



OPERATIONAL SERVICES DIVISION

# Save Money with Environmentally Preferable Products

*Guidance from leading experts in sustainable purchasing*

January 26, 2022

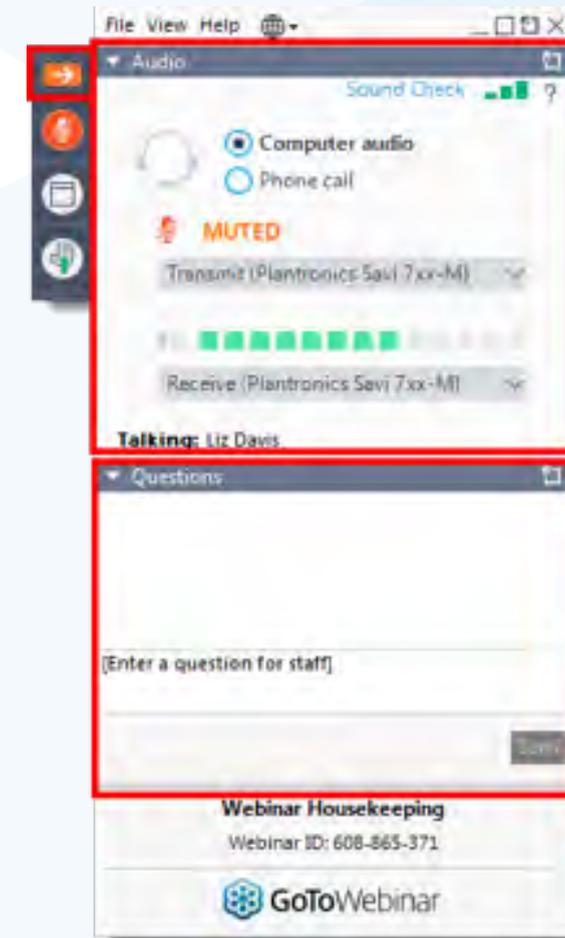


# Welcome



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- Today's presentation is being recorded
- Use the Control Panel to ask questions and select your audio mode. To keep the Control Panel open, click "View" menu and uncheck "Auto-Hide Control Panel"
- All participants are muted
- We will address questions at the end of the presentation. Submit questions via the Questions panel
- Hand raising is disabled for this presentation
- Refer to the "Handouts" section to download a copy of this presentation, our Resource Guide, the presenter bios, and our Statewide Contract Reference Sheet.





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# Massachusetts Environmentally Preferable Procurement Program

*Julia Wolfe*



# Agenda



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- Environmentally Preferable Products (EPP) Procurement Program Overview — Julia Wolfe (OSD)
- Overview of Products with Cost-Saving Qualities — Alicia Culver (RPN)
  - Lower Up-Front, Per-Use, and Lifecycle Costs
  - Reduced Energy, Fuel, and Water Consumption
  - Lower Maintenance and Disposal Costs
- Other Cost-Saving Strategies
  - MA and Federal Surplus Property Programs — Ted Bunnell (OSD)
  - Grants and Rebates — Joanne Bissetta (Green Communities) and Catie Dimas Snyder (LBE)
- Calculators to Measure Cost Benefits
  - Electric Vehicles (EV) Cost Benefit Calculator — Chelsea Kehne (LBE)
  - Battery-Powered Landscaping Equipment and Pollinator Habitat Calculators — Ryan Kingston (LBE)
- Q&A

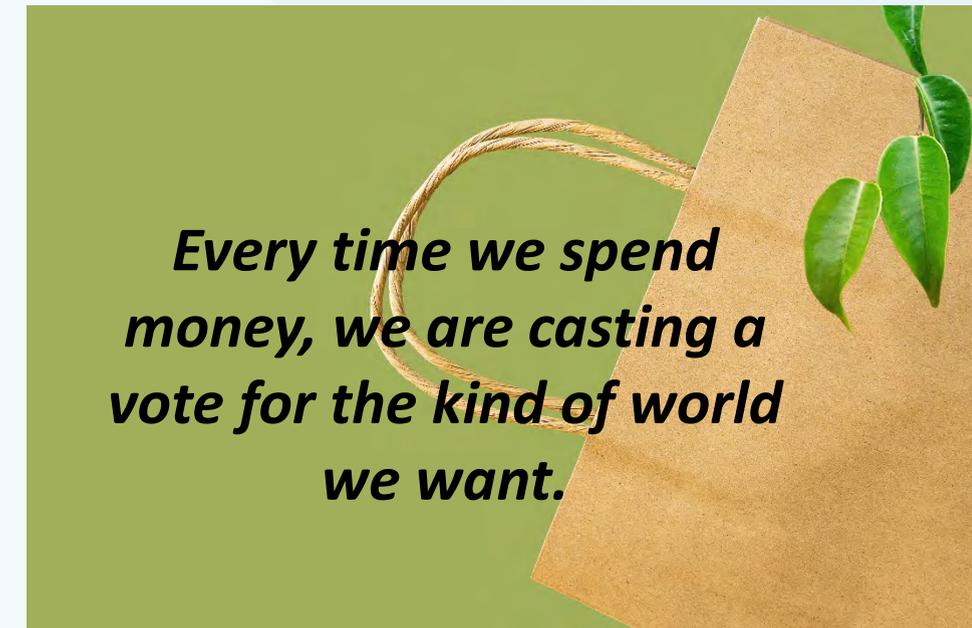


# Saving Money with EPPs



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- Webinar resources will be posted at [www.mass.gov/epp](http://www.mass.gov/epp)
- Save money while helping the environment
  - ✓ Lead by example
  - ✓ Save taxpayer money spent on important priorities
- Massachusetts climate policy:
  - ✓ An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy (the Act)
  - ✓ Executive Order 594 (EO594), Leading by Example: Decarbonizing and Minimizing Environmental Impacts of State Government





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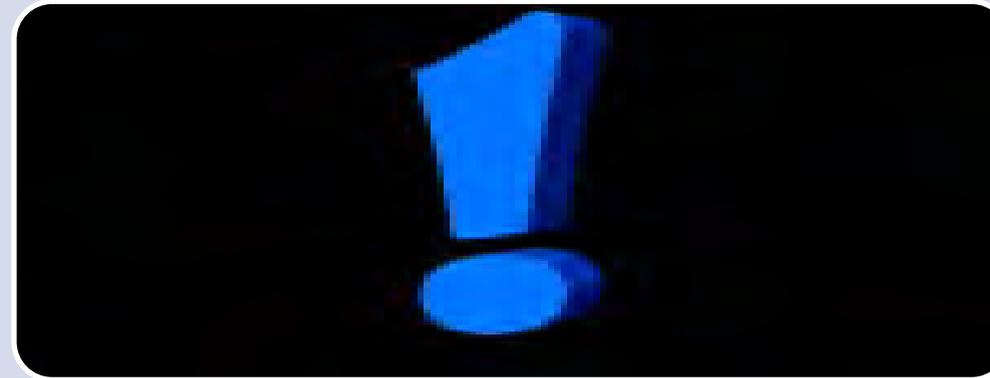
The Operational Services Division (OSD) is an oversight agency of the Commonwealth of Massachusetts within the Executive Office of Administration and Finance.

OSD administers the procurement process for the Commonwealth of Massachusetts' Executive Agencies by establishing Statewide Contracts for commonly purchased goods and services.

Our operational and oversight activities *facilitate and guide the evaluation, acquisition, management, and disposition of goods and services.*

- ✓ Strategic Sourcing Services
- ✓ COMMBUYS Operations
- ✓ Local Government Enablement Team
- ✓ Training Unit
- ✓ Marketing, Communications, and Events
- ✓ Environmentally Preferable Products (EPP) Procurement Program
- ✓ Office of Vehicle Management
- ✓ Commonwealth Print Services
- ✓ Surplus Property Program
- ✓ Special Education Pricing
- ✓ Audit and Quality Assurance
- ✓ Performance Analytics

# Statewide Contracts (SWC)



## Goods and Services

>[105 SWCs](#)

16 Categories

>\$2 Billion in Spend in  
FY21

## Entities Eligible to Use Contracts

- Executive Agencies (required)
- All Other State Agencies, including Quasi Public Agencies
- Public Colleges & Universities
- Eligible Non-profits
- Municipalities – Cities and towns and others must follow M.G.L. c. 30B and may purchase from OSD Statewide Contracts per M.G.L. c. 7, §22A and M.G.L. c. 30B, §1(c).

## Robust EPP Program

- Dedicated Director
- Executive Order 515
- Annual Progress Reporting



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# Using Statewide Contracts

## How Do Buyers Benefit?

- ✓ **Get the best value** — In FY21, the Commonwealth purchased more than \$2.0 billion in goods and services, resulting in significant buying power.
- ✓ **Reduce administrative work** — OSD manages the procurement process: posting the RFR, coordinating the evaluation of responses, awarding vendors, negotiating the contract(s), and, ultimately, managing the contract through its expiration date.
- ✓ **Robust EPP Portfolio** — OSD has a dedicated EPP Director who works with sourcing teams to consider products with environmentally preferable characteristics.
- ✓ **Experience excellent customer service** — Each OSD contract has a designated Strategic Sourcing Manager to assist buyers with questions and issues regarding the contract. The [OSD Help Desk](#) also is available for assistance.

# Executive Order 515 – Establishing an Environmental Purchasing Policy for the Commonwealth

“...help conserve natural resources, reduce waste, protect public health and the environment, and promote the use of clean technologies, recycled materials, and less toxic products.”

Directs Departments to procure EPPs “whenever such products and services are **readily available, perform to satisfactory standards, represent best value to the Commonwealth.**”



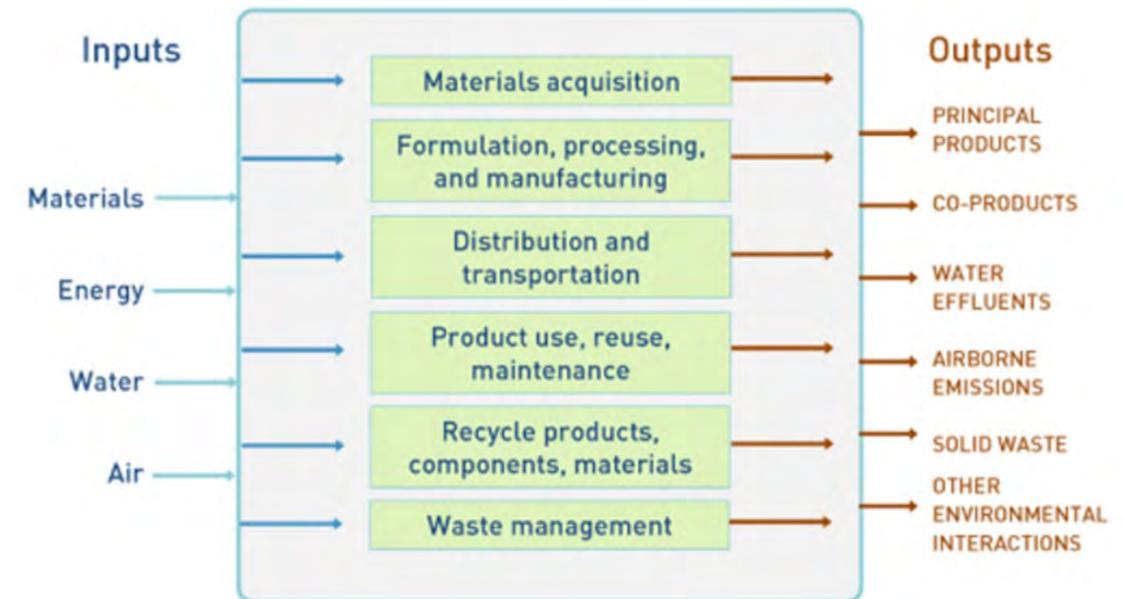
## OSD’s EPP Program Director

- Co-Chairs the Toxics Reduction Task Force
- Develops new EPP specifications
- Designates minimum EPP requirements
- Promotes Products/Services to eligible users
- Writes Annual Progress Report
- Encourages national cooperation

**EPPs:** Products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.



### Supply Chain



# Contract Considerations





**Third-Party Certified**  
Minimum Environmentally Preferable  
Products and Services Specifications Guide



# TOOL: Find EPPs on Statewide Contracts



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[www.mass.gov/epp](http://www.mass.gov/epp)

## Environmentally Preferable Products and Services Guide

This Guide has been prepared by the Environmentally Preferable Products Procurement Program (EPP Program) managed by the Operational Services Division (OSD) to assist Commonwealth agencies and political subdivisions in identifying and procuring more sustainable products and services, such as products that use less energy and water, are made with recycled content and less toxic materials, and have other environmentally preferable attributes. The products and services listed are those available on Commonwealth Statewide and limited use contracts.

