



DC SUSTAINABLE ENERGY UTILITY

Your Guide to Green

★ ★ ★
DCPACE
A CLEAN ENERGY FINANCE SOLUTION
DEPARTMENT OF ENERGY AND ENVIRONMENT



Compliance Assistance & Green Incentives

January 17, 2018

Agenda

Katie Bergfeld, Energy Office, DOEE

10:00-10:05

Welcome

Stephen Ours and Joanna Vivanco, Air Quality Division, DOEE

10:05-10:30

Air pollution sources in residential and commercial buildings.

Permit and regulatory requirements for combustion equipment

Regulations for demolition and renovation in buildings containing asbestos

Vickie North, Hazardous Materials, DOEE

10:30-10:55

Regulations that apply to the management of hazardous waste

(including used fluorescent light bulbs), EPA ID number requirements

secondary containment and universal waste

Katie Bergfeld, Energy Office, DOEE

EPA EnergyStar Benchmarking, news and due dates

10:55-11:10

BREAK

11:10-11:20



Agenda

Brandon Conheim, District of Columbia Sustainable Energy Utility (DCSEU)

11:20-11:40

Learn how DCSEU offers technical guidance to its customers, and how to take advantage of incentives for projects that lead to gas and electric savings

Upasana Kaku, Urban Ingenuity

11:40-12:00

Introduction to Property Assessed Clean Energy (PACE) financing, the District's only green financing program, requirements for the program and case studies of DC PACE projects

Lauren Linville, Watershed Protection, DOEE

12:00-12:20

Program services and incentives offered for your business

Danielle Nkojo, Urban Sustainability Administration

12:20-12:30

Other waste issues



Stephen Ours
Air Quality Division
DOEE



Joanna Vivanco
Air Quality Division
DOEE

AIR QUALITY REQUIREMENTS 101

2018 Compliance Assistance and Green Incentives Workshop



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Common Sources of Air Pollution in the District



Air Quality Permitting – Basic Requirement

- If you plan to install equipment that would emit air pollution, you need to apply for and obtain an air quality permit before you begin construction/installation of the equipment.
- Examples:
 - » Boilers (>5MMBTU/hr heat input)
 - » Cogeneration Equipment
 - » Generators
 - » Paint Booths
 - » Anything else that will emit air pollution

Who Applies?

- Permits are issued to owners or operators of equipment who must subsequently maintain a permit to operate.
- Frequently the owners or operators ask construction companies, equipment suppliers/installers, developers, etc. to do the legwork for getting a permit as part of their construction duties.
- The owner or operator needs to sign the permit application.

What Kind of Permit Do I Need?

- Source Category Permits (aka general permits) – fastest and easiest, but for limited categories of permits.
- Standard Chapter 2 Permits
- Nonattainment New Source Review (NSR)
- Minor New Source Review (MNSR)
- Title V (major source)
- See <http://doee.dc.gov/service/airpermits>

Engine Idling Program



On-road Engine Idling

- Idling of on-road gasoline or diesel-powered motor vehicles on public or private space for more than 3 minutes is prohibited while the vehicle is parked, stopped, or standing, including for the purpose of operating air conditioning or heating equipment
- **Exceptions:**
 - » Non-commercial private passenger vehicles.
 - » Idling to operate power take-off equipment such as dumping beds, cement mixers, refrigeration systems, content delivery, winches, or shredders.
 - » Idling up to 5 minutes when the temperature is at or below freezing (32°F).
 - » Private use, not for compensation.

Non-road Engine Idling

- Idling of Non-road diesel-powered engines for more than 3 minutes is prohibited.

Exceptions:

- » Idling for up to 15 minutes when queuing (i.e. intermittently moving forward to perform work).
- » Idling for safety, servicing, inspection, or emergency purposes.
- » Idling up to 5 minutes to operate heating equipment when the temperature is at or below freezing (32°F).

Fugitive Dust



Fugitive Dust

- **Reasonable precautions** shall be taken to minimize the emission of any fugitive dust into the outdoor atmosphere.
- The emission of fugitive dust from the following is prohibited:
 - » Any material handling, screening, crushing, grinding, conveying, mixing, or other industrial-type operation or process;
 - » Heater-planers in repairing asphaltic concrete pavements;
 - » Portable tar-melters, unless close-fitting lids, in good repair, for the tar-pots are available and are used;
 - » The ventilation of any tunnelling operation; or
 - » The cleaning of exposed surfaces through the use of compressed gases.

Odor

An emission into the atmosphere of odorous or other air pollutants from any source in any quantity and of any characteristic, and duration which is, or is likely to be injurious to the public health or welfare, or which interferes with the reasonable enjoyment of life and property is prohibited.

