

See the year's best for
energy efficiency and
innovation.

[See the year's best](#)

Large Refrigerant-Using Building Equipment

- ENERGY STAR does not cover all types of HVAC equipment and appliances.
- ENERGY STAR certifies certain types of large equipment (e.g., central air conditioners and heat pumps) but does not address refrigerants.
- Different strategies needed for these types of equipment.




Large Refrigerant-Using Building Equipment

STRATEGIES:

- Look for large HVAC equipment that use “natural” refrigerants such as propane (R-290) or isobutane (R600a), which has a GWP of 3.
 - Some larger systems are ENERGY STAR-certified.
- Work with designers/equipment suppliers to request equipment with a low-GWP refrigerant when designing new capital projects or replacing equipment.
- Mitigate potential fire safety issues associated with flammable refrigerants (e.g., propane, isobutane, ammonia)
 - Site equipment in enclosed/insulated areas

Benefits

Purchasing appliances and HVAC equipment that are energy-efficient and use climate-friendly refrigerants:

- **Saves energy and money.** ENERGY STAR products can lower electricity costs. Check for available utility rebates.
- **Reduces impacts on climate change.**  CALIFORNIA
AIR RESOURCES BOARD
- **Future proofs your investment.** Choosing products that use low-GWP refrigerants will increase the chance that replacement refrigerants will be available in the future (i.e., not phased out by California).

Refrigerant Leak Detection and Maintenance

- Adopt a refrigerant management plan.
- Check for leaks regularly.
- Repair leaks promptly.
- Keep records of all refrigerant purchases, leaks, repairs, storage, and disposal.
- Ensure refrigerants are reclaimed when equipment reaches the end of its useful life.



Questions?



Breakout Rooms

Select a Breakout Group (in Zoom)

1. Room 1: Lighting –with Karen & Karl
2. Room 2: Furniture - with Kelly
3. Room 3: Refrigerant-using Equipment – with Alicia

You'll discuss next steps, support needs, and be able to ask any questions you have

*Join us in the **Breakout Notes!** Find the slide for your group.*

Breakout Reflection

Please join us on Slide 5

Reach out for Technical Assistance!



Karl Bruskotter

Sustainable Procurement Advisors

1:1 TA to Cities

KarlBruskotter@gmail.com



Alicia Culver

Responsible Purchasing Network

In-depth Technical Expertise

Alicia@responsiblepurchasing.org



Sarah Church & Karen Cook

Alameda County Office of Sustainability

Green Purchasing Roundtable Coordination

1:1 TA to cities

Karen.Cook@acgov.org





Thank You!

Please fill out an evaluation (link in chat)

KarlBruskotter@gmail.com

Alicia@Responsiblepurchasing.org

Karen.Cook@acgov.org