

Leading by Example Council Agenda

September 13, 2022



Welcome



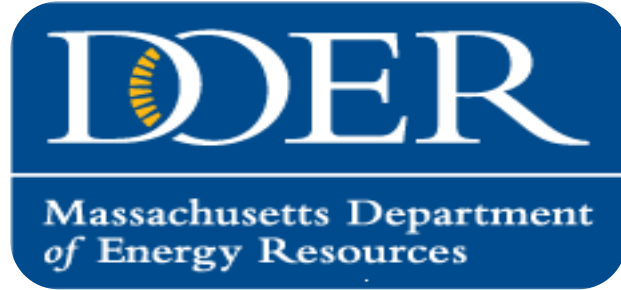
LBE Updates



New Bills on the Block: Federal and State Climate Legislation



Decarbonization Outside Our Walls: Battery-Powered
Landscaping Equipment



LBE Updates



Welcome Back Catie!



2022 LBE Recognition Awards

- ❑ 16th Annual LBE Awards will take place at a December ceremony
- ❑ Awards go to 2 state entities, 2 public institutions of higher education, two municipalities, & 2 individuals (1 state and 1 municipal)

Public Entities: Phase 1

- Interested, but not sure you have enough to qualify? Submit an optional “[Phase 1 Express Interest Form](#)” and we’ll give feedback before you fill out a “Phase 2 Full Nomination Form.”
- Forms due 9/16/22

Public Entities: Phase 2

- Feel confident your entity is deserving of an award, or received positive feedback from your Phase 1 form? Submit a “[Phase 2 Full Nomination Form](#).”
- Forms due 10/14/22

Individuals

- Nominating yourself or another individual that has demonstrated leadership in clean energy or sustainability? Submit an “[Individual Nomination Form](#).”
- Forms due 10/14/22

See www.mass.gov/LBEAwards for more details

LBE Annual Reporting

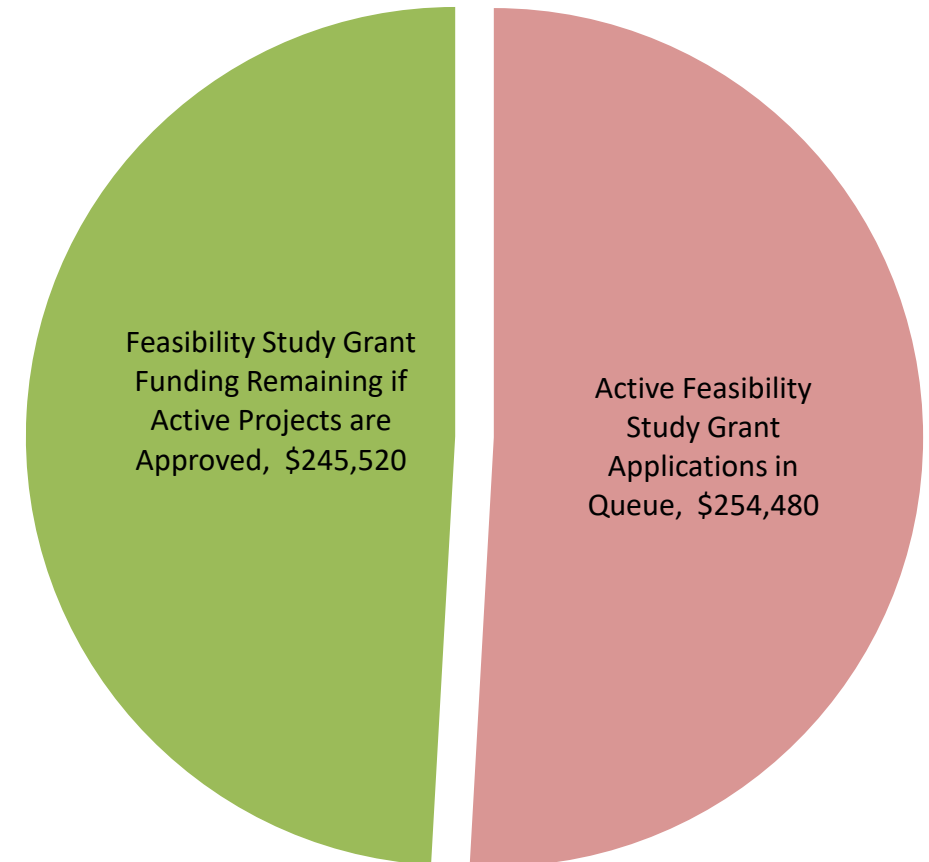
- Annual LBE Energy Tracking and Reporting Forms coming soon!
- Prepare your data to be ready for submission:
 - Fuel consumption
 - Vehicle energy use and costs
 - Installed clean energy
 - EV charging installations
 - Energy efficiency and general sustainability projects
- Forms will be due late-December 2022
- New data analyst starting with LBE at end of September!



LBE Feasibility Study Grant Update

- Studies in the queue include:
 - Concentrating solar thermal
 - Battery energy storage
 - Solar + storage + EVSE planning
 - Campus decarbonization
- Maximum awards of \$75,000
- Current PON ends June 30, 2023
- See the [LBE Grants page](#) for info