Contact Information

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Chief, Permitting Branch
Air Quality Division
Department of Energy and Environment
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stephen.ours@dc.gov

DEPARTMENT OF ENERGY AND ENVIRONMENT

AIR QUALITY DIVISION

COMPLIANCE & ENFORCEMENT BRANCH

ASBESTOS ABATEMENT PROGRAM



Cecily Beall, Associate Director, Air Quality Division

Kelly Crawford, Chief of Compliance & Enforcement Branch

Ralph Knatt, Environmental Protection Specialist

Joanna Vivanco, Environmental Protection Specialist

Topics

- Responsibilities of building owners and property managers under federal and district asbestos-related regulations;
- Asbestos-Containing Materials Survey;
- Operations and Maintenance Plan;
- DOEE-AQD-Asbestos Abatement Notification/Permitting Process (obtaining a permit);
- Emergency asbestos abatement;
- Facility quantity thresholds;
- Clearance requirements for asbestos abatement and raze projects.

Where Could Asbestos Be Found?

- Sprayed-on fire proofing and insulation;
- Pipe, Duct and Boiler Insulation;
- Wall and ceiling insulation
- Ceiling tiles and/or associated mastic;
- Floor tiles and/or associated mastic;
- Putties, caulks and cements (e.g. cement pipes, siding and panels know as “Transite”);
- Plaster material (acoustical and decorative);
- Seam sealant on pipe and ducts;
- Sink under-coat;
- Roofing materials (e.g. membrane, flashing, seam sealant, cement, silver coat)

Asbestos-Related Regulations

- **DOEE - Title 20 DCMR § 800** (Control of Asbestos)
- **EPA - Title 40 CFR 61- Subpart M § 61.145**
National Emission Standards for Hazardous Air Pollutants (NESHAP)
Asbestos – Demolition and Renovation
- **EPA - Title 40 CFR 763 - Subpart E**
Asbestos Hazard Emergency Response Act (AHERA)
Asbestos-Containing Materials (ACM) in Schools
- **OSHA - Title 29 CFR § 1910.134** (Respiratory Protection)
- **OSHA - Title 29 CFR § 1926.1101** (Asbestos in Construction)

Building/Facility Owner Responsibilities

- **Asbestos-Containing Materials Survey:** prior to the commencement of the demolition or renovation, thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos, including location and quantity of Category I and Category II non-friable asbestos-containing materials (ACMs) (40 CFR § 61.145);
- **Hazard Communication:** Inform employers, employees, tenants, and others of the presence, location and quantity of any ACM (29 CFR § 1926.1101);
- **Response Actions:** Ensure that only trained individuals conduct work that may release asbestos fibers into the air (40 CFR § 763.90-93);
- **DOEE Notification/Permit:** Ensure that a DC licensed asbestos abatement contractor submits “Notification of Demolition and Renovation” to DOEE, ten (10) business days before starting the work, for projects involving 260 linear feet or 160 square feet or 35 cubic feet of ACM (20 DCMR § 800).

EPA NESHAP 40 CFR §61.145



- EPA Notification of Demolition and Renovation
- Visible Emissions;
- Definitions for Facility, Installation and Regulated ACM (RACM);
- ACM Quantity Thresholds:
 - 260 linear feet on pipes;
 - 160 square feet;
 - 35 cubic feet
- Transport/Disposal

DOEE/AQD - Asbestos Abatement Program

Notification/Permitting Process - 20 DCMR § 800

DOEE Asbestos Abatement Permit for NESHAP-size projects

Required Documentation:

- 30-Day Notice to Tenants/Building Occupants; and
- 10-Business Day DOEE Asbestos Notification Form (original); and
 - Emergency Asbestos Abatement;
 - Revisions (changes on scope of work or schedule);
 - Variances (case-by-case basis);
- Permit Fee (\$641 or \$1,122 - 2600 linear feet or 1600 square feet);
- Blanket Permit Fee (\$1,122 – valid for one year).



Is any ACM present? ¹

YES

NO

Is the project site a facility or installation? ³

No further action required ²

NO

Comply with OSHA regulations

YES

1. Thoroughly inspect the affected facility or part of the facility where the demolition or renovation operation will occur for the presence of asbestos.
2. If any suspect ACM is uncovered during the demolition/renovation work, STOP any activity that may impact the suspect ACM; then, assume and treat it as ACM, or sample and analyze it for asbestos content.
3. **Facility** means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units).
Installation means any building or structure or any group of buildings or structures at a single demolition or renovation site that are under the control of the same owner or operator.

ASBESTOS ABATEMENT PROJECT IN A FACILITY OR INSTALLATION

* Regulated Asbestos-Containing Material (RACM):

- Friable asbestos material;
- Category I non-friable ACM that has become friable;
- Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or
- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

Is any identified ACM considered RACM? *

YES

NO

Is the ACM to be abated
≥ 260ft, 160ft² or 35 ft³?