BINDER ORGANIZATION	Operational Services Division
DATE PUBLISHED	December 28, 2018
SERIAL NUMBER	Version 1

### Introduction

Below please find alphabetical listings of environmentally preferable products and services available on OSD's Statewide Contracts. Click on a link to view the appropriate section in this Guide with summary information, and select the appropriate contract number to bring you to the **Contact User Guide (CUG)**, which provides contract summary/purchasing information.

To use OSD's Statewide Contracts and to view the most recent contract information, including a full list of vendors, visit **COMMBUYS** ([www.COMMBUYS.com](http://www.COMMBUYS.com)) and search for the appropriate contract number.

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- Environmental Consultant, Program Coo
- Energy Consulting Services
- Fire Extinguisher Recycling
- Fuel Card and Fuel Management Ser

### Cleaning Products, Programs, Equipment, and Supplies, E

Contact Title & Links to Contract User Guides	Product Description for Cleaning Equipment, and Supplies, E
Contract Title & Links to Contract User Guides	Product Description for Cleaning Equipment, and Supplies, E

### Battery Recycling

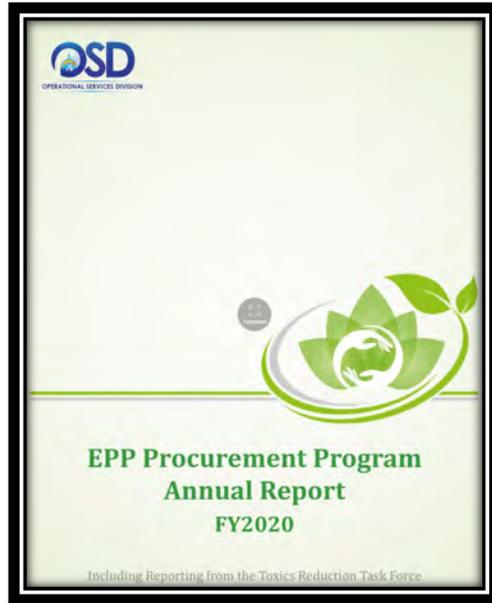
Contact Title & Links to Contract User Guides	Services Description for Battery Recycling
Contract Title & Links to Contract User Guides	Services Description for Battery Recycling



# Reporting – EO 515 Progress



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## EPP Annual Report

FY21 Report estimated release 3/1/22

✓ EPP Spend

✓ Savings

✓ MTCE reduced

✓ Tons of material diverted to recycling

### FY20 EPP Progress Report Metrics

Estimated EPP spending from Statewide Contracts	\$392M
Estimated annual savings, primarily from energy efficient purchasing choices	<b>\$3,178,780</b>
Reduction in metric tons of carbon dioxide equivalent (MTCO <sub>2</sub> e) (primarily from purchasing energy efficient products, those containing post-consumer recycled content, or materials diverted from disposal)	180,971
Estimated tons of waste diverted from disposal to recycling	55,710

# OSD Resources



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OSD EPP: [www.mass.gov/epp](http://www.mass.gov/epp)

OSD: [www.mass.gov/osd](http://www.mass.gov/osd)

COMMBUYS: <https://www.commbuys.com/bs/>

OSD Help Desk: 1-888-627-8283 or [OSDHelpDesk@mass.gov](mailto:OSDHelpDesk@mass.gov)

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Blog: <http://blog.mass.gov/osd/>



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# Responsible Purchasing Network

*Alicia Culver*

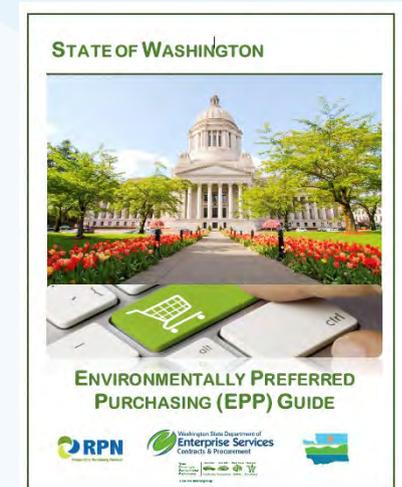
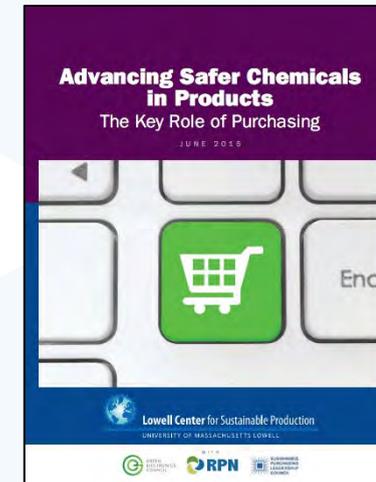
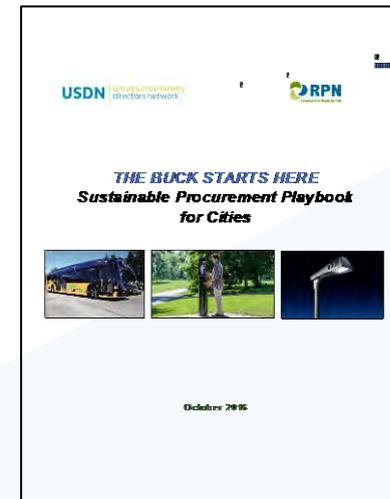


# Who is RPN?

RPN is a nonprofit network of purchasing and sustainability professionals whose mission is to “Promote and practice responsible purchasing by identifying best practices, developing effective purchasing tools, educating the market, and using our collective purchasing power to maximize environmental stewardship, protect human health, and support local and global sustainability.”



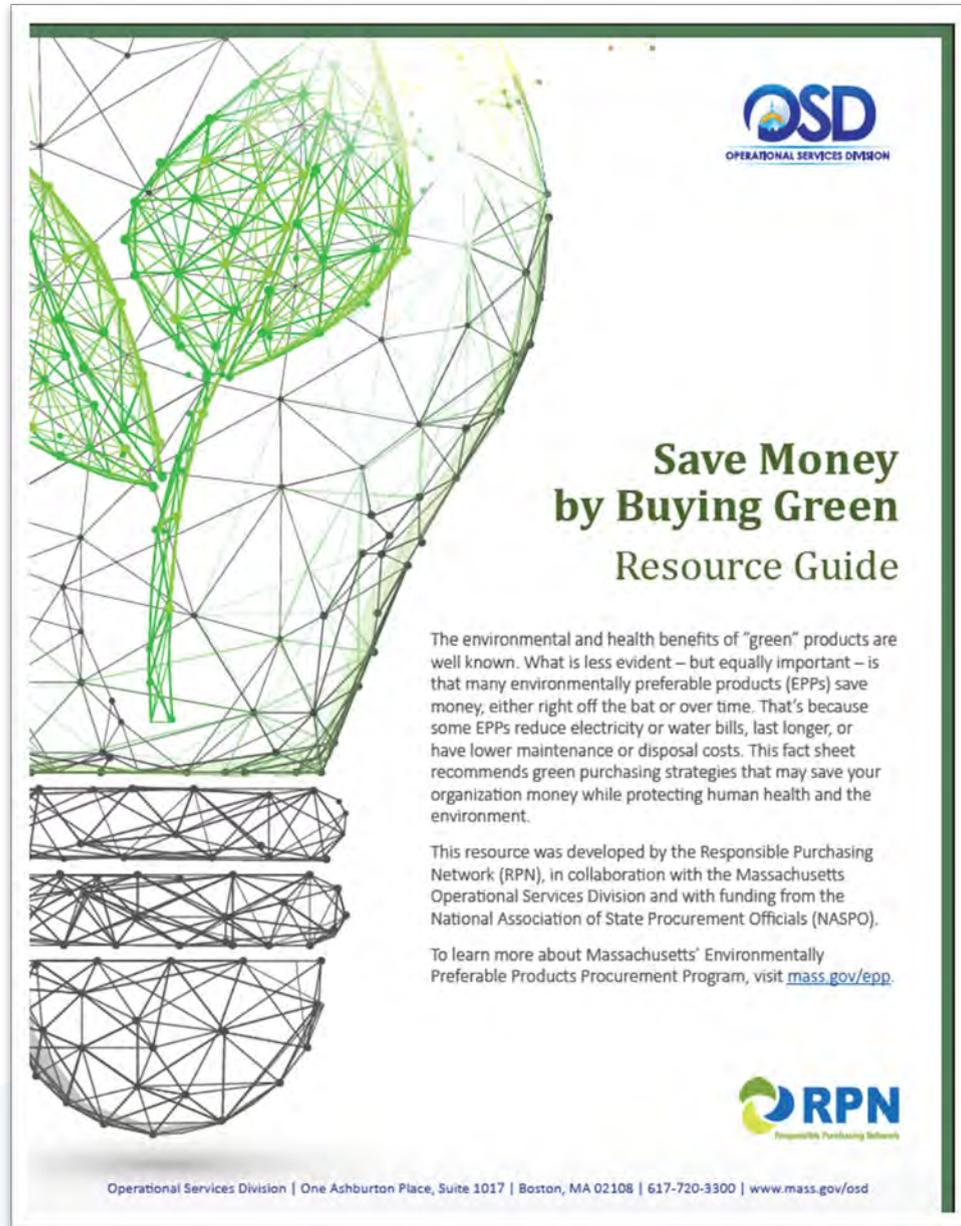
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# Resource Guide: *Saving Money by Buying Green*



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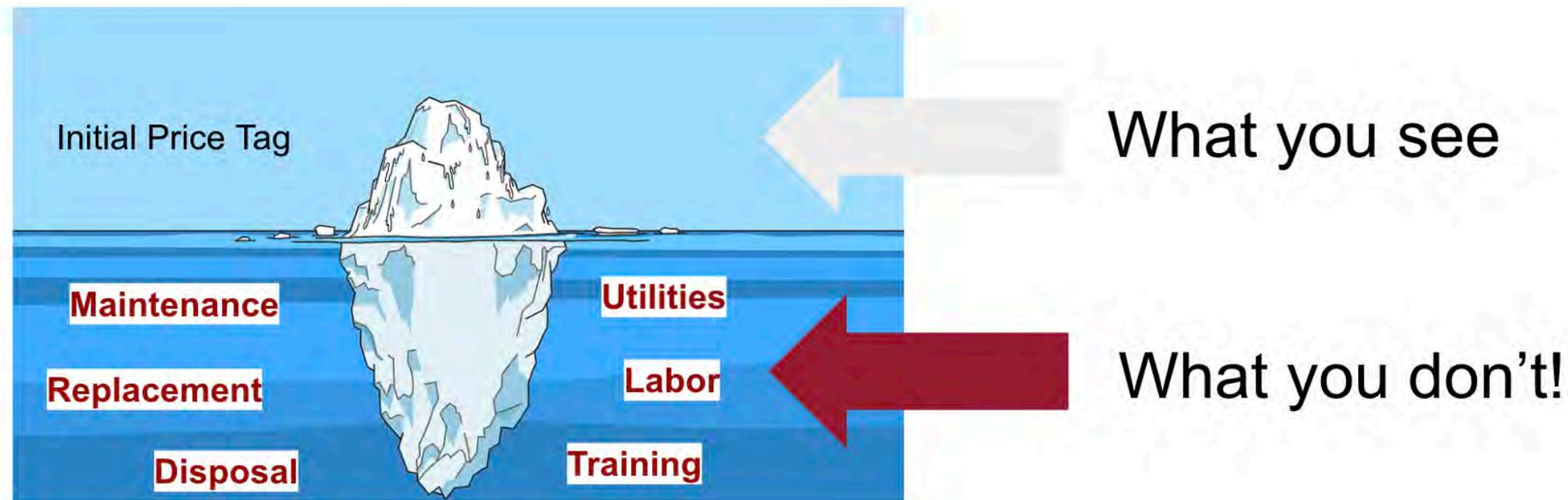


**Saving Money by Buying Green Resource Guide** may be accessed in the Handouts section in the GoToWebinar Control Panel and will be posted on OSD's website:

[www.mass.gov/epp](http://www.mass.gov/epp)