Feasibility Study Grant Program Budget



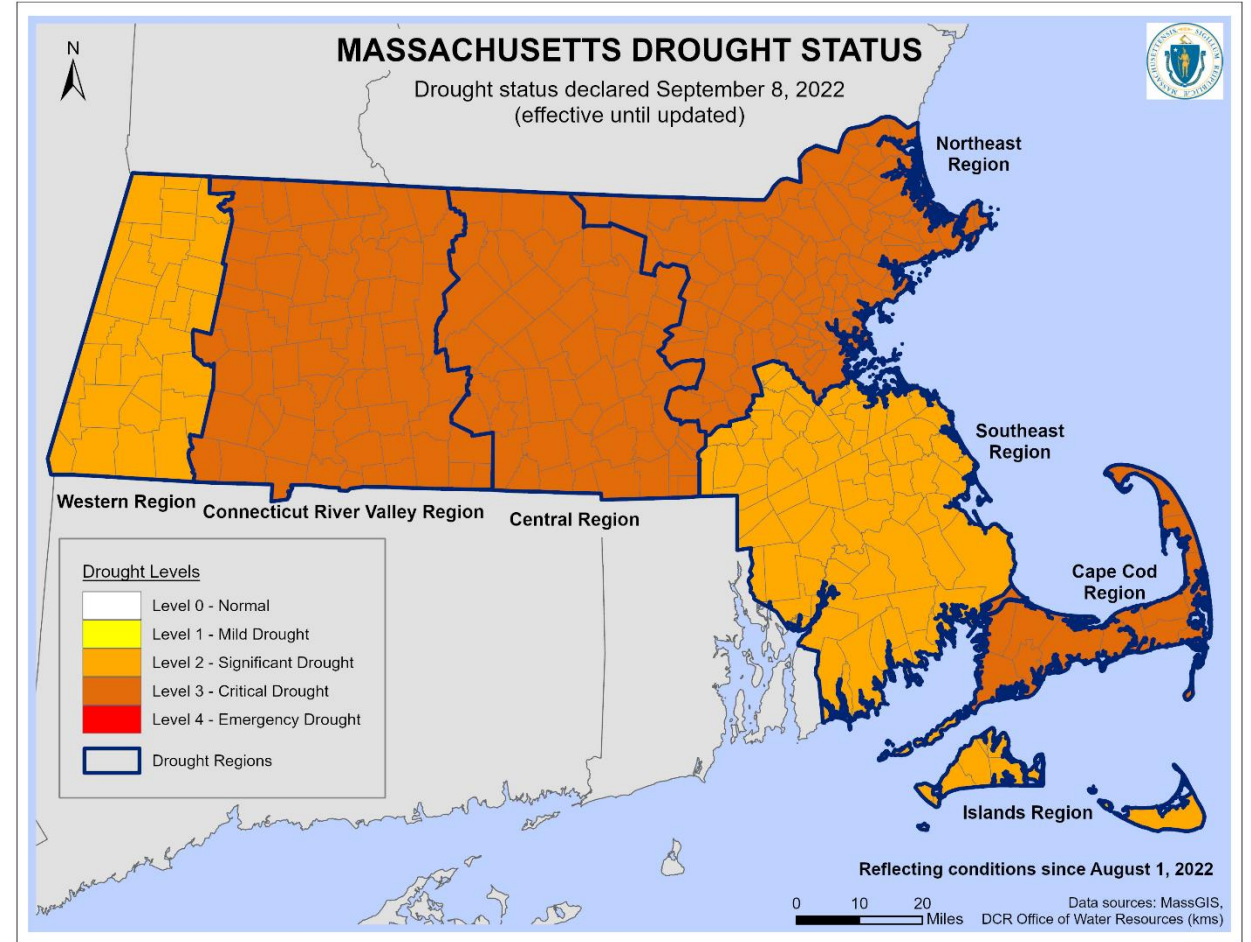
Update: LBE Fleet EV Charging Station Grant

- New LBE grant will fund 100% of cost of installing Level 1 and 2 charging stations for fleet use, and up to three years of data and maintenance packages
- Applications will be accepted through April 2023, deadline may be extended if funding not fully committed
- LBE currently investigating how grant recipients can comply with new federal Buy America requirements
- In the meantime, state entities can plan in advance: identify potential EVSE locations, draft a scope of work for vendors, etc

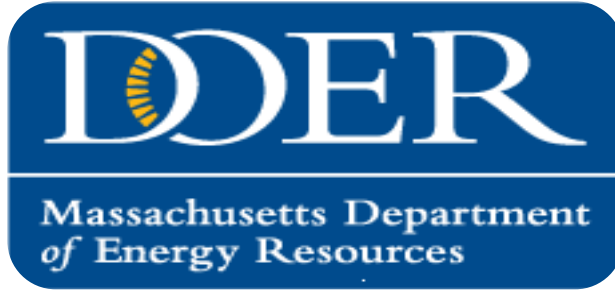


Massachusetts Drought Conditions

- Drought conditions continue, despite the recent rain
- Reduce water use and waste:
 - Run dishwashers and washing machines at full capacity
 - Take shorter showers
 - Fix leaks
- Restrict outdoor water use:
 - Level 1: Limit to once/week, 5pm-9am
 - Level 2: Limit to hand-held, 5pm-9am
 - Level 3: Ban non-essential outdoor water use



For the most up-to-date information on the drought indices, see the state's [drought dashboard](#) page.



Climate Provisions of the Inflation Reduction Act (IRA)

IRA Summary

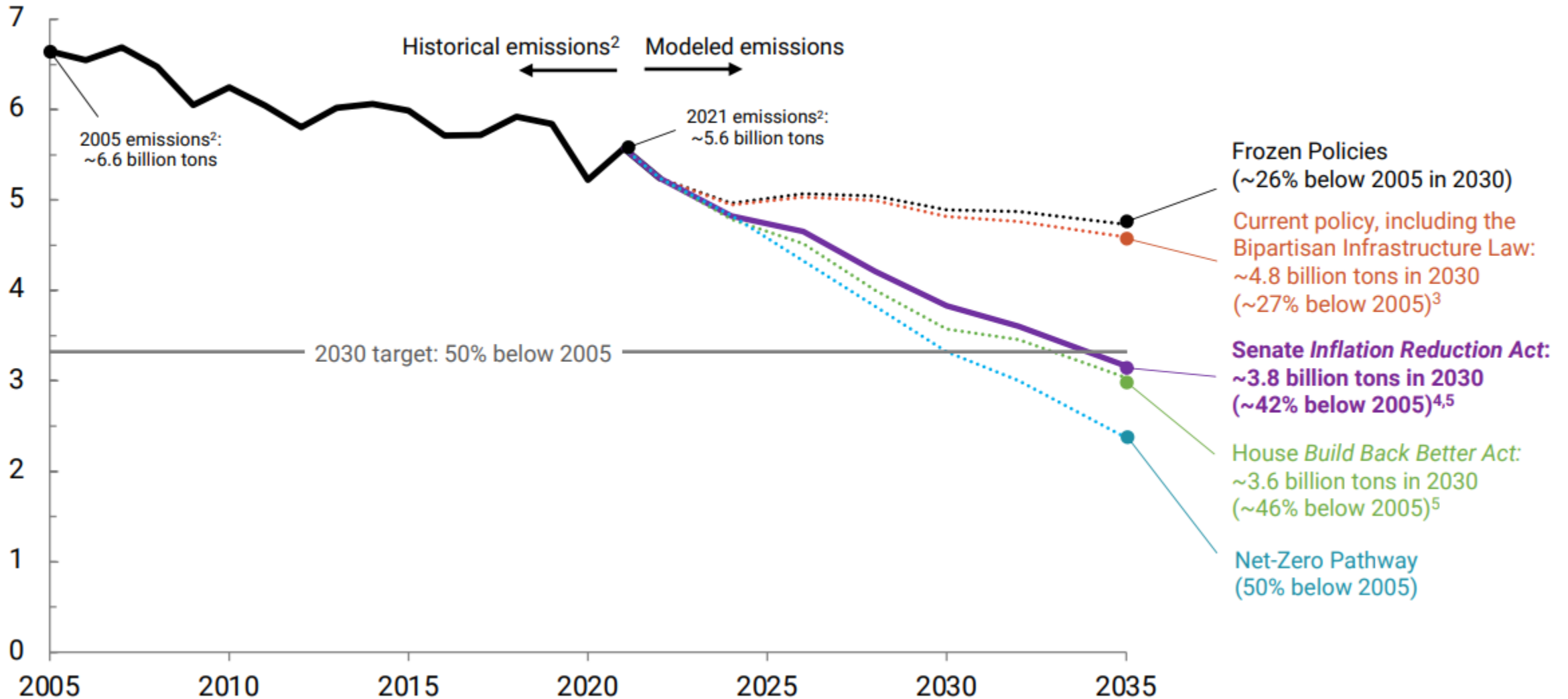
- ❑ Signed into law by President Biden 8/16/2022
- ❑ \$369 billion for climate and energy programs
- ❑ Target areas include:
 - Transportation
 - Buildings
 - Power
 - Industry
 - Natural and working lands
 - Environmental Justice
- ❑ Funding through tax credits & grants
- ❑ Tax-exempt entities eligible for some tax incentives
- ❑ Prevailing wage requirements
- ❑ Bonuses for siting in “energy” communities
- ❑ Bonuses for use of domestic content and assembly