Submit to DOEE a
Courtesy Notification
and comply with OSHA
regulations

YES

Comply with EPA, OSHA and District
regulations, and submit to DOEE the
required documentation for an Asbestos
Abatement Permit

Final Clearance Air Sampling

Following asbestos abatement work within a regulated area:

- Transmission electron microscopy (TEM) air sampling must be performed in accordance with EPA AHERA regulation 40 CFR 763 Subpart E Appendix A;
- If the required EPA AHERA air sampling protocol cannot be followed, the DC licensed asbestos abatement contractor must submit to DOEE – AQD - Asbestos Abatement Program a Clearance Variance Request in writing;

NOTE: Must receive approval, in writing, from DOEE – AQD - Asbestos Abatement Program;

- Within twenty four (24) hours after receiving final written results, the DC licensed asbestos abatement contractor must submit to DOEE – AQD - Asbestos Abatement Program the data indicating the asbestos structure (or fiber) concentration in the regulated area, before barriers are removed;

NOTE: Final clearance variance request and results can be submitted via email at asbestos.permit@dc.gov

Clearance Letter for Raze Permit

Submit to DOEE-AQD-Asbestos Abatement Program the following documentation:

- Copy of the DCRA Raze Permit Application; and
- Corresponding blank Clearance Letter, provided by DCRA, for approval and signature; and
- Asbestos-Containing Materials (ACMs) Survey Report, indicating that “exploratory demolition” was conducted. This exploratory work consists on selective demolition where ACMs are suspect to be hidden behind walls and/or hard ceilings:
 - If any ACM is identified or assumed to be present, provide an Asbestos Abatement Final Clearance Sampling Report, indicating that the ACM(s) has(have) been removed; and/or
 - If any Category I or II Non-Friable ACM (Non-RACM) will remain in place during demolition activities, provide a Demolition Work Plan, indicating current condition, handling and disposal of remaining ACM.
- Additional information may be requested based on the documentation that will be provide

NOTE: Required documentation can be submitted via email at asbestos.raze@dc.gov

THANK YOU!

For more information contact the
Asbestos Abatement Program at:
asbestos.permit@dc.gov or visit
doee.dc.gov/service/asbestosabatement





**Vickie North,
Hazardous Materials,
DOEE**

RCRA C HAZARDOUS WASTE

Environmental Compliance and Technical Assistance Session
for Building Managers

Victoria North

Toxic Substances Division
Hazardous Waste Branch

victoria.north@dc.gov

202-535-1909



DISCLAIMER

- This information was prepared specifically for building managers and may not be appropriate for other facilities.
- This information is highly condensed and does not include all regulatory requirements. It CANNOT be used as training material.
- This information includes best practices which may exceed the regulatory requirements.
- DOE cannot attest to the accuracy of information provided at the links in the presentation. Providing these links does not constitute an endorsement by DOE or any of its employees.

WHAT CAN GET YOU IN TROUBLE?

- Failing to get an EPA ID #
(also called an EPA Handler ID # or an EPA Generator ID #).
- Failing to identify hazardous wastes (HW).
- Failing to properly manage hazardous wastes (HW), universal waste (UW), or used oil.
- Failing to properly dispose of hazardous wastes (HW), universal waste (UW), or used oil.
- Failing to keep paperwork to show you did everything right.
- Tenants...

PENALTIES!

- No EPA ID # is a \$2,000 fine.
- Not properly managing regulated wastes has fines ranging from \$500 to \$2,000 per infraction.
- Not submitting the annual renewal fee is a \$500 fine.
- Not submitting the annual self-certification of compliance is a \$500 fine.
- Clean-up expenses caused by not properly managing or disposing of regulated wastes cost many thousands of dollars.
- Failure to properly manage regulated wastes puts you, your staff, your family, and the environment at risk.

HOW TO STAY OUT OF TROUBLE:

1. Get an EPA ID #.
 - All generators of hazardous waste, universal waste, or used oil in the District must have an EPA ID #.
 - An EPA ID # looks like this: DCR 000 500 109.
 - To get an EPA ID #, fill out EPA Form 8700-12 and submit it, with the registration fee, to the DOEE Hazardous Waste Branch.
2. Identify all the items in your facility that will be hazardous waste if you can't use them.
3. Properly manage and dispose of hazardous waste, universal waste, and used oil.
4. Train your staff to follow the rules.
5. Keep your paperwork to prove you did everything right!

WHAT IS REGULATED?

The Resource Conservation and Recovery Act (RCRA) regulates ALL waste. Hazardous waste is regulated under RCRA C.