# Cost Iceberg



# How can green purchasing save you money?



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The environmentally preferable product:



- Has a lower initial/up-front cost
- Is less expensive on a per-use basis
- Has a lower total cost of ownership
- Reduces your electricity or water bills
- Lasts longer
- Has lower maintenance or disposal costs



# Lower Costs Up Front

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# Consider Surplus Items Before Buying New



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## Massachusetts' Surplus Property Program

- Offers used or no-longer-needed **items free of charge – or for a nominal administration fee**
- Common items include furniture, electronics, appliances, office supplies, vehicles, and laboratory equipment
- Available to State agencies, municipalities and non-profit organizations in MA
- Find available surplus property at:

[www.mass.gov/surplus-property-program.](http://www.mass.gov/surplus-property-program)



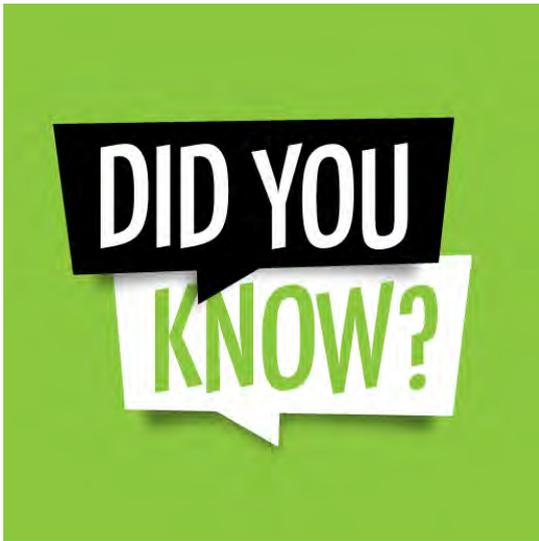
# Look for Remanufactured Products



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- Remanufactured toner and ink cartridges, furniture, and equipment offer substantial savings and environmental benefits
- EXAMPLE: A remanufactured toner cartridge:
  - Reuses the shell and other components that are in good working condition
  - Typically **costs 20-40% less per page** than an equivalent OEM toner cartridge
  - Prevents 2.5 pounds of waste going to landfills and 10 pounds of CO<sub>2</sub> from being emitted into the air.





In FY 2020, purchases of remanufactured toner cartridges from Massachusetts Statewide Contracts saved buyers more than \$260,000.\*

Estimated Savings From Using Remanufactured Printer Toner Cartridges for FY20					
	# of OEM	Average \$ Per OEM	# Remans	Average \$ Per Reman	Total Contract Cost Savings From Using Remans
FY 2020	73,960	\$90.97	11,114	\$67	\$262,818

*Remanufactured toner and ink cartridges available on [ITC66](#): Massachusetts Statewide Contract for Copiers, Printers, Scanners, Related Devices, Supplies and Services.*

\* Source: [EPP FY20 Annual Report](#)

# Lower Cost Per Use

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# Replace Single-Use Batteries with Rechargeables



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- Each rechargeable battery may:
  - Replace 500-2,000 single-use batteries
  - Save hundreds of dollars over their “lifetime”
- Rechargeable batteries:
  - Have dramatically improved in performance over the past decade – some last longer than single-use batteries
  - Can reliably power many types of equipment (e.g., flashlights, computer mice, paper towel dispensers, etc.)

*Available on several MA Statewide Contracts: Facility Maintenance, Repair, and Services ([FAC100](#), [FAC101](#), [FAC105](#)); [FAC85](#): Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies; [OFF47](#) Office Supplies, Recycled Paper and Envelopes*



# Choose to Reuse



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Other reusable products may save your organization money

- **Washable dishware and cutlery** (instead of disposable plates, cups, etc.)
- **Microfiber cleaning cloths** (instead of disposable wipes)
- **Refillable pens and tape, mechanical pencils**
- **Mechanical keyboard cleaners** (instead of “air dusters”)

- *Washable dishware and cutlery available on [GRO35](#): Foodservice Supplies and Equipment*
- *Microfiber cleaning cloths available on [FAC85](#): Environmentally Preferable Cleaning Products, Programs Equipment and Supplies and [FAC100, FAC101 and FAC105](#): Facility Maintenance, Repair, and Services*
- *Mechanical keyboard cleaners, refillable pens and tape, mechanical pencils available on [OFF47](#): Office Supplies Office Supplies, Recycled Paper, and Envelopes*



# Avoid Bottled Water



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Replace expensive bottled water with tap water by installing a filtered water dispensing system that may be connected to your building's water supply.

- *Water bottle refill stations available on several of MA's Statewide Contracts for Facilities Maintenance, Repair, and Services ([FAC100](#), [FAC101](#), and [FAC105](#)).*
- *Reverse osmosis and plumbed water dispensers available on [GRO39](#) Drinking Water-General and Emergency Services Statewide Contract.*



# Lower Total Cost of Ownership



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# Choose Energy-Efficient Products



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- Many energy-efficient products reduce electricity costs so much that they pay for themselves in 1-2 years – and continue saving users money for years to come!
- Look for the ENERGY STAR label on appliances, electronics, EV charging stations, food service equipment, servers, water heaters and coolers, and more.

See OSD's fact sheet, [Save Energy Using State Contracts](#), to find energy-efficient building materials, solar panels, and more.



*ENERGY STAR-certified products are available on multiple MA Statewide Contracts: Facilities Maintenance, Repair, and Services ([FAC100](#), [FAC101](#), and [FAC105](#)); [GRO35](#): Foodservice Supplies and Equipment; [OFF50](#): Audio, Video, Multimedia Presentation Equipment, Supplies and Services*



# Did You Know?



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- ENERGY STAR has a Most Efficient certification for products that are Best in Class!
- To find these innovative products, including air conditioners, computer monitors, refrigerators, and more, go to [www.energystar.gov/products/most\\_efficient](http://www.energystar.gov/products/most_efficient).

**The Year's Best of ENERGY STAR for Energy Efficiency and Innovation**

WHEN ONLY THE BEST WILL DO.

Looking for the ENERGY STAR label is a simple way to save you money and protect the environment. Now EPA introduces ENERGY STAR Most Efficient 2022, a distinction that recognizes products that deliver cutting edge energy efficiency along with the latest in technological innovation. It is an award that truly represents the best of ENERGY STAR.

A woman in a white dress stands in a green field, holding up a large banner that reads 'Most Efficient 2022' with the ENERGY STAR logo and the website 'www.energystar.gov'.

# Look for Sustainable Electronics



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Two tools make it easy to find computers, monitors, laptops, copiers, and other office electronics with multiple sustainability attributes, including energy efficiency, fewer hazardous materials, low toxic emissions, and manufacturer-financed takeback recycling programs:

- Electronic Products Environmental Assessment Tool (EPEAT) Registry
- TCO Certification List



*EPEAT and TCO registered equipment available on [ITC66](#): Copiers, Printers, Scanners and Related Devices; [ITC70](#): IT Asset Lease Services; and [ITC73](#): IT Hardware and Services.*



# DID YOU KNOW?



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FY20 purchases of EPEAT-registered electronics from MA's Statewide Contracts reduced electricity costs more than \$900,000 annually – saving nearly \$4.3 million over the life of these products.

Estimated Cost Savings from Energy Efficient Office Equipment for FY20		
	FY20	Lifetime (includes FY20 savings)
EPEAT Registered Computers, Laptops, Tablets, Monitors, Phones	\$695,155	\$3,197,713
EPEAT Registered Copiers and Multifunctional Devices	\$233,000	\$1,070,000
<b>Total</b>	<b>\$928,155</b>	<b>\$4,267,713</b>

Read more about this success story in the [MA 2020 EPP Annual Report](#).



# Specify Imaging Equipment that Reduces Paper Use



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Multi-function devices (MFDs), which may copy, print, scan, and fax, as well as copiers and printers that make double-sided images save users money by significantly reducing paper consumption.

Available on [ITC66](#): Copiers, Printers, Scanners and Related Devices and Services; [ITC70](#): IT Asset Lease Services; and [ITS69](#): Managed Print Services.



# Replace Inefficient Lights with LEDs



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Replacing incandescent, halogen, fluorescent and HID light bulbs with LED lamps:

- Significantly reduces electricity use; and
- Lowers replacement, maintenance and disposal costs.

LEDs may cost-effectively replace fluorescent lamps because they use about half as much electricity, last 2-3 times longer and are free of toxic mercury.

*LED lamps, fixtures, and retrofit kits are available on several of MA's Statewide Contracts for Facilities Maintenance, Repair and Services ([FAC100](#), [FAC101](#) and [FAC105](#)).*



# LEDs are Practical Replacements for Fluorescents



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*“LEDs have surpassed, or matched, all conventional lighting technologies in terms of energy efficiency, lifetime, versatility, and color quality...”*

*Going forward, LED technology is expected to continue to improve, with increasing efficacy and decreasing prices...”*

US Department of Energy, 2019



# DID YOU KNOW?



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- State agencies and other users of MA's Statewide Contracts saved nearly \$2 million in energy and labor costs in FY 2020 by purchasing LED lighting equipment.
- Because LEDs last 8-10 years, these purchases are projected to save nearly \$18 million over their expected life spans.

Estimated Energy Cost Savings from LEDs		
Estimated Annual Savings	FY20	Lifetime (includes FY20 savings)
LEDs	\$1,637,988	\$14,306,647
Reduced Maintenance Labor	\$328,817	\$3,603,483
<b>Total</b>	<b>\$1,966,806</b>	<b>\$17,910,130</b>



# Increase Fleet Fuel Efficiency



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In FY 2020, the MA Department of Energy Resources (DOER) estimated \$21,000 in annual fuel savings – and \$168,000 in lifetime fuel savings – resulting from Executive Agency purchases of 97 vehicles that were more efficient than those they replaced.

FY17 – FY20 Fuel Efficiency Standard Impacts (comparing vehicles acquired to vehicles turned-in)					
Fiscal Year	# Purchasing Agencies	# of Acquisitions Evaluated	Annual Fuel Cost Savings (\$)	Average MPG (acquisitions)	% MPG Improvements over turn-ins
2017	13	123	\$34,000	19 MPG	32%
2018	20	138	\$42,000	25 MPG	40%
2019	11	125	\$46,000	20 MPG	36%
2020	16	97	\$21,000	24 MPG	18%



# Install Water-Efficient Equipment



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US EPA's [WaterSense Program](#) has certified hundreds of water-efficient products, including toilets, faucets, showerheads, and irrigation equipment.



*By replacing old, inefficient flushometer-valve toilets with WaterSense-labeled models, a 10-story office building with 1,000 occupants could save nearly 1.2 million gallons of water and nearly \$10,000 per year. (US EPA)*

*WaterSense-certified plumbing and irrigation products are offered on several MA Statewide Contracts for Facilities Maintenance, Repair and Services ([FAC100](#), [FAC101](#), [FAC104](#) and [FAC105](#)).*



# Look for Long-Life Products



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Products with a relative long life (or warranty) save money because they don't need to be replaced as often.

EXAMPLE: High-yield toner and ink cartridges (often labeled with HY, UHY, LL, X or XL in their ordering code) usually contain twice as much toner or ink as standard-yield cartridges – but cost only a fraction more.



*High-yield toner and ink cartridges available on [ITC66](#):  
Copiers, Printer, Scanners and Related Devices and Services.*



# Price Comparison of High-Yield vs. Standard-Yield Toner Cartridges

## Sample Calculation

Type of Cartridge	Initial Cost	# of Pages	Price per Page
<b>Standard-Yield Toner Cartridge</b> (HP 26A)	\$126.89	3100	<b>\$0.04</b>
<b>High-Yield Toner Cartridge</b> (HP 26X)	\$216.89	9000	<b>\$0.02</b>

# Try Concentrates



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- Avoid using cleaning sprays and wipes, which cost more than concentrated “green” cleaners on a per-use basis.
- Buying concentrates lowers packaging and transportation costs (and impacts).
- Look for low-toxicity cleaners certified by Green Seal, Safer Choice, or UL ECOLOGO that work with automatic dilution equipment, which prevents overuse.