The Big Picture: Projected Climate Impacts of IRA 2022

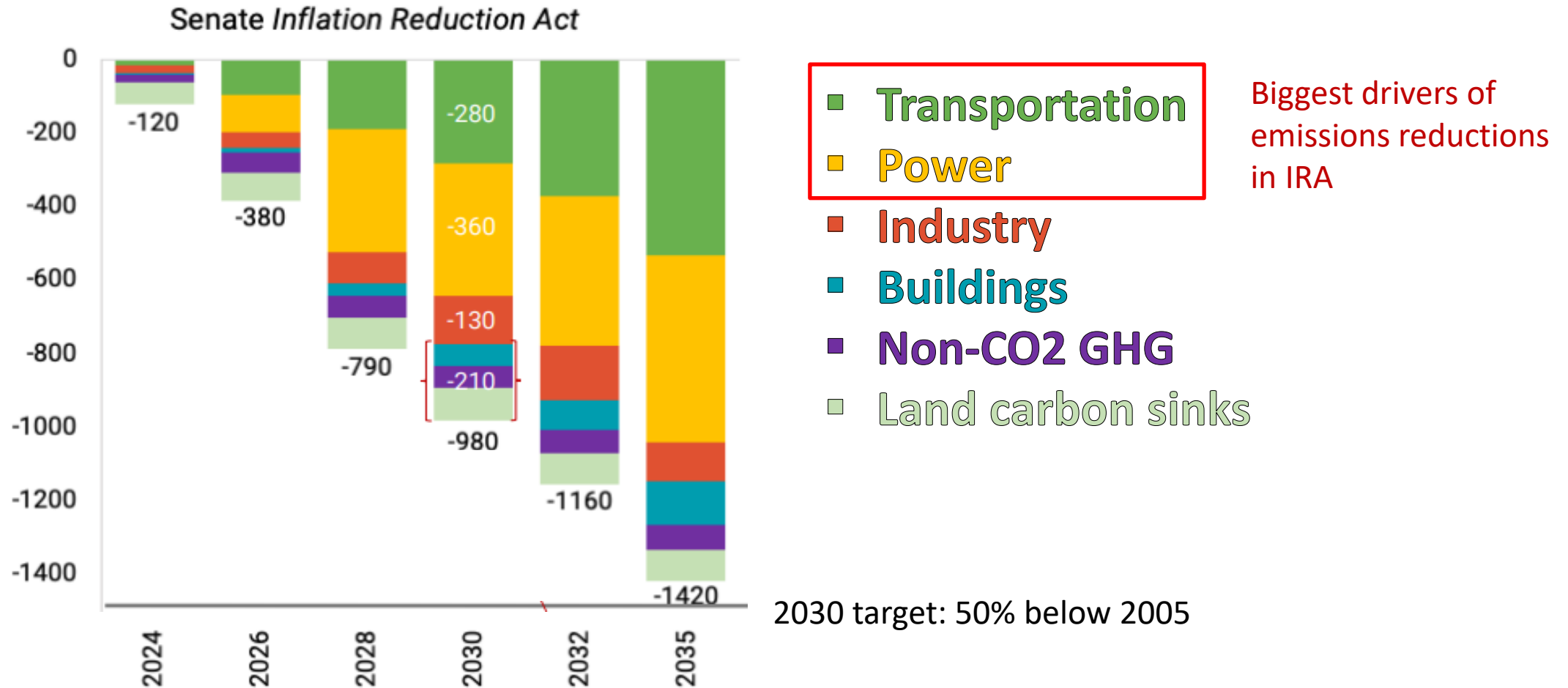
Historical and Modeled Net U.S. Greenhouse Gas Emissions (Including Land Carbon Sinks)