Household hazardous wastes (HHW) are excluded from the hazardous waste regulations. Households include apartment buildings, hotels, motels, condos, co-ops, military barracks, dormitories, homeless shelters, and summer camps. Wastes covered by the household hazardous waste exclusion must satisfy two criteria:

1. The waste must be generated by individuals on the premise of a temporary or permanent residence, and
2. The waste stream must be composed primarily of materials found in wastes generated by consumers in their homes.

All other businesses are regulated: all non-profits, non-boarding schools, Federal government buildings, and State government buildings, etc.

Regulated Hazardous Wastes Are:

- Listed wastes
- Characteristic wastes
 - » Ignitable (flash point below 140°F or 60°C)
 - » Corrosive ($\text{pH} \leq 2$ or $\text{pH} \geq 12.5$)
 - » Reactive
 - » Toxic
- Anything the Administrator or the Director says is HW
- Anything you say is hazardous waste

WASTES WHICH ARE REGULATED UNDER THE RCRA C HAZARDOUS WASTE PROGRAM AND ARE COMMONLY FOUND AT OFFICE BUILDINGS

- Used oil
- Dry cleaning fluid
- Oil based paint and paint thinners (ignitable)
- Some concentrated cleaning products (corrosive)
- Most aerosol products (ignitable)
- Spoiled gasoline (ignitable)
- Car or forklift batteries
- Rechargeable batteries
- Fluorescent lamps
- Mercury thermostats

IS THIS HAZARDOUS WASTE?

1. Decide if it is a waste. Remember, the regulations only apply to waste, not to products you are currently using.
2. Determine if the waste meets or exceeds one of the criteria in the regulation (see slides 7 & 11).
 - Review a current MSDS or SDS for the product, the flash point and pH will be listed. Also, many SDSs now state if the item will be regulated when it becomes a waste.
 - Ask the vendor for the flashpoint, pH, and ingredients.
 - Submit a sample for testing
3. Any waste which meets or exceeds one of the criteria, is a hazardous waste.

IT MIGHT BE A HAZARDOUS WASTE IF...

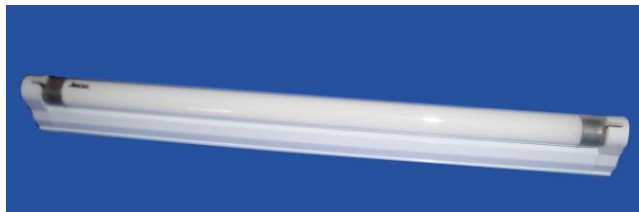


- If it says 'danger'
- If it says 'flammable'
- If it says 'toxic'
- If it says 'poison'
- If it says 'warning'
- If it has a picture of a fire
- If it is an acid
- If it is a base
- If it is a solvent
- If it has a picture of a skull and cross bones

These items should be evaluated to see if they must be managed as hazardous waste.

Note: this list is not exhaustive, it is intended to initiate the evaluation process.

OTHER RCRA C REGULATED WASTES



- Universal waste is a subcategory of hazardous waste. You may choose to manage certain items as universal waste, or you may manage them as hazardous waste.
 - » Spent fluorescent lamps (intact only, broken or crushed lamps are usually hazardous waste)
 - » Some batteries
 - » Some pesticides
 - » Mercury thermostats
- Used oil is also regulated



HOW TO MANAGE YOUR HAZARDOUS WASTE ITEMS - **SQGs ONLY**

- Identify it
- Label it
- Date it
- Close it
- Inspect it
- Dispose of it (correctly)
- Train staff

HOW TO MANAGE YOUR HAZARDOUS WASTE ITEMS - **SQGs ONLY** (continued)

- Identify it
 - Make a determination on all waste to identify all which require management under the regulation (see slide 9)
- Label it
 - With the contents if it is not waste
 - “Hazardous Waste” if it is hazardous waste
 - Universal waste allows several variants (see slides 14 and 15)
- Date it - with the accumulation start date
- Close it – keep it in a closed container
- Inspect it – conduct weekly inspections, and keep a log
- Dispose of it (correctly). Arrange for appropriate disposal using a licensed contractor on a schedule. You will get a manifest. Keep the manifest for your records.
 - Using small bottles helps
- Train staff

HOW TO MANAGE YOUR HAZARDOUS WASTE ITEMS - **CESQGs ONLY**

- Identify it
- Dispose of it (correctly)
- Train staff

WHAT DO CESQG AND SQG MEAN?

CESQG and SQG are generator statuses.

The statuses are based on the weight of hazardous waste your facility generates or creates each month.

Note: This is not how much you ship each month. It is how much you create each month. It is not an average.