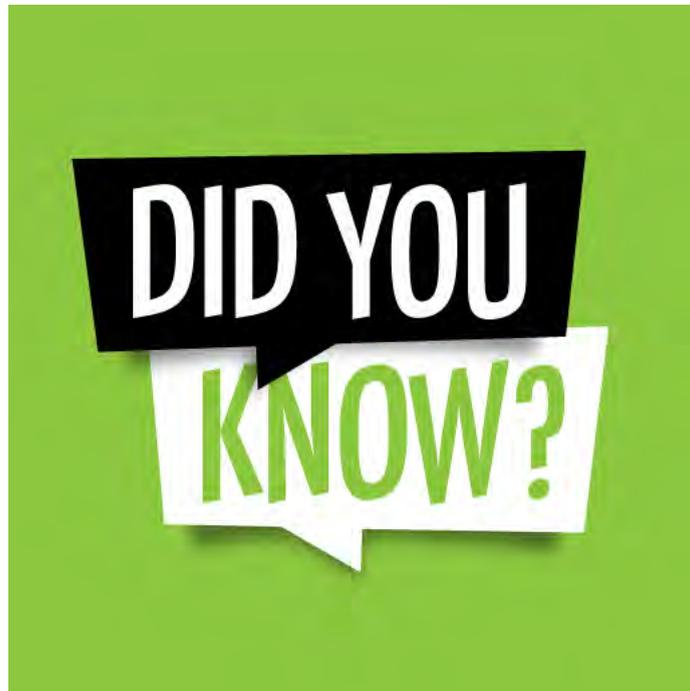
Concentrates available on [FAC85](#): Environmentally Preferable Cleaning Products, Programs, Equipment and Supplies.



# Try Concentrates



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A study by the San Francisco Department of the Environment [found](#) cleaners in aerosol cans cost up to 27 times more than concentrated green cleaners.



# Factor in Maintenance Costs



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- Maintenance costs – especially labor – often are overlooked or undervalued when making purchasing decisions.
- PVC-free resilient flooring (e.g., linoleum or rubber) avoids lifetime use of floor polish and strippers commonly needed for some vinyl flooring.
- Native plants and pollinator habitats need less water, fertilizer, and pesticides, while protecting biodiversity.
- Solar-powered generators do not need to be refueled or flushed out, unlike propane or diesel generators.



# Go Electric!



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- Electric vehicles (EVs) have low operation and maintenance costs largely because they do not need gasoline or require oil changes.
- Cost savings from vehicle maintenance and fuel use often offset higher purchase prices. (US Department of Energy).
- MA has a [calculator](#) to help buyers estimate cost savings from the operation and maintenance of EVs.



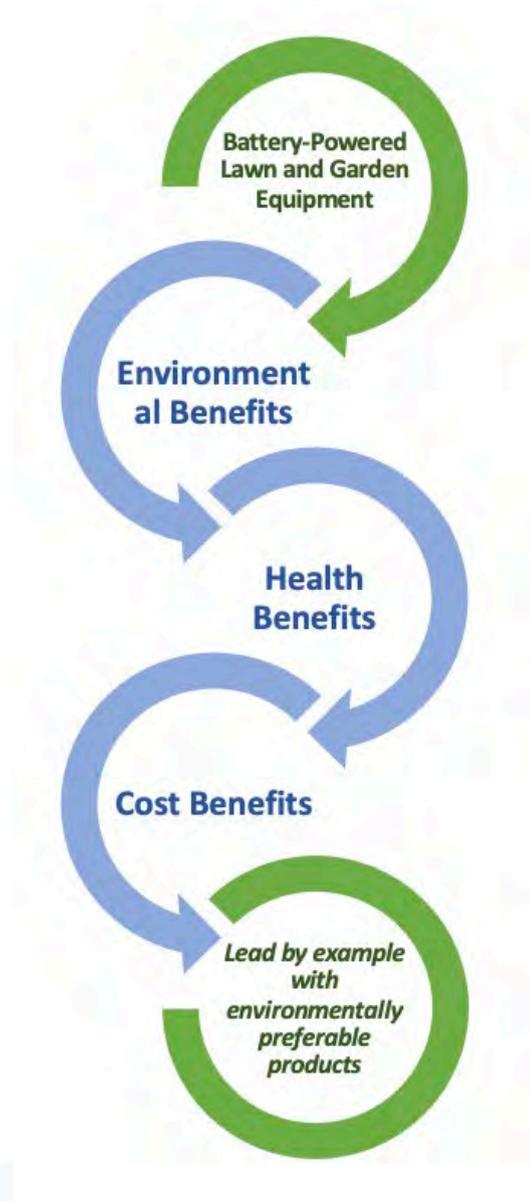
*Electric vehicles and charging stations available on [VEH110: Light- and Medium-Duty Vehicles](#); [VEH102: Advanced Vehicle Technology Equipment, Supplies and Services](#); and rentals on [VEH112: Vehicle Rentals](#).*



# DID YOU KNOW?



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Mass Aeronautics conducted a pilot test of battery-powered landscaping equipment as replacements for diesel- and propane-powered trimmers and lawn mowers. It used a new calculator to estimate cost savings of \$8,000 over five years and nearly \$15,000 over 10 years from avoided fuel use.\*

\*Source [2020 Annual Report for MA EPP Program](#)



# Pursue Cost-Saving EPP Strategies



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- **Look for grants and rebates** to offset high upfront costs of EPPs. State grants are listed on [COMMBUYS](#).
- **Use MA Statewide Contracts** to find [EPPs at discounted prices](#).
- **Add EPPs to your Core/Market Basket List** to encourage vendors to offer their deepest discounts for those items.
- **Purchase cooperatively.** Team up with other states or “piggyback” on their contracts to save time and secure lower prices from vendors.
- **Avoid overnight shipping** and ask vendors for discounts for reducing the frequency of deliveries.



# Questions? Comments?



Alicia Culver

Executive Director

**Responsible Purchasing Network**

[www.responsiblepurchasing.org](http://www.responsiblepurchasing.org)

[alicia@responsiblepurchasing.org](mailto:alicia@responsiblepurchasing.org)



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# State Surplus Property Program

*Ted Bunnell*

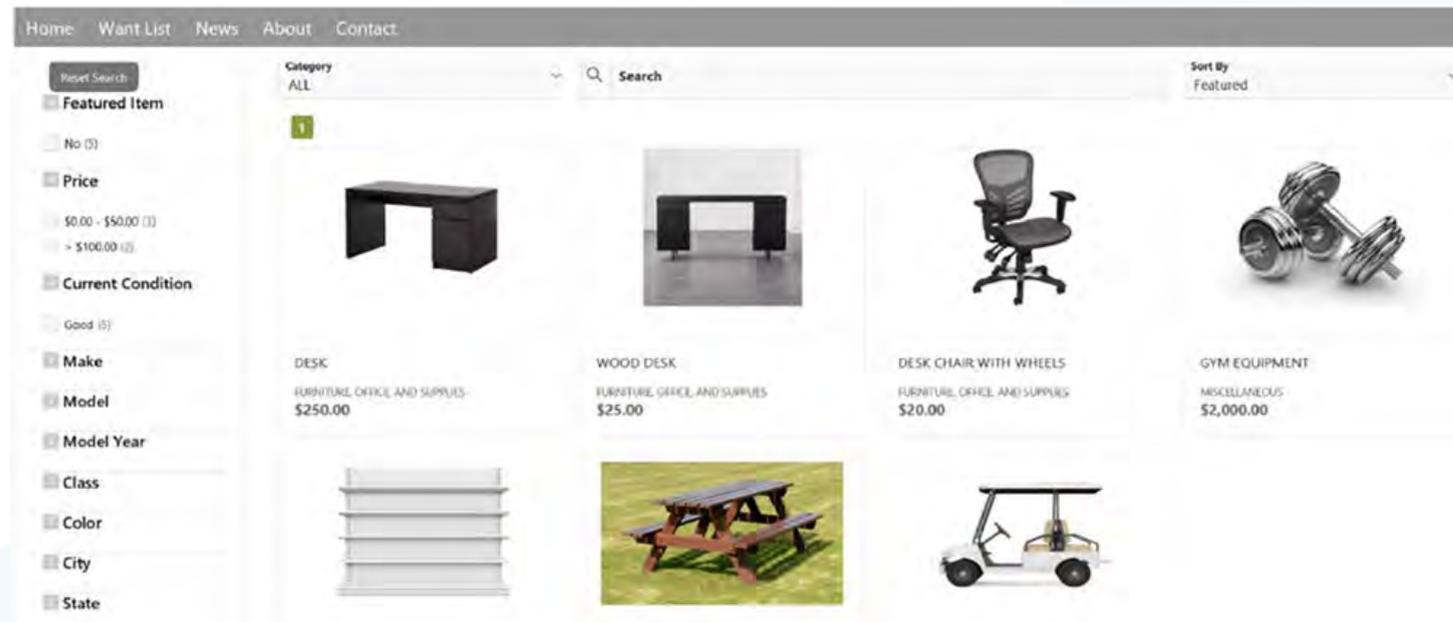


# State Surplus Property Program



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- The Commonwealth of Massachusetts State Surplus Property Office (SSPO) is responsible for the distribution and disposal of State-owned surplus property.
- Surplus Property may include vehicles, equipment, tools, clothing, electronic equipment, and office furniture.
- When a State Agency no longer needs items in reusable condition, they are reported to the SSPO.
- SSPO lists items on our Surplus Property website for reallocation to eligible entities.
- Eligible entities include State Agencies, Cities and Towns, and qualified non-profits.



Coming Soon!

# Federal Surplus Property Program



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The Massachusetts State Surplus Property Office is authorized by the Federal Government to act as its agent in obtaining Federal Surplus Property for eligible entities throughout the Commonwealth.

- Obtain Federal Property by searching through the General Services Administration Federal Website
- Open to all Municipalities and State Agencies
- Certain Non-profits and Veteran-Owned Small Businesses are eligible.
- Contact SSPO for credentials
- Nominal administration fee charged to entity for transfer; no charge for property



# Surplus Property Resources



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- Massachusetts Surplus Property Website - <https://www.mass.gov/surplus-property-program>
- Information on Federal Surplus Property - <https://www.mass.gov/service-details/federal-surplus-property-donation-program>
- GSA Federal Donation Website – <https://gsaccess.gov/>



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# Green Communities

*Joanne Bissetta*



# Climate Bill Signed March 2021



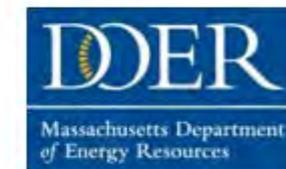
OPERATIONAL SERVICES DIVISION



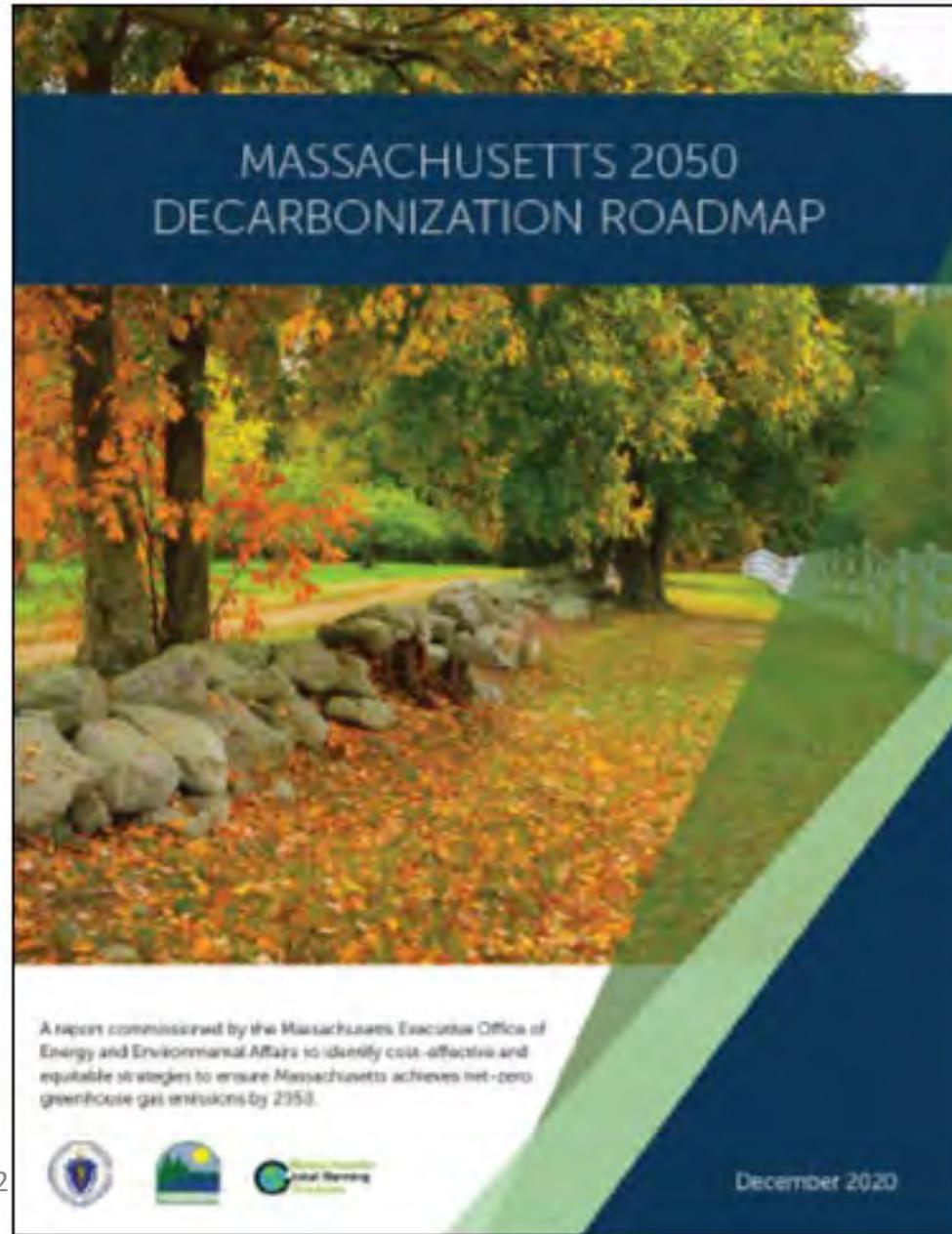
The legislation signed by Governor Baker updates the greenhouse gas emissions limits related to the 2008 Global Warming Solutions Act, commits Massachusetts to achieve **Net Zero emissions in 2050**, and authorizes the Secretary of Energy and Environmental Affairs (EEA) to establish emissions limits of no less than **50% for 2030** and no less than **75% for 2040**.