billion metric tons CO₂-equivalent (Gt CO₂-e)¹



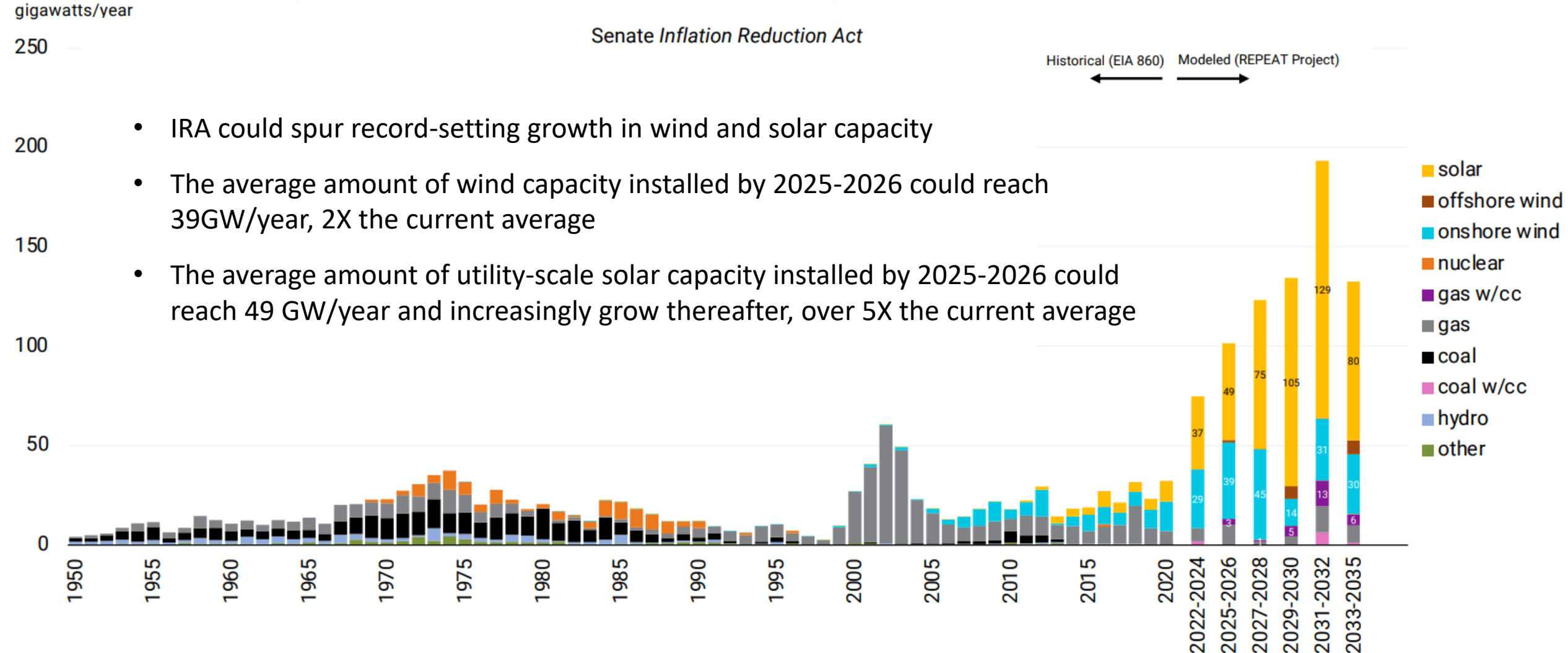
The Big Picture: Projected Climate Impacts of IRA 2022

Annual Change in Net U.S. Greenhouse Gas Emissions Relative to Current Policy
(million metric tons CO₂-equivalent)



The Big Picture: Projected Energy Impacts of IRA 2022

Historical Annual Capacity Additions vs. Modeled Annual Average Capacity Additions



Clean Energy Tax Credits

- Tax credits extended through 2024
 - For both Investment and Production tax credits
 - PTC - 1.5 cents/kWh
 - Creates/Extends 30% ITC for solar, geothermal, small wind, waste energy recovery, energy storage, biogas through 2032
 - bonuses for domestic manufacturing and facilities in 'energy communities'
- New tech-neutral 10-year PTC and ITC for clean electricity begins in 2025
 - phase out in 2032 or when emissions targets are achieved, whichever comes later
 - PTC of 1.5 cents per kWh
 - ITC of 30% of investment
 - Adders for domestic manufacturing, low-income communities, and more, increases credits up to 50%



Zero Emission Vehicle Incentives

❑ New \$7,500 credit for purchase of new ZEVs 2023 through 2032

- ✓ Eliminates 200,000 vehicle manufacturer cap
- ✓ Maximum MSRP of \$80,000 for vans, SUVs, and pickups; \$55,000 for others
- ✓ Income eligibility limit of \$150,000; \$300,000 for joint filers
- ✓ Credit only available to EVs where final assembly occurred in N. America
- ✓ 40% of battery minerals' value must be mined or processed in N. America or free trade country or recycled in the US (worth \$3,750)
- ✓ 50% of value of battery components manufactured or assembled in N. America (worth \$3,750)
- ✓ Battery requirements ramp up over time to 80% (mineral) and 100% (components)
- ✓ Vehicles cannot have any battery components from a "foreign entity of concern as of 2024, or critical minerals as of 2025"

❑ New credit for pre-owned vehicles starting 2023

- ✓ \$4,000 or 30% of vehicle cost (whichever is less)
- ✓ Max price of \$25,000
- ✓ Income limit of \$75,000; \$150,000 for joint filers
- ✓ No battery requirements

❑ New commercial clean vehicle credit

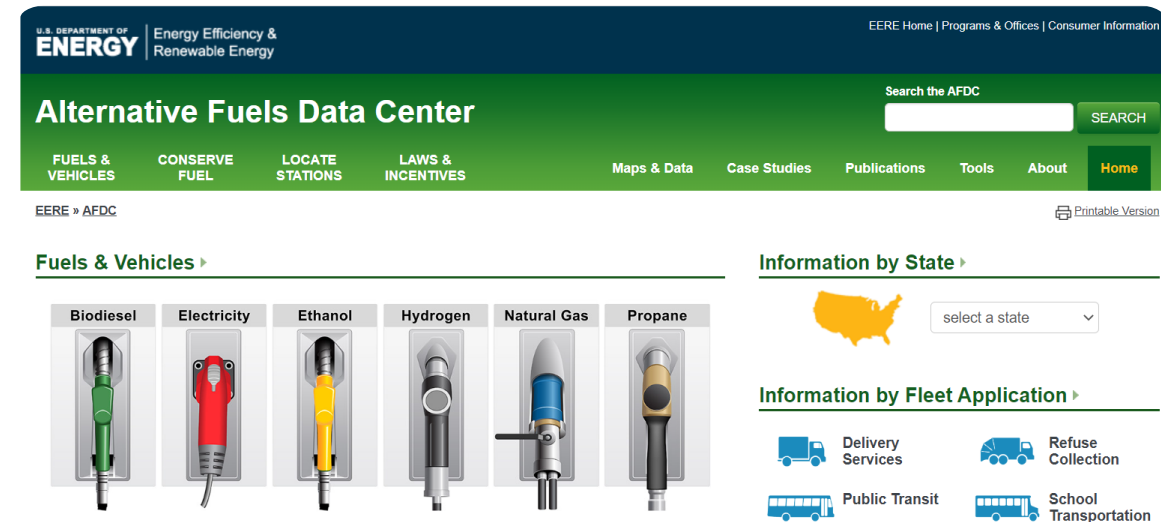
- ✓ \$7,500 for ZEV under 14,000lbs
- ✓ Up to \$40,000 for ZEV over 14,000lbs



Limited vehicles eligible for tax credit through December 2022 if meet assembly requirement and are not subject to 200,000 manufacturer cap