WHAT DO CESQG AND SQG MEAN? (continued)

- CESQG stands for Conditionally Exempt Small Quantity Generator.
 - CESQGs are exempt from SOME of the regulations, not all of them.
- To qualify as a CESQG, your facility must generate less than 220 lbs of hazardous waste each month and less than 2.2 lbs of acute waste each month.
 - A drum of crushed lamps weighs about 600 lbs, so if your facility generates more than 1/3 drum per month, your facility is a SQG.
- CESQGs do not have a time limit on how long they can store hazardous waste. However, there is a limit of 2,200 lbs that can be stored onsite.

WHAT DO CESQG AND SQG MEAN? (continued)

- SQG stands for Small Quantity Generator.
- To qualify as a SQG, your facility must generate less than 2,200 lbs of hazardous waste each month and less than 2.2 lbs of acute waste each month.
- SQGs can usually only store hazardous waste onsite for up to 180 days, although there are special circumstances that allow storage for up to 270 days.

HOW TO MANAGE UNIVERSAL WASTE LAMPS

- Contain it – put spent lamps in a drum, box, or carton
- Label it - “Universal Waste - Lamps” or “Waste Lamps” or “Used Lamps.”
 - You can’t call them tubes or bulbs, only lamps.
- Date it - with the accumulation start date
- Close it – keep it in a closed container
- Dispose of it correctly. You may store universal waste at your site for up to 1 year.
- Arrange for appropriate disposal by a licensed contractor on a schedule
- Train staff
- Incandescent lamps and LED lights are not universal waste
- Remember that broken or crushed lamps are never universal waste; they are usually hazardous waste.



HOW TO MANAGE UW BATTERIES

- Label it - "Universal Waste Battery(ies)" or "Waste Battery(ies)" or "Used Battery(ies)."
- Date it - with the accumulation start date
- Dispose of it correctly. You may store universal waste at your site for up to 1 year.
 - Arrange for appropriate disposal by a licensed contractor on a schedule
- Train staff
- Alkaline batteries are not universal waste

HOW TO MANAGE YOUR USED OIL

- Label it - “Used Oil”
- Close it – Keep the container closed
- Contain it – Use secondary containment
- Train staff
- You cannot burn used oil in the District
- Cooking oil is not regulated by DOEE. It is regulated by DOH.

OTHER REGULATORY BODIES

- DOEE
 - » Water Quality Division
 - » Lead Program
 - » Air Quality Program
- OSHA
- WASA / DC Water
- Fire Marshall
- DOT
- Others

REMINDERS:

- Each site must maintain current information on file with the DOEE Hazardous Waste Branch
 - Remember to send in a revised 8700-12 when the contact person changes, the mailing address changes, the waste streams change, or the generator status changes.
 - It's free to update the information!
- The annual fee is due every March 1st.
- The annual self-certification of compliance is due every March 1st.

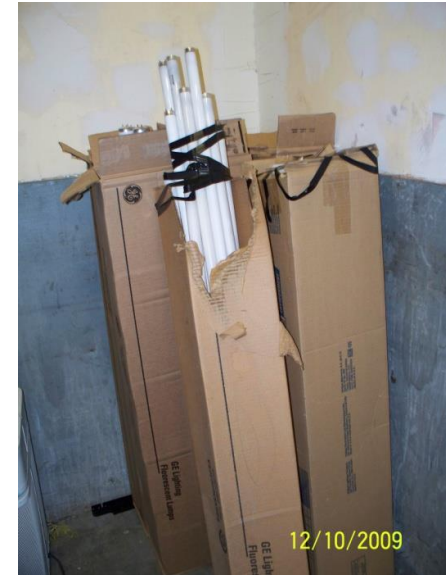
REMINDERS

As of October 23, 2015, the annual fee for conditionally exempt small quantity generators (CESQGs) will be \$250 unless the generator has less than 8 employees. For CESQGs with less than 8 employees, the fee is \$100.

This was added to the regulations to assist smaller businesses. In order to qualify for the \$100 CESQG fee, you must have less than 8 employees company wide.

EXAMPLES

WHAT NOT TO DO



Universal waste lamps must be:

- » in boxes
- » which are closed
- » are labeled
- » and are dated

WHAT NOT TO DO



Labels must be meaningful!

Hazardous waste containers must bear the words “Hazardous Waste” and the date it was determined to be a waste.

SECONDARY CONTAINMENT FOR **SMALL** CONTAINERS OF USED OIL

Secondary containment does not have to be fancy or pretty, it just needs to work!

You may have something appropriate onsite already.



SECONDARY CONTAINMENT FOR **SMALL** CONTAINERS (CONTINUED)



A flammables or corrosives cabinet is often suitable.

Confirm that the unit you have has a tray in the bottom, older units may not have one.

Also, check the tray occasionally to make sure it is not rusted out.

SECONDARY CONTAINMENT FOR **LARGE** CONTAINERS OF USED OIL



These are suitable for use outdoors.



There are different styles available.

SECONDARY CONTAINMENT FOR **LARGE** CONTAINERS OF USED OIL (CONTUNUED)



These are not suitable for use outdoors.