*Helping Massachusetts Municipalities Create A Greener Energy Future*



# State Policy Goals



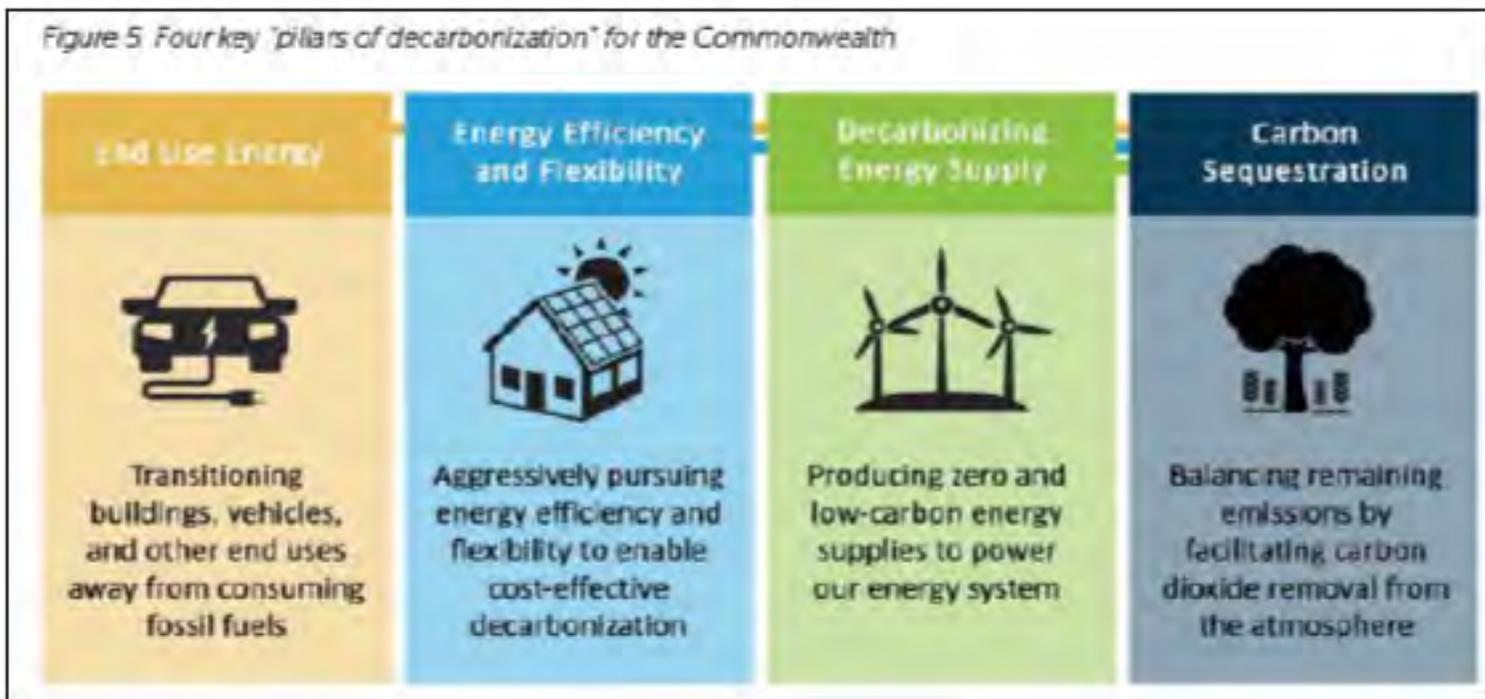
1/25/2022

- ▶ Two Year Research Effort
- ▶ Comprehensive Understanding of 30-year Transition to Net Zero
- ▶ Focused on Implementation
- ▶ Inform Near-Term Decision-Making
- ▶ Results Published Dec. 30, 2020

For More Information: [www.mass.gov/2050Roadmap](http://www.mass.gov/2050Roadmap)

# Strategies to Achieve Net Zero

4 key components of deep decarbonization guided development of implementation strategies:



To reduce emissions from energy demand in end uses through electrification, fuel switching, efficiency, and flexibility.



To reliably supply low-to-zero carbon energy resources to Massachusetts residents.



To minimize residual emissions and maximize cost-effective carbon dioxide removal and storage.



# Green Communities Division

The energy hub for *all* Massachusetts cities and towns,  
not just designated Green Communities



OPERATIONAL SERVICES DIVISION



# Programs & Resources for Municipalities



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- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Technical Assistance
- Green Communities Designation and Grant Program
- Website filled with tools & resources  
[www.mass.gov/orgs/green-communities-division](http://www.mass.gov/orgs/green-communities-division)
- Email updates via e-blasts – Sign up by sending an email to:  
[join-ene-greencommunities@listserv.state.ma.us](mailto:join-ene-greencommunities@listserv.state.ma.us)



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# MassEnergyInsight

● ● ● ● ● POWERING EFFICIENCY

- FREE online tool for MA cities, towns, RSD & WTP



- **Benchmark:** track energy use by town, department or building
- **Identify:** least efficient buildings for efficiency action
- **Measure and verify:** energy use trends by building over time

*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



10.00 x 7.50 in

# Municipal Energy Technical Assistance (META)



OPERATIONAL SERVICES DIVISION



- Engineering/feasibility studies for clean energy technologies
- Investigation of resiliency opportunities at critical municipal facilities
- Evaluation of storage opportunities for public facilities
- Up to \$15,000 award available
- Available to any municipality, regional school district, water/wastewater district
- Offered annually



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# Green Community Grants

- Designation grant awards based on a \$125K base plus a population/per capita income formula maximum \$1M
- Competitive grants capped at \$200K



# Eligible Projects



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- Energy conservation measures and projects
- Hybrid, electric or plug-in hybrid-electric vehicles
- Vehicular efficiency measures, such as idle reduction equipment and after-market hybrid retrofit kits
- Strategic electrification of buildings
- Energy storage to address peak demand



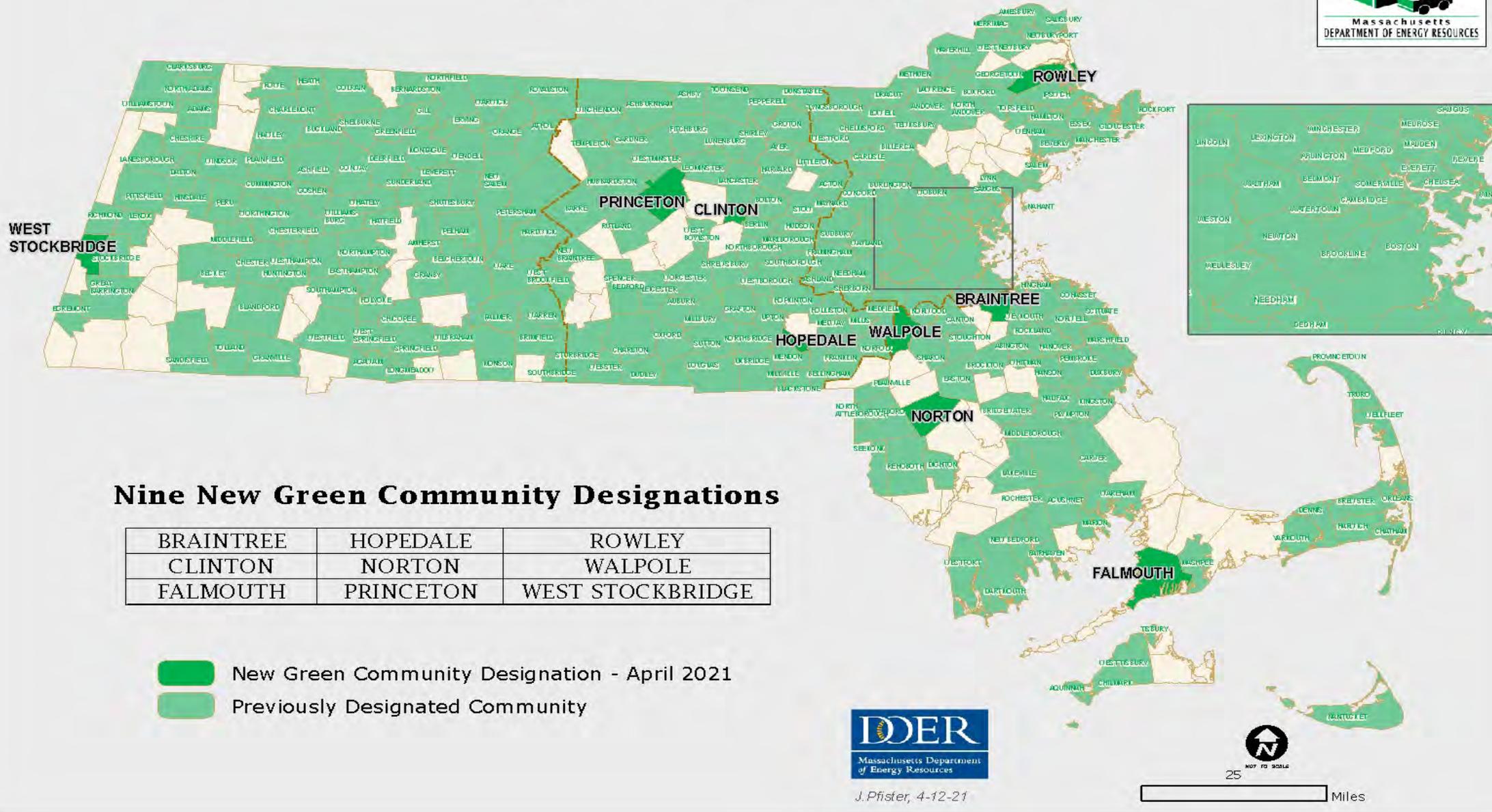
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# GREEN COMMUNITY DESIGNATIONS REACH TWO HUNDRED EIGHTY



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# Green Communities Regional Coordinators



OPERATIONAL SERVICES DIVISION

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:

**WERO – SPRINGFIELD: Mark Rabinsky**  
[Mark.Rabinsky@mass.gov](mailto:Mark.Rabinsky@mass.gov)  
**617-823-4588 - cell**



**NERO – WILMINGTON: Neal Duffy**  
[Neal.Duffy@mass.gov](mailto:Neal.Duffy@mass.gov)  
**857-276-8654 - cell**



**CERO – WORCESTER: Kelly Brown**  
[Kelly.Brown@mass.gov](mailto:Kelly.Brown@mass.gov)  
**617-780-8144 - cell**



**SERO – LAKEVILLE: Lisa Sullivan**  
[Lisa.M.Sullivan@mass.gov](mailto:Lisa.M.Sullivan@mass.gov)  
**617-312-4018 - cell**



# Contact Information



OPERATIONAL SERVICES DIVISION

## Joanne Bissetta – Director

[joanne.bissetta@mass.gov](mailto:joanne.bissetta@mass.gov)

(617) 823-4029

[www.mass.gov/orgs/green-communities-division](http://www.mass.gov/orgs/green-communities-division)

Sign up for email updates on our home page!