Navigating ZEV Requirements

- U.S. Department of Energy's [AFDC list of electric vehicles](#) that likely meet the North America final assembly requirement
- To determine if a specific vehicle's final assembly occurred in North America, enter the 17-character VIN into the [NHTSA VIN Decoder tool](#)
 - Refer to the "Plant Information" field at the bottom of the page, which lists the build plant and country for the searched vehicle
- Awaiting guidance on other requirements that kick in later
- Check out Drive Green's [blogpost](#) to get more info on potential vehicle eligibility



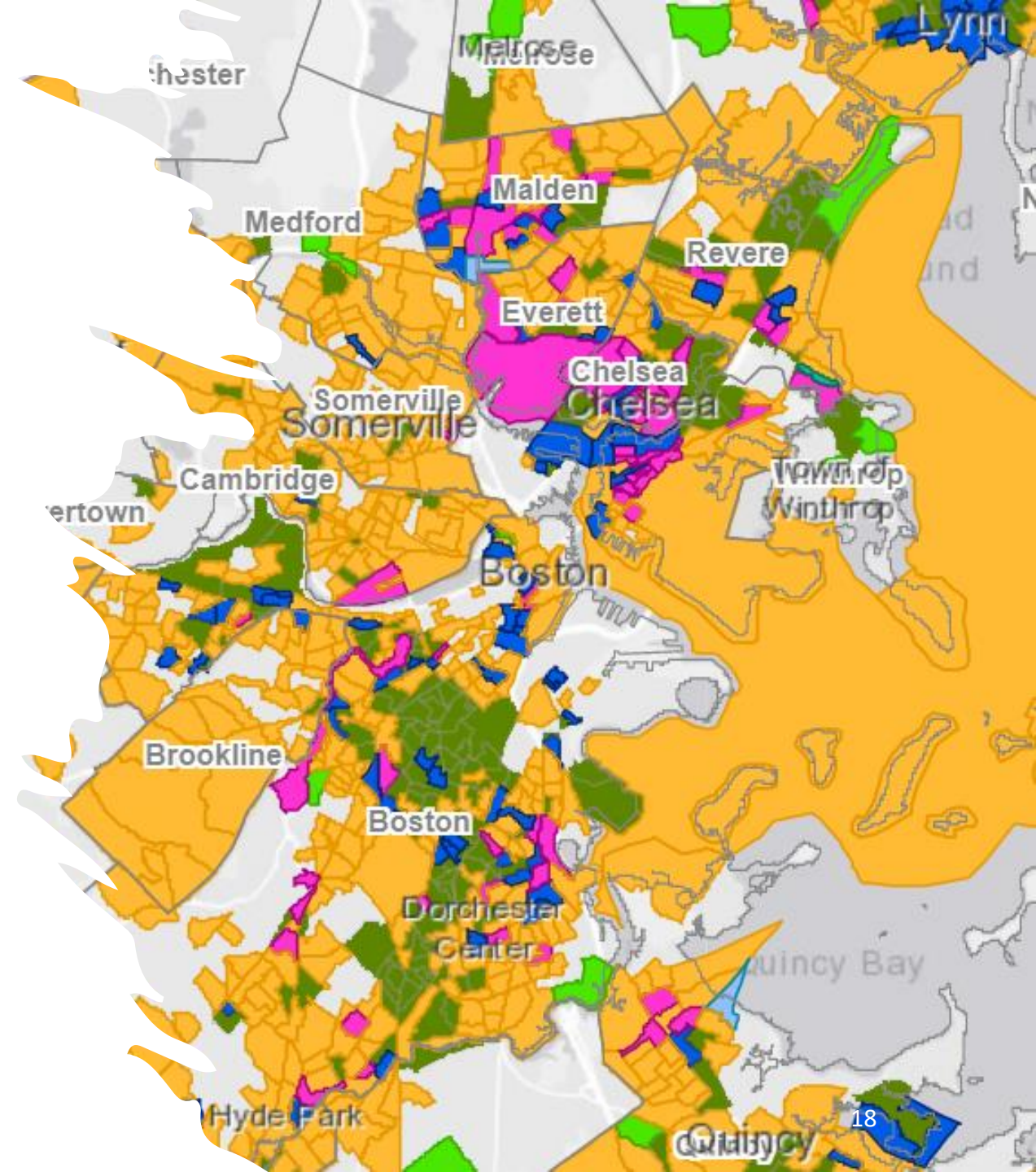
Residential Energy Efficiency

- 10 year tax credit for renewables and efficiency
- New tax credit for batteries
- \$4.3 billion to state energy offices for efficiency rebates up to 50% of project cost (HOMES) with low-income adder
- \$4.5 billion for *High-Efficiency Electric home Rebate Program* – income qualified up to \$14,000 per unit
- Incentives for home electrification (e.g., \$8,000 for heat pumps, \$1,750 for heat pump water heaters, \$840 for electric stoves), with income limitations in certain programs



Community Investment and Energy Justice

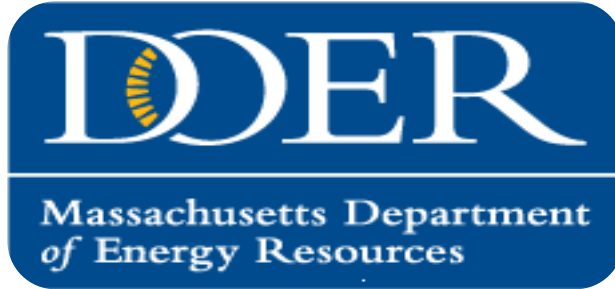
- Grants for projects in underserved communities related to climate change and air pollution, including ports
- Funds to improve transportation access, mitigate negative safety or environmental impacts in underserved communities
- Incentives for clean heavy-duty vehicles, including those in disadvantaged communities
- Investment tax credit for solar and wind in low-income communities



Other Key Provisions

- ☐ Carbon Capture and Sequestration tax credit
- ☐ Investment in low-carbon materials and buildings
- ☐ Clean electricity production credit includes biomass energy with carbon capture and storage
- ☐ Tax credits/grants for biodiesel, renewable diesel and alt fuels
- ☐ Grants in support of transmission planning
- ☐ GHG Reduction Fund – grants for deployment of zero emissions technologies
- ☐ Clean Hydrogen production tax credit
- ☐ Incentives for GHG reductions in manufacturing plants
- ☐ Affordable Housing resilience and efficiency investments
- ☐ Efficient building code adoption grants