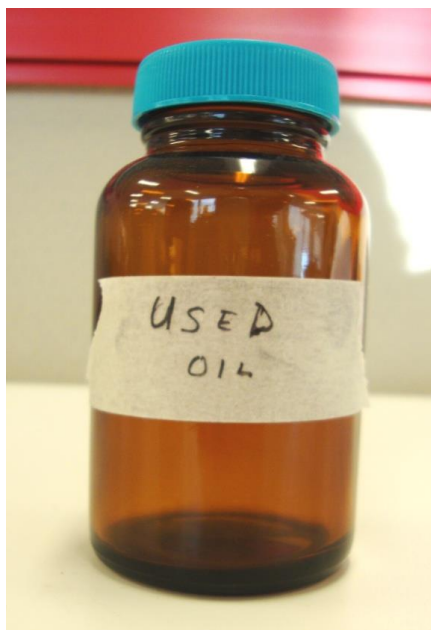
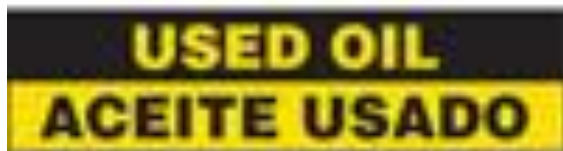
A variety of configurations are available, pick one that works in your space.

SECONDARY CONTAINMENT FOR ABOVE GROUND STORAGE TANKS OF USED OIL



USED OIL LABEL EXAMPLES

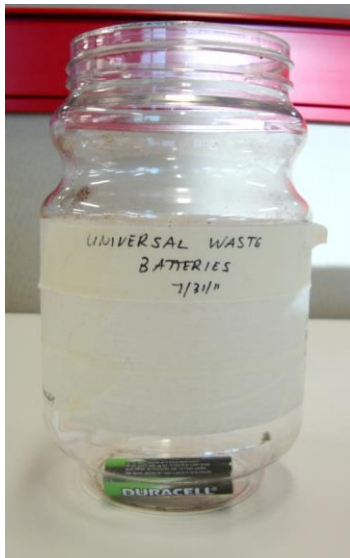
Handmade and hand written labels are ok!



Don't forget that used oil must be in secondary containment, this example is not in secondary containment.

UNIVERSAL WASTE BATTERY LABEL EXAMPLES

Handmade and hand written labels are ok!



Remember to write the date on each label!

It may be easier to put small batteries in a container and label and date the container rather than labeling and dating each individual battery.

UNIVERSAL WASTE LAMP LABEL EXAMPLES



Make sure the date is included

Handmade and hand written labels are ok!

Remember to write the date on each label!

HAZARDOUS WASTE LABEL EXAMPLES

**HAZARDOUS
WASTE**

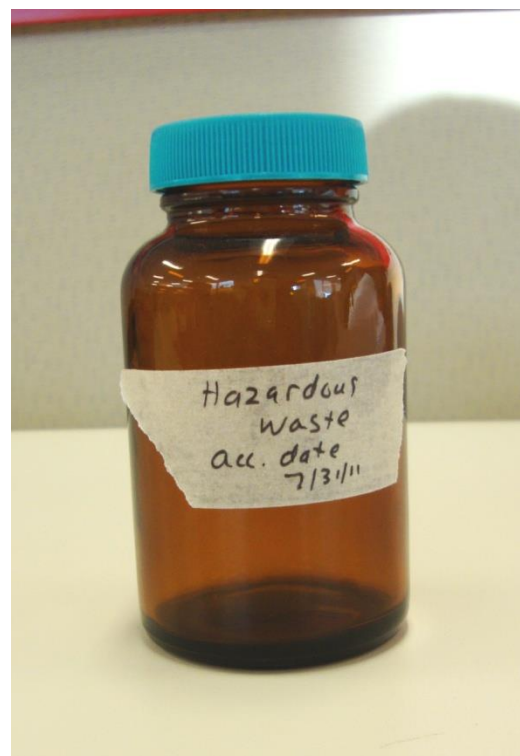
ACCUMULATION
START DATE 6/7/17

CONTENTS _____

HANDLE WITH CARE!
CONTAINS HAZARDOUS OR TOXIC WASTES

Remember to write the date
on the labels!

Handmade and hand written
labels are ok!



CONTAINERS OF USED OIL MUST BE CLOSED

A self-closing funnel may be used with above ground storage tanks or 55-gallon drums of used oil only.