*Helping Massachusetts Municipalities Create A Greener Energy Future*





OPERATIONAL SERVICES DIVISION

# Department of Energy Resources

*Catie Dimas Snyder*

*Chelsea Kehne*

*Ryan Kingston*



# Funding Opportunities for Public Entities



- There is substantial clean energy funding (grants, incentives, etc.) available from a wide range of sources
- Funding program structures are variable
  - Program complexity
  - Upfront vs. ongoing payments
  - Prescriptive vs. performance-based
  - Amount of funding
- Ever-changing landscape: some current programs are under review or are being revised, and new programs are in various stages of development

# Funding Opportunities for Public Entities



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Grants and incentives supporting a host of technologies and solutions for buildings and fleets

Electric Vehicles for Fleets

Electric Vehicle Charging Stations

Solar PV and Renewable Thermal Technology

Battery Energy Storage Systems

Existing and New Building Incentives

**MASSACHUSETTS LEADING BY EXAMPLE PROGRAM**  
Clean Energy Funding Opportunities | November 2021

This resource illustrates some of the clean energy funding opportunities that may be available for state facilities and fleets. For additional program information, including detailed funding eligibility and incentive amounts, click on the respective web link.

<b>Electric Vehicles</b>	<p><b>MassDEP Fleets Incentive</b> <a href="#">[link]</a> Helps eligible public entities acquire battery electric and plug-in hybrid electric vehicles for their fleets. Incentive amounts vary by acquisition type (leased vs. owned) and vehicle type, and typically range between \$3,000 and \$7,500 per vehicle.</p> <p><b>DOERMOR-EV Trucks Program</b> <a href="#">[link]</a> Rebates for purchase or lease of battery electric or fuel cell electric trucks, buses, vans, and others over 8,500 pounds gross vehicle weight rating; incentives vary by weight with declining block structure. Current incentives range between \$7,500 and \$90,000.</p>
<b>Electric Vehicle Charging Stations</b>	<p><b>Massachusetts Electric Vehicle Incentive Program (MassEVIP)</b> Up to 60% or 100% of Level 1 or Level 2 charging equipment costs depending on charging type. For utility program participants, MassEVIP funding covers equipment costs only; for all others, funding covers both equipment and installation.</p> <ul style="list-style-type: none"><li>• <a href="#">Public Access</a></li><li>• <a href="#">MUD / Educational Campus</a></li><li>• <a href="#">Workplace and Fleets</a></li><li>• <a href="#">DC Fast Charging (DCFC)</a></li></ul> <p><b>Utility Make Ready Programs</b> Support electrical infrastructure work needed for charging equipment installation. In some cases, make ready programs may also support associated charging equipment costs.</p> <ul style="list-style-type: none"><li>• <a href="#">Eversource</a></li><li>• <a href="#">National Grid</a></li></ul>
<b>Solar PV</b>	<p><b>SMART Program</b> <a href="#">[link]</a> 20-year tariff-based incentive paid directly by the utility company to the system owner (the incentive is often passed through to the host site via a reduced rate in a power purchase agreement). Incentive payments vary by factors such as system size, inclusion of energy storage, location, off-taker, etc. with a declining block structure by utility.</p>
<b>Renewable Thermal Technologies</b>	<p><b>Alternative Energy Portfolio Standard (APS)</b> <a href="#">[link]</a> Provides incentives for alternative energy technologies such as ground- and air-source heat pumps, fuel cells, and waste-to-energy. Eligible facilities generate Alternative Energy Certificates (AECs) that can be sold on the market.</p>

↑ Download on the [LBE Tools & Resources](#) webpage

# Electric Vehicle TCO Comparison Calculator

- Vehicle-to-vehicle comparison
- Utilizes current VEH110 offerings
- Annual & TCO analysis
- GHG emissions impacts

\*All TCO and emissions values are estimated and based on assumptions that are detailed in calculator

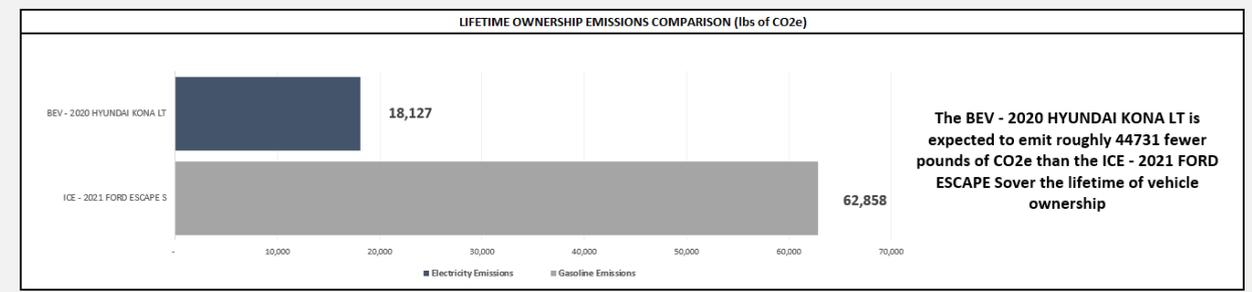
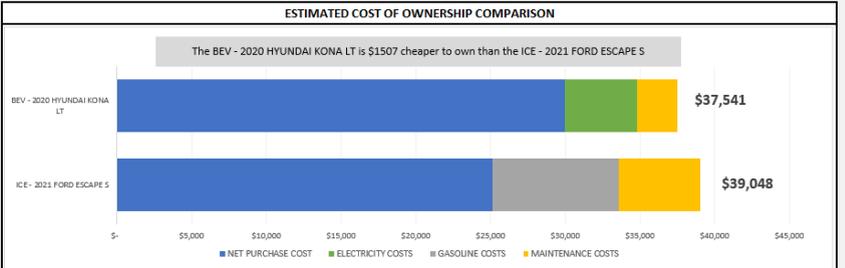
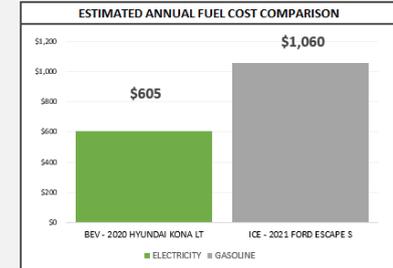


MUST COMPLETE SELECTION FOR ALL HIGHLIGHTED CELLS BELOW BEFORE PROCEEDING	
ACQUISITION METHOD:	Purchase
ESTIMATED MILES DRIVEN PER YEAR:	12,000
YEARS OF OWNERSHIP OR LEASE:	8
PRICE OF GASOLINE (\$/GALLON):	\$2.65
PRICE OF ELECTRICITY (\$/KWH):	\$0.18
PORTION ELECTRIC (PHEV ONLY)	80%

BEV - 2020 HYUNDAI KONA LT	
VEHICLE TYPE <b>CUV/SUV</b>	FUEL TYPE <b>Full battery-electric (BEV)</b>
ELECTRIC RANGE <b>258 miles</b>	GAS RANGE <b>-</b>
SEATS <b>5</b>	DRIVETRAIN <b>FWD</b>
COMBINED MPG/MPGe <b>120</b>	EST. TIME TO FULL CHARGE (LEVEL 2) <b>~9 hrs</b>
BASE MSRP <b>\$38,365</b>	EST. MILES PER 30 MIN FAST CHARGE <b>~93 miles</b>
BASE BID PRICE <b>\$37,495</b>	MASSEVIP INCENTIVE* <b>\$7,500</b>
EST. TOTAL COST (AFTER INCENTIVE) <b>\$29,995</b>	EST. ANNUAL MAINTENANCE COST <b>\$338</b>

ICE - 2021 FORD ESCAPE S	
VEHICLE TYPE <b>CUV/SUV</b>	FUEL TYPE <b>Gasoline (ICE)</b>
ELECTRIC RANGE <b>-</b>	GAS RANGE <b>350 miles</b>
SEATS <b>5</b>	DRIVETRAIN <b>FWD/AWD</b>
COMBINED MPG/MPGe <b>30</b>	EST. TIME TO FULL CHARGE (LEVEL 2) <b>N/A</b>
BASE MSRP <b>\$25,594</b>	EST. MILES PER 30 MIN FAST CHARGE <b>N/A</b>
BID PRICE <b>\$25,115</b>	MASSEVIP INCENTIVE* <b>\$0</b>
EST. TOTAL COST (AFTER INCENTIVE) <b>\$25,115</b>	EST. ANNUAL MAINTENANCE COST <b>\$682</b>

REVIEW COST & EMISSIONS COMPARISONS FOR THESE MODELS



# Vehicle TCO Calculator – How it Works



OPERATIONAL SERVICES DIVISION

**MUST COMPLETE SELECTION FOR ALL HIGHLIGHTED CELLS BELOW  
BEFORE PROCEEDING**

ACQUISITION METHOD:	PLEASE SELECT
ESTIMATED MILES DRIVEN PER YEAR:	PLEASE SELECT
YEARS OF OWNERSHIP OR LEASE:	PLEASE SELECT
PRICE OF GASOLINE (\$/GALLON):	PLEASE SELECT
PRICE OF ELECTRICITY (\$/KWH):	PLEASE SELECT
PORTION ELECTRIC (PHEV ONLY)	PLEASE SELECT

← **Step 1: Select assumptions**

- *Allows for a range of user inputs to flexibility in procurement and operational assumptions*
- *Provides information on average values and suggestions for each metric*

**PLEASE SELECT ZERO-EMISSION VEHICLE FROM DROPDOWN**

← **Step 2: Select ZEV model**

*Provides list of BEV & PHEV models on VEH110*

**PLEASE SELECT VEHICLE TO COMPARE FROM DROPDOWN**

← **Step 3: Select ZEV model**

*Provides list of various models & technologies also on VEH110 to compare with ZEV model*

# Vehicle TCO Calculator Outputs – Model Comparison



OPERATIONAL SERVICES DIVISION

BEV - 2020 HYUNDAI KONA LT		ICE - 2021 FORD ESCAPE S	
VEHICLE TYPE <b>CUV/SUV</b>	FUEL TYPE <b>Full battery-electric (BEV)</b>	VEHICLE TYPE <b>CUV/SUV</b>	FUEL TYPE <b>Gasoline (ICE)</b>
ELECTRIC RANGE <b>258 miles</b>	GAS RANGE <b>-</b>	ELECTRIC RANGE <b>-</b>	GAS RANGE <b>350 miles</b>
SEATS <b>5</b>	DRIVETRAIN <b>FWD</b>	SEATS <b>5</b>	DRIVETRAIN <b>FWD/AWD</b>
COMBINED MPG/MPGe <b>120</b>	EST. TIME TO FULL CHARGE (LEVEL 2) <b>~9 hrs</b>	COMBINED MPG/MPGe <b>30</b>	EST. TIME TO FULL CHARGE (LEVEL 2) <b>N/A</b>
BASE MSRP <b>\$38,365</b>	EST. MILES PER 30 MIN FAST CHARGE <b>~93 miles</b>	BASE MSRP <b>\$25,594</b>	EST. MILES PER 30 MIN FAST CHARGE <b>N/A</b>
BASE BID PRICE <b>\$37,495</b>	MASSEVIP INCENTIVE* <b>\$7,500</b>	BID PRICE <b>\$25,115</b>	MASSEVIP INCENTIVE* <b>\$0</b>
EST. TOTAL COST (AFTER INCENTIVE) <b>\$29,995</b>	EST. ANNUAL MAINTENANCE COST <b>\$338</b>	EST. TOTAL COST (AFTER INCENTIVE) <b>\$25,115</b>	EST. ANNUAL MAINTENANCE COST <b>\$682</b>