2022 Massachusetts Climate Act: An Act Driving Clean Energy and Offshore Wind (H.5060)

The Big Picture: Elements of H5060



SUPPORTS FURTHER
DEVELOPMENT OF OFFSHORE
WIND



SETS POLICIES TO SUPPORT GRID
MODERNIZATION



SETS NEW TRANSPORTATION
ELECTRIFICATION REQUIREMENTS
AND INCENTIVES



ADVANCES BUILDING HEATING
DECARBONIZATION GOALS

Greening the Grid: Offshore Wind

- Codifies goal of procuring 5,600MW of OSW by 6/30/27 into law (3,200MW already procured)
- OSW solicitation can be issued jointly with other NE states
- Individual solicitations must be at least 400MW
- New OSW industry investment program administered by MassCEC to develop and expand industry and workforce
- Gives preference to OSW solicitations that mitigate environmental impact, support local manufacturing, and provide equitable employment opportunities



Greening the Grid: Transmission

- MA can coordinate with other NE states on transmission planning
- EDCs must develop electric-sector modernization plan to upgrade distribution, improve reliability, prepare for climate change, and accommodate transportation and building electrification

Greening the Grid: Other Efforts

- Study to investigate sites for both solar and agricultural uses
- Residences can earn incentives on 25kW installations (up from 10kW)
- Ground-mount solar can receive additional incentives with pollinator-friendly certification
- EDCs to develop tariffs for storage interconnection, streamlining participation in wholesale markets
- Woody biomass electricity generation no longer eligible for Renewable Portfolio Standard



Transportation Electrification: ZEV Rebates

- Eligible vehicles limited to those with no tailpipe carbon emissions
- Minimum incentive for light-duty vehicles raised from \$2,500 to \$3,500, with a max of \$5,000
- Increases sales price cap from \$50,000 to \$55,000
- \$1,500 adder for low-income customers
- Qualified used EVs eligible for incentives
- Requires rebates for medium- and heavy-duty vehicles
- Option for point-of-sale rebates



Transportation Electrification: New Policies

- All MBTA bus purchases to be electric by 2030. Bus fleet must be all-electric by 2040.
- New interagency coordinating council to implement a plan for deploying EV charging across the state
- Interagency council will also facilitate cessation of sales of non-zero-emission vehicles by December 31, 2035
- MassDOT to install public charging stations at all turnpike service plazas, at least 5 commuter rail stations, 5 subway stations, and one ferry terminal
- DPU to develop vehicle electrification and GHG emission regulations for ride-sharing companies



Buildings and Heating Decarbonization

- Utilities must report all electricity, gas, and steam usage for buildings >20,000sq ft
- Building owners must report all other energy use for buildings >20,000sq ft
- DOER to make all data available
- DPU to convene working group by 10/1/22, make recommendations on how gas industry can meet 2030 GHG reduction target of 49% for heating. Report due 7/23/23.
- DOER to establish demonstration project in which up to 10 municipalities may “restrict or prohibit new building construction or major renovation projects that are not fossil fuel-free” (with exemptions)



Buildings and Heating Decarbonization: Amending Chapter 25A, Section 14

- Public entities may contract for energy conservation projects that have a total project cost of \$300,000 or less (up from \$100,000), directly and without further solicitation, with utilities, their subcontractors and other providers of energy conservation projects
- Energy projects include, but are not limited to:
 - modifications to windows and doors
 - control systems
 - plant and distribution system modifications
 - utility plant system conversions
 - lighting replacements
 - energy recovery
 - renewable energy sources
 - ***decarbonization activities***



Questions and Discussion



Next LBE Council Meeting

Save the Date!

Tentative:

Tuesday, November 8th

10:00 am–12:00 pm

Upcoming Tentative

Meeting Dates:

Jan 10th

March 14th

May 9th



"YOU CALLED FOR LAWN SERVICE?"

Gag by Ron Coleman



**15 Minute
Intermission**



Decarbonization Outside Our Walls: Battery-Powered Landscaping and Electric Utility Vehicles

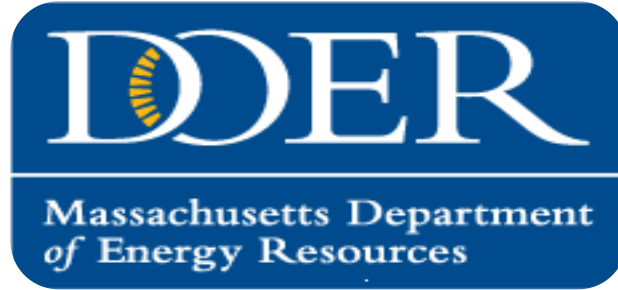
Agenda

11:15 a.m. - 12:00 noon - Landscaping and Non-Plated Vehicle Electrification Overview

- Reasons to target electrification - environmental, health, and financial benefits (Jamie Banks, Quiet Communities)
- Leveraging Statewide Contract (Julia Wolfe, OSD)
- Resources to support landscaping electrification (Julia Wolfe, OSD)
- User experience testimonies
 - Chris Hoffman, DCR Walden Pond
 - David Pinsonneault, Town of Lexington
 - Ben Smith, Town of Wellesley

12:00 noon - 1:00 p.m. - Ride and Drive

- Test battery-electric equipment offered through Statewide Contract FAC116
- Speak with FAC116 vendors
- Engage with presenters



Jamie Banks

Founder and President, Quiet Communities

Considerations in Making a Successful Transition to Battery Electric

Ride and Drive Event, Statewide Contract FAC116
Battery-Powered Landscaping Equipment

September 13, 2022



A big opportunity

- Better health, improved quality of life
 - Workers
 - Public
- Cleaner, quieter environment
- Healthier ecosystems
- Cost savings
 - Avoided fuel
 - Reduced maintenance
- Clean green jobs sector



The Future

Energy
(Solar/Wind)



Electric Motors



Fleet Management



Recycling

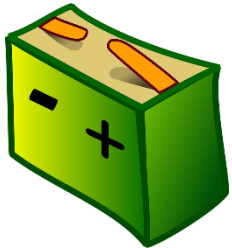


Electrical
Infrastructure

Software/
Data Analytics



Energy Storage
(Batteries)



Robotics/AI



Investment/ROI



Customer
Satisfaction

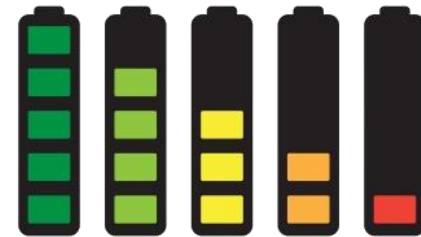
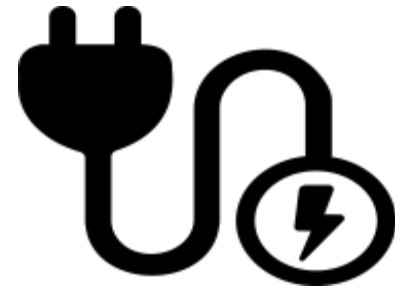
Considerations