This funnel is not self-closing

Please print or type. (Form designed for use on elite (12-pitch) typewriter) Form Approved OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
5. Generator's Name and Mailing Address		Generator's Site Address (if different than mailing address)			
Generator's Phone:					
6. Transporter 1 Company Name		U.S. EPA ID Number			
7. Transporter 2 Company Name		U.S. EPA ID Number			
8. Designated Facility Name and Site Address		U.S. EPA ID Number			
Facility's Phone:					
GENERATOR	9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	11. Total Quantity	12. Unit Wt./Vol.
	1		Type		
	2				
	3				
	4				
13. Waste Codes					
14. Special Handling Instructions and Additional Information					
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.					
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.					
Generator's/Officer's Printed/Typed Name					
Signature					
Month Day Year					
16. International Shipments ☐ Export to 118 ☐ Export from 118 ☐ Out of country					
Date leaving U.S.:					
17. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name					
Signature					
Month Day Year					
Transporter 2 Printed/Typed Name					
Signature					
Month Day Year					
18. Discrepancy					
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection					
Manifest Reference Number					
U.S. EPA ID Number					
18b. Alternate Facility (or Generator)					
Facility's Phone:					
18c. Signature of Alternate Facility (or Generator)					
Month Day Year					
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)					
1 2 3 4					
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a					
Printed/Typed Name					
Signature					
Month Day Year					

PA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

This is what a “Uniform Hazardous Waste Manifest” looks like

SQGs are required to use manifests, CESQGs are not.

You will get one copy when your hazardous waste items are picked up.

A final copy will be mailed to you when it arrives at the TSDF.

Both CESQGs and SQGs are responsible for the waste “from cradle to grave”, the final manifest copy is your proof that the waste was delivered.

Manifests are a great tool for tracking waste “to the grave”.

Universal waste items are not required to be transported with a manifest, a bill of lading or other document may be used.

This is an example of a “certificate of recycling” for universal waste items.

Note that you are responsible “from cradle to grave”, and this example does not show the “grave” (where the items were delivered to).

CERTIFICATE OF RECYCLING

This certifies that the items/wastes listed below were received for recycling/processing by [redacted] and the transportation, receipt, storage, and processing methods employed are in accordance with local destination facility permit parameters, the Toxic Substances Control Act, The Resource Conservation and Recovery Act, the Hazardous Materials Transportation Act, the Occupational Health and Safety Act, and all applicable federal, state, and local laws.

Items Received

DESCRIPTION	QUANTITY
Misc. Office Machinery	78 lbs
Alkaline Batteries	95 lbs
Non-PCB Ballast	57 lbs
55 Gallon Drum Crushed Lamps	302 lbs

Certificate Issued to:

Organization: [redacted]
Address: [redacted]
City, State, Zip: [redacted]

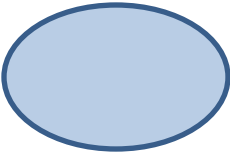
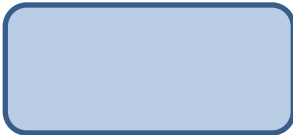
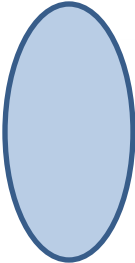
Per our contract with aforementioned destination facility, the above materials have been received for recycling/processing on a date noted below.

[redacted] President 12/12/2014
[redacted] Title Date

[redacted]
CERTIFICATE NUMBER

WHERE IS THE INFO ON AN SDS?

This is what the first page of an SDS looks like:

  	
Safety Data Sheet	
1 - Identification	
Product Name:  NOT FOR SALE IN CALIFORNIA	Manufacturer:  Address:
Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion	Telephone: Emergency only: 1-888-324-7596 (PROSAR) Information: 1-888-324-7596 Chemical Spills: 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)
Restrictions on Use: None identified	
SDS Date Of Preparation: 07/20/2014	
2 - Hazards Identification	
Hazcom 2012/GHS Classification: Flammable Aerosol Category 1 Gas Under Pressure: Compressed Gas Aspiration Toxicity Category 1	
Note: This product is a consumer product and is labeled in accordance with the US Consumer Product Safety Commission regulations which take precedence over OSHA Hazard Communication labeling. The actual container label will not include the label elements below. The labeling below applies to industrial/professional products.	
Label Elements:	
  	
DANGER! Extremely Flammable Aerosol. Contains gas under pressure; may explode if heated. May be fatal if swallowed and enters airways.	

WHERE IS THE INFO ON AN SDS?