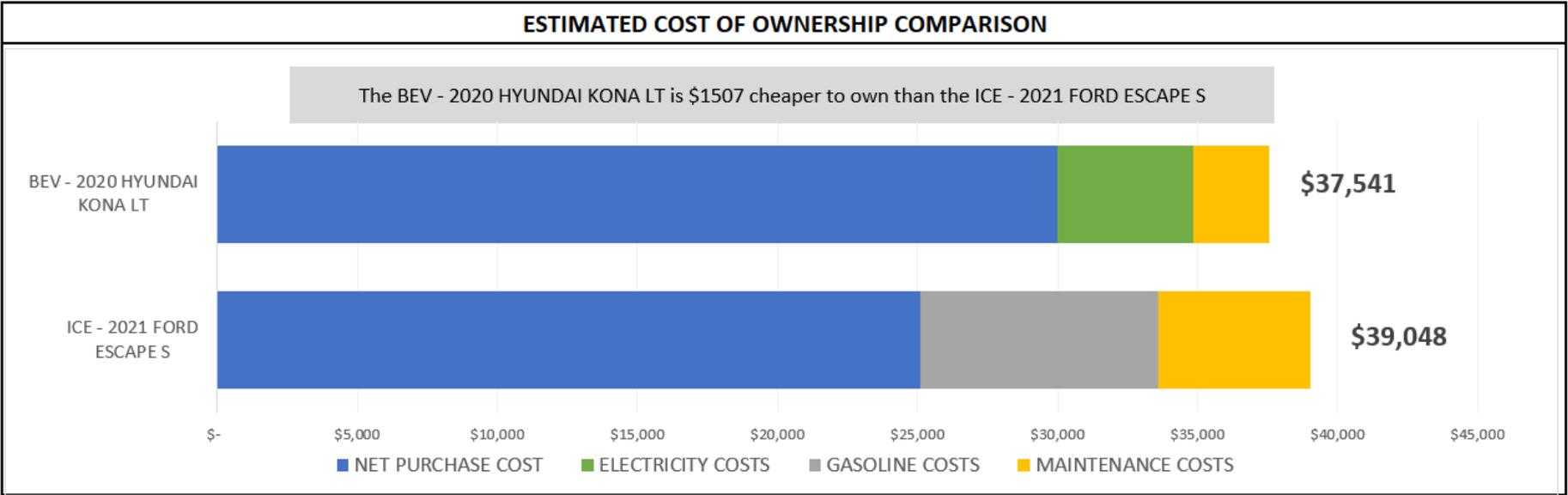
# Vehicle TCO Calculator Outputs— Cost & GHG Emissions Comparison



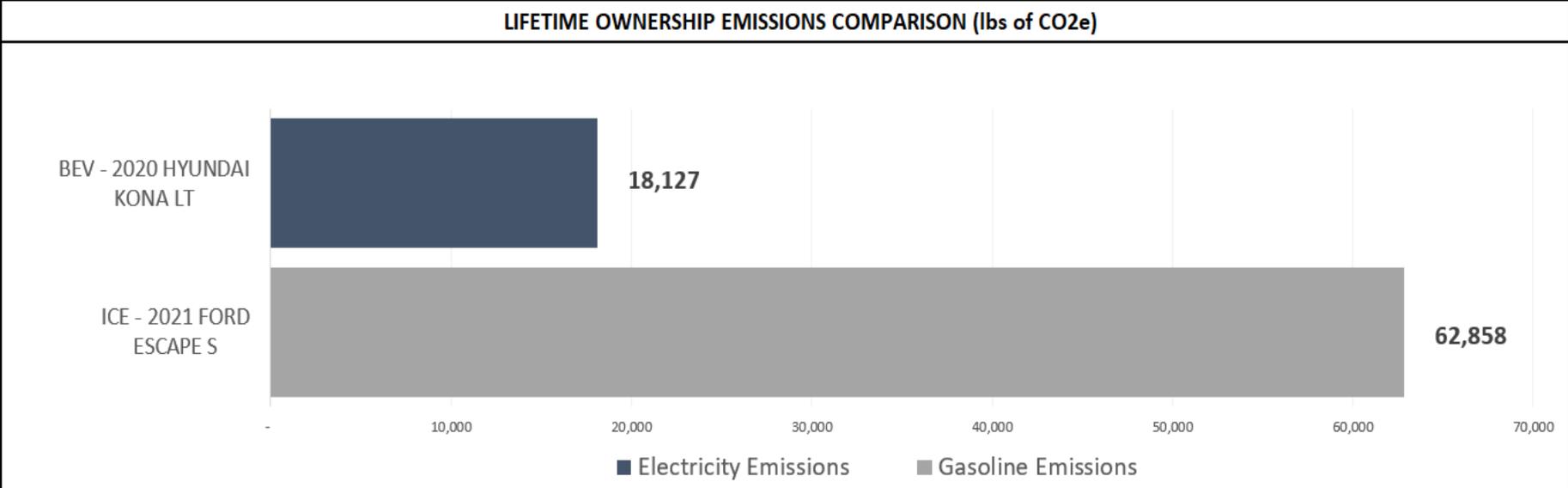
OPERATIONAL SERVICES DIVISION

Provides comparison estimates for:

- Annual fuel costs
- Total cost of ownership
  - *Upfront costs*
  - *Fuel costs*
  - *Maintenance costs*



- Lifetime emissions impacts →

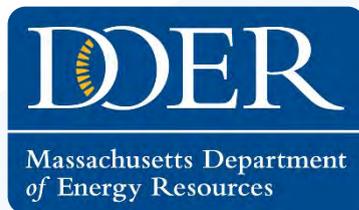
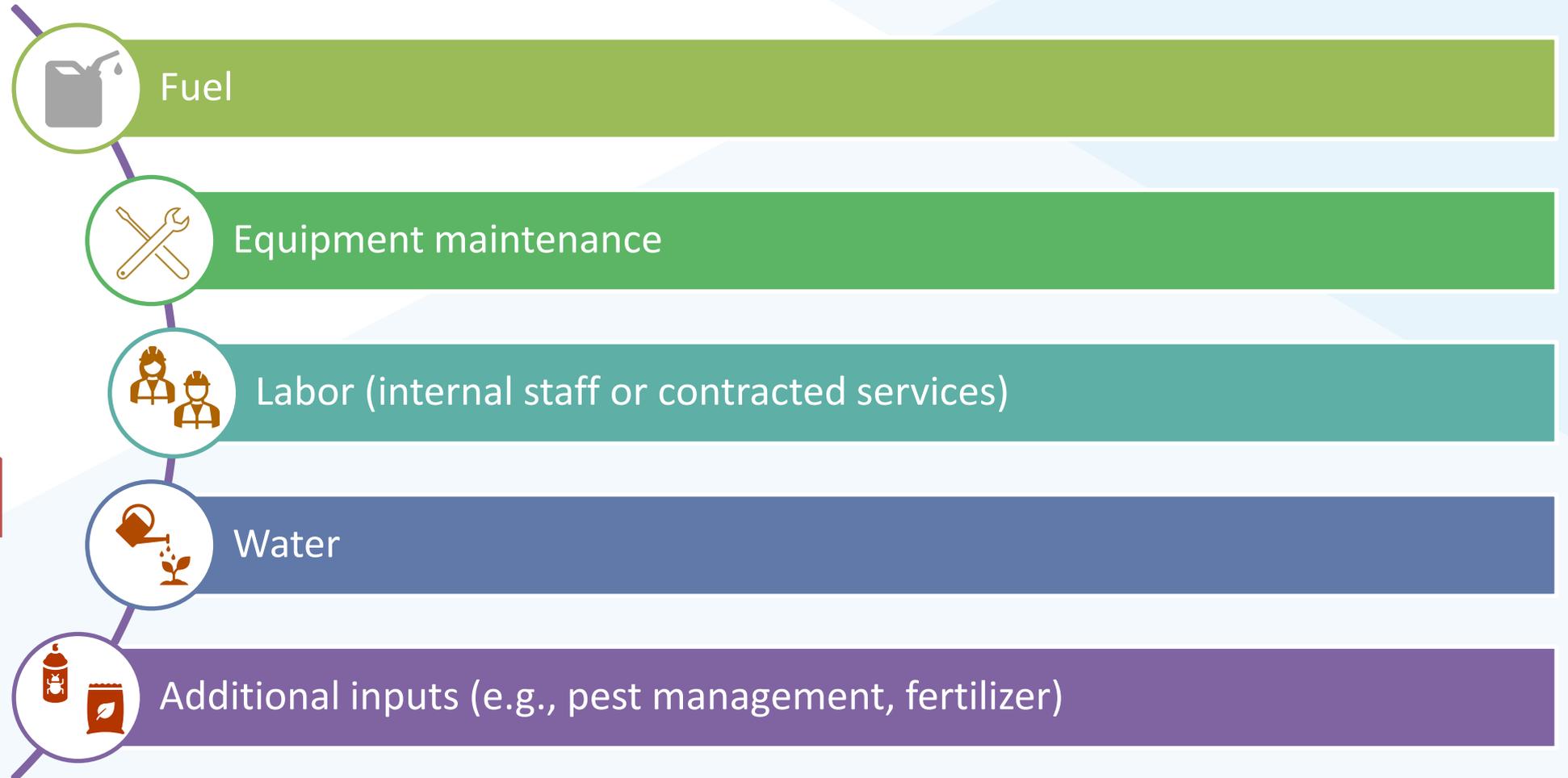
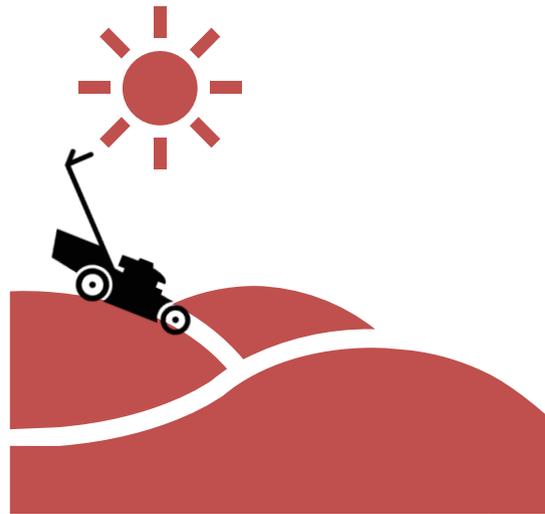


# Saving Money via Sustainable Landscaping



OPERATIONAL SERVICES DIVISION

Traditional landscaping costs include...



# Saving Money via Sustainable Landscaping



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Save money by switching to battery-powered landscape equipment ([FAC116](#)) and/or creating pollinator habitats ([FAC103/FAC104](#))!



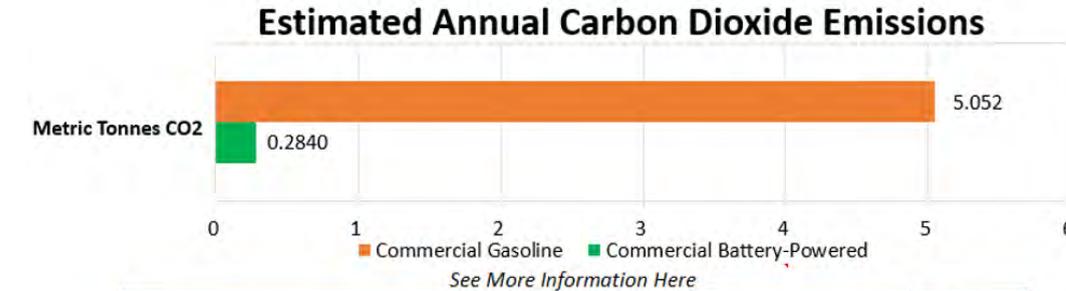
# Savings Calculator: Battery-Powered Landscaping Equipment



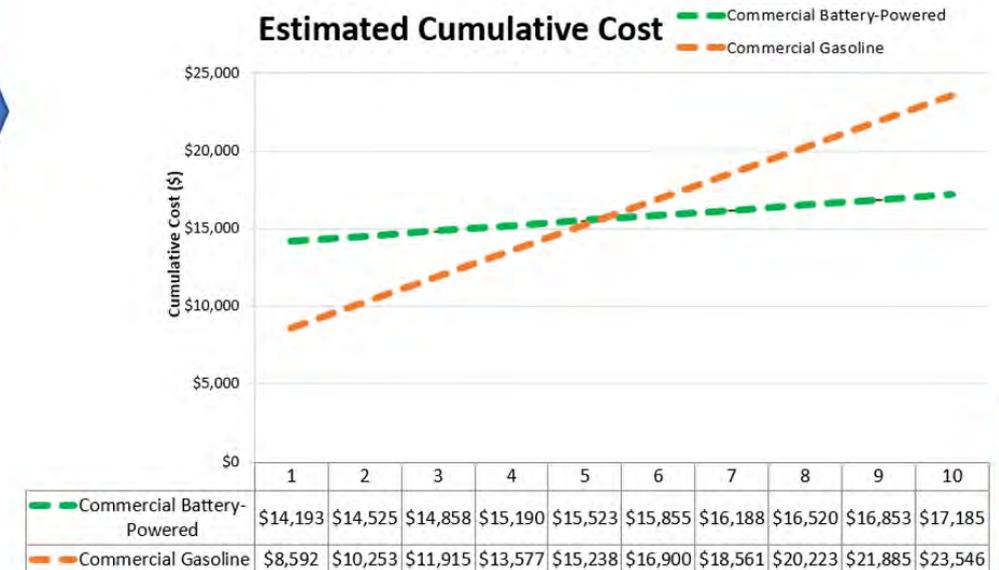
Massachusetts Department of Energy Resources