- ICE vs battery electric
 - Implications
- Commercial vs prosumer vs residential grade
- Work productivity considerations –
 - Changes in practice to optimize
- Safe storage spaces
 - Mobile - fixed



Considerations

- Charging
 - Mobile vs fixed
- Adequate electric infrastructure
- Turnkey electric solutions
- Factors impacting battery life cycle
- Repurposing/recycle batteries



Equipment Selection

Overall Equipment Criteria

- Power levels
- Product quality
- Certification
- Run time
- Reliability
- Noise level
- Weight and ergonomic factors
- Certifications
- Customer support
- Warranty

Other Battery-Specific Criteria

- Chemistry
- Voltage
- Charge time
- Lifetime
- Interchangeability
- Damage, electric shock protection
- Water resistance
- End of use cycle indicator
- Recycling/repurposing
- Warranty

Education and training are critical

- For safety
- For performance, run-time
- For aesthetics
- For handling and operation
- For safe and proper charging
- For maximizing product life
- For getting an efficient ROI
- For generating long-term savings

Become a Certified *Sustainable* Land Care Professional

On-demand courses, resources & specialized training

VIEW COURSES

starting at \$149

Play Trailer



Examples of Upcoming Short Courses

Troubleshooting
Equipment
Problems

The Basics of
Robotics

Emerging
Technologies

Equipment Do's
and Don't's

Creating an AGZA
Green Zone®

Understanding
ELF™ Reports

New Equipment

Heavy Clean-Ups

Jamie Banks

jamie@quietcommunities.org

Dan Mabe

djmabe@agza.net



quietcommunities.org



agza.net

FAC116: Lawns & Grounds Equipment, Parts and Services



- **Nine Contract Categories**
- **Replaces FAC88 which expired April 2021**
- **47 Vendors Total – manufacturer and independent dealer representation**
 - Category 3: Utility Vehicles, Golf Carts, Snowmobiles, and Related Accessories
 - Utility vehicles, ATVs, snowmobiles, golf carts, sprayers, groomers & sweepers
 - Category 8: Commercial Grade Battery Electric Lawn Equipment (26 Vendors)
 - Lawnmowers (including ride on), blowers, trimmers, chainsaws & more
 - Category 9: Equipment Leasing for Categories 1-8
- **FAC116 Contract Terms**
 - ✓ Effective: May 1, 2021
 - ✓ Term: May 1, 2021 – April 30, 2027
- **Competitive Pricing and Discounts**
 - ✓ Volume Discounts
 - ✓ Dock Delivery
 - ✓ Prompt Pay Discounts

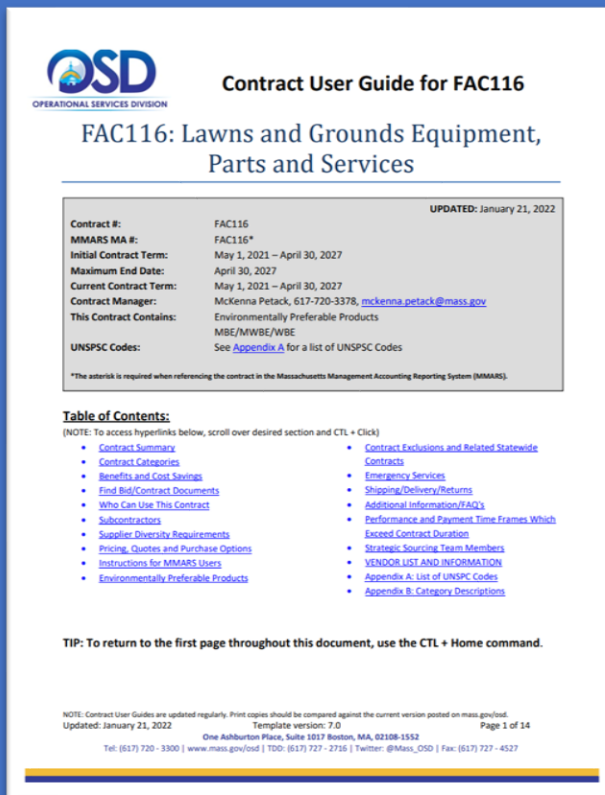
Contract User Guide

How to Learn More About the Contract?

The Contract User Guide is the buying guide for the contract that reviews:

- Contract Coverage
- How to Purchase
- Contract Exclusions
- Pricing and Quote Requirements
- Awarded Contractor Information – including links to their information in COMMBUYS

Contact Golnaz.tabatabai2@mass.gov for more information on the FAC116 contract.



OSD
OPERATIONAL SERVICES DIVISION

Contract User Guide for FAC116

FAC116: Lawns and Grounds Equipment, Parts and Services

Contract #: FAC116
MMARS MA #: FAC116*
Initial Contract Term: May 1, 2021 – April 30, 2027
Maximum End Date: April 30, 2027
Current Contract Term: May 1, 2021 – April 30, 2027
Contract Manager: McKenna Petack, 617-720-3378, mckenna.petack@mass.gov
This Contract Contains: Environmentally Preferable Products, MBE/MWBE/WBE
UNSPSC Codes: See [Appendix A](#) for a list of UNSPSC Codes

UPDATED: January 21, 2022

*The asterisk is required when referencing the contract in the Massachusetts Management Accounting Reporting System (MMARS).