Commercial Battery-Powered	
<b>Equipment Costs</b>	
Price of equipment	<b>\$14,000</b>
(If applicable) Additional battery cost	<b>\$0</b>
Number of additional batteries	<b>0</b>
Optional add-ons & extra costs	<b>\$0</b>
Prompt pay discount (PPD)	<b>1%</b>
<b>Equipment Specifications</b>	
Battery size (kWh)	<b>5</b>
Number of batteries	<b>1</b>
Efficiency/charging loss	<b>10%</b>
<b>Electricity Information</b>	
Electricity cost (\$/per kWh)	<b>\$0.21</b>
Portion of facility electricity from renewable generation	<b>0%</b>
<b>Hours of Operation</b>	
Hours per day	<b>8.0</b>
Days per month	<b>4.0</b>
Months per year	<b>6.0</b>
<b>Warranty</b>	
Length of warranty (years)	<b>2</b>

Commercial Gasoline	
<b>Equipment Costs</b>	
Price of equipment	<b>\$7,000</b>
(If applicable) Additional gas can cost	<b>\$0</b>
Number of additional gas cans	<b>0</b>
Optional add-ons & extra costs	<b>\$0</b>
Prompt pay discount (PPD)	<b>1%</b>
<b>Equipment Specifications</b>	
Equipment Type (select from list)	<b>Zero-Turn Mower</b>
Horsepower	<b>25.0</b>
Gallons of gasoline per hour	<b>2.0</b>
<b>Fuel Information</b>	
Price per gallon of gas	<b>\$3.50</b>
<b>Hours of Operation</b>	
Hours per day	<b>8.0</b>
Days per month	<b>4.0</b>
Months per year	<b>6.0</b>
<b>Warranty</b>	
Length of warranty (years)	<b>2</b>



Estimated Annual GHG (CO2) Reduction %	<b>94%</b>
Estimated Annual GHG Emissions (CO2) Reduction (Metric Tonnes)	<b>4.8</b>
Equivalent Numbers of Cars Removed from the Road (comparing CO2 emissions)	1.0



# Savings Calculator: Lawn-to-Pollinator Habitat



OPERATIONAL SERVICES DIVISION

Step 1: Site Details	Data Input	Required fields
Parcel Size (acres)	1	
Baseline # of Mows (annually)	12	
Fuel Type for Mower	gasoline	
Type of Change	till & seed	
Include mowing labor costs in calculations?	yes	

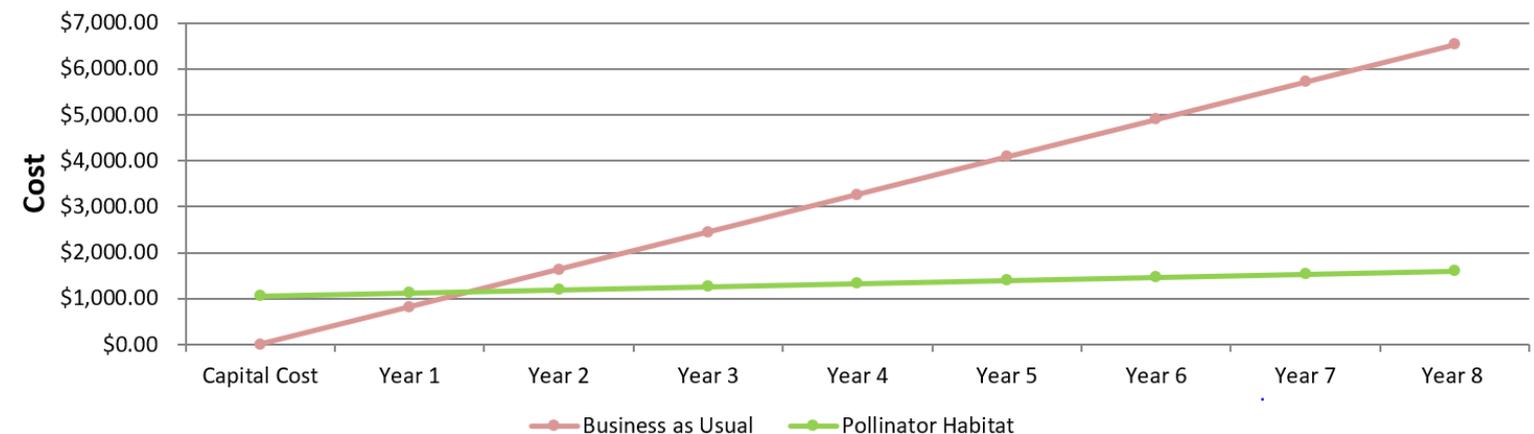
Step 1a: Till & Seed Upfront Capital (Setup) Costs		
Insert values below if known. Otherwise, default is used.		
Preparation Costs	Default Costs	Data Input
Tilling equipment amortized costs	\$15.50	
Seed Cost	\$763.78	
Seeding equipment amortized costs	\$19.50	
Labor Cost	\$259.77	
<b>Total Till &amp; Seed Capital Cost</b>	<b>\$1,058.55</b>	

Step 2: Site Management Logistics	Default Data	Use Default Data?
Mowing Time (hours per mow)	1.5	yes
Fuel Cost (per gallon)	\$2.58	yes
Fuel Usage (gallons per mow)	2.48	yes
Annual Amortized Mower Maintenance Cost	\$30.60	yes
Mowing Labor Cost (per hour)	\$37.11	yes

Estimated Pollinator Habitat Savings		
	Annual	Lifetime (8 years)
Year 1 Site Preparation Cost	\$ (1,059)	\$ (1,059)
Fuel Cost Savings	\$ 70	\$ 562
Labor Cost Savings	\$ 660	\$ 5,280
Amortized Maintenance Cost Savings	\$ 19	\$ 150
<b>Total Gross Savings</b>	<b>\$ 749</b>	<b>\$ 5,992</b>
<b>Net Savings Over Lifetime</b>	<b>-</b>	<b>\$ 4,933</b>
<b>Avoided GHG Emissions (lb CO2)</b>	<b>534</b>	<b>4,269</b>
<b>Mowing Time Savings (hrs)</b>	<b>17</b>	<b>132</b>
Annual Upkeep: Percent Cost Reduction	91.67%	
Payback of Upfront Capital (Setup) Cost	Year 2	

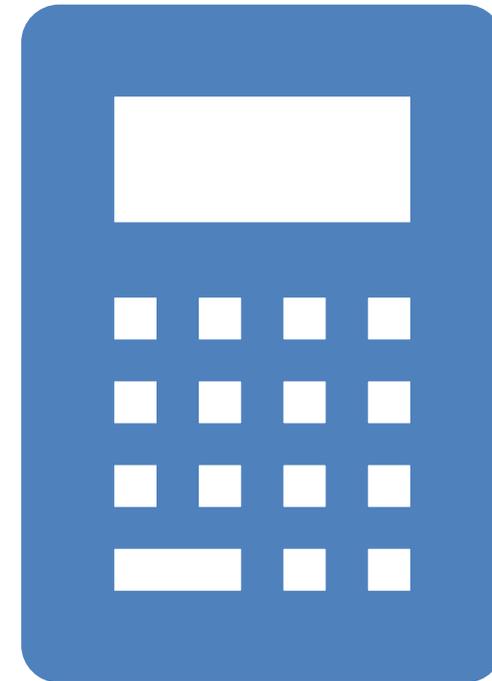
Cumulative Upkeep Costs: Business as Usual vs Pollinator Habitat

	Capital Cost	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Business as Usual	\$0.00	\$817.03	\$1,634.05	\$2,451.08	\$3,268.10	\$4,085.13	\$4,902.16	\$5,719.18	\$6,536.21
Pollinator Habitat	\$ 1,058.55	\$1,126.64	\$1,194.72	\$1,262.81	\$1,330.89	\$1,398.98	\$1,467.07	\$1,535.15	\$1,603.24
<b>Net Savings</b>	<b>(\$1,058.55)</b>	<b>(\$309.61)</b>	<b>\$439.33</b>	<b>\$1,188.27</b>	<b>\$1,937.21</b>	<b>\$2,686.15</b>	<b>\$3,435.09</b>	<b>\$4,184.03</b>	<b>\$4,932.97</b>

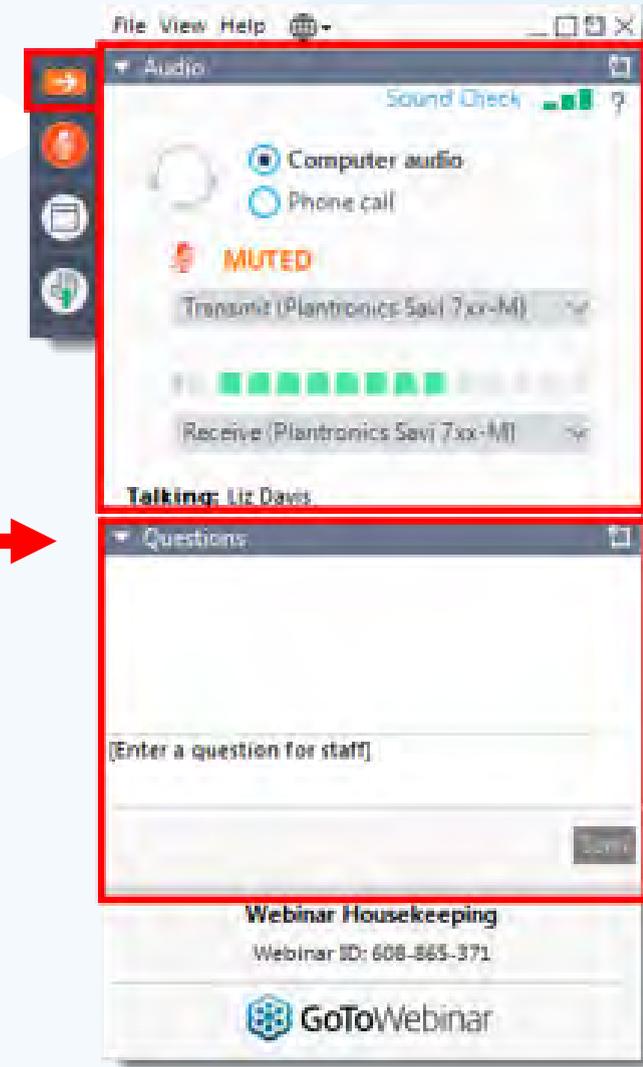


# LBE Tools and Resources

Find the EV, BPLE, and pollinator habitat calculators, alongside additional tools and resources, on the Leading by Example website:  
[www.mass.gov/orgs/leading-by-example](http://www.mass.gov/orgs/leading-by-example)



## Enter your questions in the Questions Panel



# Resources at Your Fingertips



OPERATIONAL SERVICES DIVISION

- [Statewide Contract User Guides](#)
- [Environmentally Preferable Products \(EPP\) Procurement Program](#)
- [EPP Procurement Program Reports](#)
- [Environmentally Preferable Products and Services Guide](#)
- [Save Money by Buying Green Resource Guide](#)
- [Save Energy Using Statewide Contracts](#)
- [Julia Wolfe](#), Director of Environmental Purchasing
- OSD Help Desk, 8:00 a.m. to 5:00 p.m., Monday through Friday
  - 888-MA-State (627-8283)
  - [OSDHelpDesk@mass.gov](mailto:OSDHelpDesk@mass.gov)

# Thank You



OPERATIONAL SERVICES DIVISION



Thank you for attending our webinar!

Please share the Save Money by Buying Green Resource Guide with your colleagues.