Table of Contents:
(NOTE: To access hyperlinks below, scroll over desired section and CTL + Click)

- [Contract Summary](#)
- [Contract Categories](#)
- [Benefits and Cost Savings](#)
- [Find Bid/Contract Documents](#)
- [Who Can Use This Contract](#)
- [Subcontractors](#)
- [Supplier Diversity Requirements](#)
- [Pricing, Quotes and Purchase Options](#)
- [Instructions for MMARS Users](#)
- [Environmentally Preferable Products](#)
- [Contract Exclusions and Related Statewide Contracts](#)
- [Emergency Services](#)
- [Shipping/Delivery>Returns](#)
- [Additional Information/FAQ's](#)
- [Performance and Payment Time Frames Which Exceed Contract Duration](#)
- [Strategic Sourcing Team Members](#)
- [VENDOR LIST AND INFORMATION](#)
- [Appendix A: List of UNSPSC Codes](#)
- [Appendix B: Category Descriptions](#)

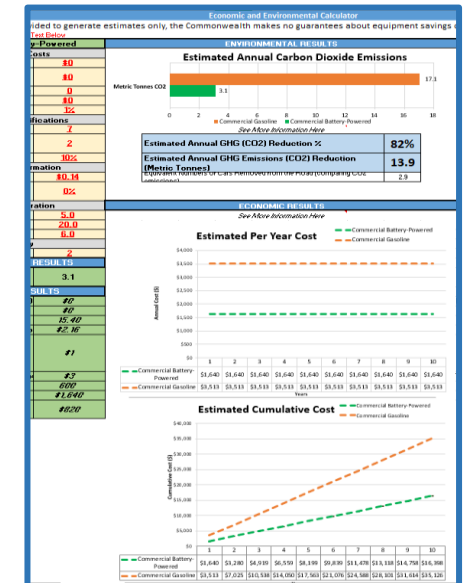
TIP: To return to the first page throughout this document, use the CTL + Home command.

NOTE: Contract User Guides are updated regularly. Print copies should be compared against the current version posted on mass.gov/osd.
Updated: January 21, 2022 Template version: 7.0 Page 1 of 14
One Ashburton Place, Suite 1017 Boston, MA, 02108-1552
Tel: (617) 720 - 3300 | www.mass.gov/osd | TDD: (617) 727 - 2716 | Twitter: @Mass_OSD | Fax: (617) 727 - 4527


What's New?




- Leasing opportunities expanded to include all categories
- Environmental Focus
 - More than 6X the number of vendors supplying battery-powered equipment
 - [Commercial Grade Battery Powered Landscape Equipment Specifications](#) located in COMMBUYS.
 - Cost and environmental savings tool (located in the COMMBUYS as well)



Resources



OPERATIONAL SERVICES DIVISION



FAC116 Ride and Drive Resources

Thank you for attending the September 13, 2022, Ride and Drive event! The Operational Services Division and the Leading by Example Program offer a variety of resources related to battery electric landscaping equipment and other sustainability initiatives.

Resources



- [FAC116 Contract User Guide](#)
- [FAC116 Commercial Grade Battery Powered Landscaping Equipment \(BPLE\) Specifications](#)
- [BPLE Benefits, Reports, and Other Resources](#)
- [BPLE Benefits and Available Products Flyer](#)
- [BPLE vs. Traditional Equipment Comparison Calculator](#)
- [Sustainable Landscaping at State Facilities](#)
- [Environmentally Preferable Products \(EPP\) Procurement Program](#)
- [Environmentally Preferable Products and Services Guide](#)
- [Green Communities Coordinators](#)
- [Statewide Contracts](#)
- [Local Government Resources](#)

Contact Us

Ryan Kingston, Sustainability Project Coordinator
[Leading by Example Program](#), MA Department of Energy Resources
ryan.kingston@mass.gov

Julia Wolfe, Director of Environmental Purchasing
[Operational Services Division](#)
julia.wolfe@mass.gov

Decarbonization Outside Our Walls



Operational Services Division | One Ashburton Place, Suite 1017 | Boston, MA 02108 | 617-720-3300 | www.mass.gov/osd

- **Resources:**
 - ✓ Use the QR code located on the flyer to access resources
 - ✓ See the [LBE Sustainable Landscaping Page](#) and [OSD EPP Program on BPLE](#)
 - ✓ Specific to Municipalities:
 - OSD Local Government Enablement Team – Jen Forsey
 - Department of Energy Resources’ Green Communities Coordinators provides technical assistance for clean energy and sustainability efforts.
- **Training:** American Green Zone Alliance Service Pro Certification
<https://www.sustainablelandcare.org/>
- **MassSave Residential Rebate for Battery Powered Landscape Equipment (\$75):** <https://www.masssave.com/en/saving/residential-rebates/lawnequipment>
- **State Agencies** – MAFMA Tool Barn

Tool Barn Overview & Online Resources

- DCAMM's Tool Barn program is a resource available to state agencies only, to better assist you in the repair and maintenance of your agency's facilities.
- The program lends out a variety of tools and equipment to state agencies at no charge.
- Tool Barn is located at DCAMM Central Region Office 220 Old Common Road Lancaster, MA

Inventory: [Tool Barn Equipment Inventory](#)

Guidelines: [Tool Barn Guidelines](#)

Registration: [Toolbarn Request and Release Form](#)

Questions: Michele Davis, Tool Barn Manager
Contact: michele.davis@mass.gov or 617.939.1063
Lancaster: 978.365.7352



Gravely Pro Turn EV60 Mower



**Greenworks V82
Backpack Leaf
Blower**



Julia Wolfe
Director
Environmental Purchasing
Operational Services Division
617-720-3153

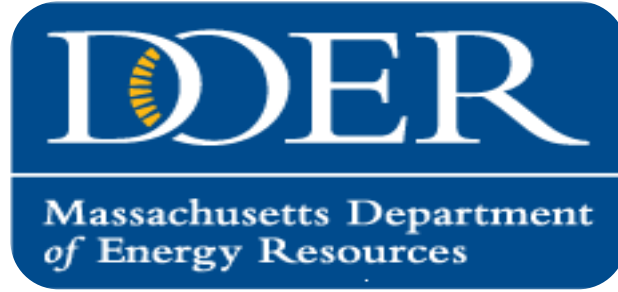
Julia.wolfe@mass.gov

www.mass.gov/epp

FAC116 Contract Manager:
Golnaz Tabatabai
Sourcing Manager
Operational Services Division
617-720-3105

Golnaz.tabatabai2@mass.gov





From the Grassroots: User Testimonies



Chris Hoffman
Park Supervisor
DCR Walden Pond

David Pinsonneault
DPW Director
Town of Lexington

Ben Smith

Groundskeeping Forman/Lead Tree Climber
Town of Wellesley

Exhibitors

Exhibitors at today's event:

- ✓ Bacher Corporation of Connecticut
- ✓ Country Club Enterprises
- ✓ Five Star Golf Cars
- ✓ Husqvarna Professional Products
- ✓ Maestranzi Brothers
- ✓ MTE Equipment Solutions
- ✓ Norfolk Power Equipment
- ✓ The Boston Lawnmower
- ✓ Tri-Country Contractors Supply

- ✓ Quiet Communities and the American Green Zone Alliance (AGZA)
- ✓ Operational Services Division
- ✓ Table to talk to users