PH AND FLASHPOINT ARE **ALWAYS** CALLED OUT

9 – Physical and Chemical Properties

Appearance:	Light amber liquid	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8%
Odor:	Mild petroleum odor	Vapor Pressure:	95-115 PSI @ 70°F
Odor Threshold:	Not established	Vapor Density:	Greater than 1 (air=1)
pH:	Not Applicable	Relative Density:	0.8 – 0.82 @ 60°F
Melting/Freezing Point	Not established	Solubilities:	Insoluble in water
Boiling Point/Range:	361 - 369°F (183 - 187°C)	Partition Coefficient; n-octanol/water:	Not established
Flash Point:	122°F (49°C) Tag Closed Cup (concentrate)	Autoignition Temperature:	Not established
Evaporation Rate:	Not established	Decomposition	Not established

3 HAZARDS IDENTIFICATION

3.1 Fire and Explosion

Flash point:	Tag open cup 44° Celsius (minimum)
Flammable/explosion limits:	(Low) 0.6% (High) 8.0% (Solvent portion)
Extinguishing media:	CO ² , dry chemical, foam

WHERE IS THE INFO ON AN SDS?

CHECK THE 'DISPOSAL CONSIDERATIONS' FOR USEFUL INFORMATION

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Do not puncture or incinerate containers, even empty. Dispose in accordance with federal, state, and local regulations.

RESOURCES

Questions can be answered by contacting DOE Hazardous Waste Branch at: (202) 671-3308

District Regulations and Law may be viewed online at: <http://doee.dc.gov/node/14732>

EPA Form 8700-12 can be found here:

<https://doee.dc.gov/sites/default/files/dc/sites/ddoe/publication/attachments/Form%208700-12%20notification.pdf>

Guide: How to Determine if Solvents That Can No Longer Be Used in the Workplace Are Hazardous Waste

<https://www.epa.gov/hwgenerators/guide-how-determine-if-solvents-can-no-longer-be-used-workplace-are-hazardous-waste>

Department of Energy and the Environment website: www.doee.dc.gov

EPA Regulations may be viewed online at: <https://www.epa.gov/rcra/resource-conservation-and-recovery-act-rcra-regulations#haz>

EPA Assistance document for Managing Hazardous Waste for Small Businesses. This addresses only the Federal requirements: <https://www.epa.gov/sites/production/files/2014-12/documents/k01005.pdf>

Webinar about Federal RCRA C (hazardous waste) requirements only, hosted by WSPPN, and the State of Hawaii: <http://wsppn.org/webinars/>

<http://wsppn.org/wp-content/uploads/2011/09/Haz-Waste-Webinar-March-20131.pdf>

Link to ECHO, a national database listing all registered hazardous waste sites: <http://echo.epa.gov/>



Katie Bergfeld
Energy Office
DOEE



DEPARTMENT
OF **ENERGY &
ENVIRONMENT**

DC Energy Benchmarking

Katie Bergfeld

Department of Energy & Environment
Government of the District of Columbia

August 22, 2017

DOEE HQ
1200 First St NE
Washington DC

Toward a Sustainable DC

- **Overall Vision:**

- In just one generation—20 years—the District of Columbia will be the healthiest, greenest, and most livable city in the United States.

Targets: By 2032...

- Cut citywide energy use 50%
- Cut citywide greenhouse gas emissions 50%
- Increase use of renewable power to 50%

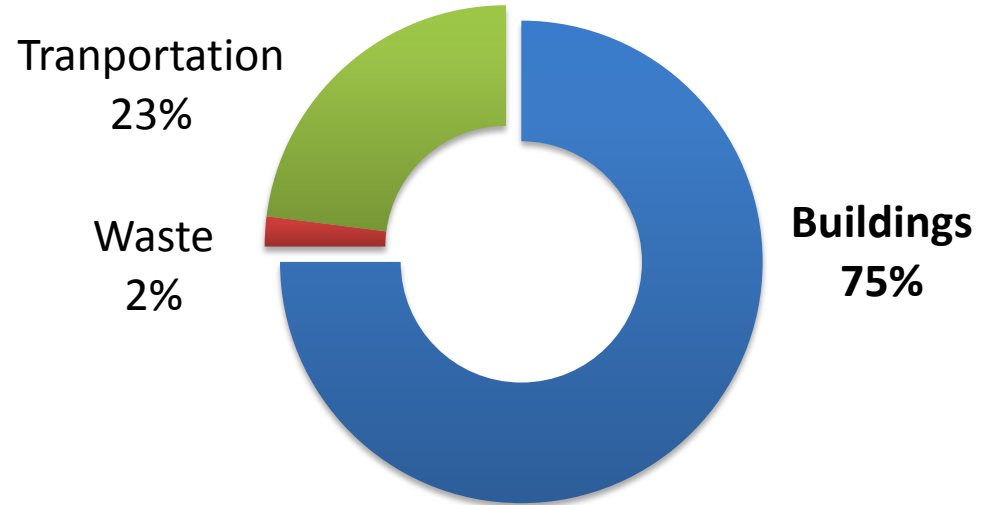
Purposes of a Benchmarking Law

1. Help Owners and Managers understand and their energy use and compare to peers
2. Help Policymakers and DSM Program Administrators with analysis, planning, & program design
3. Drive Market Transformation

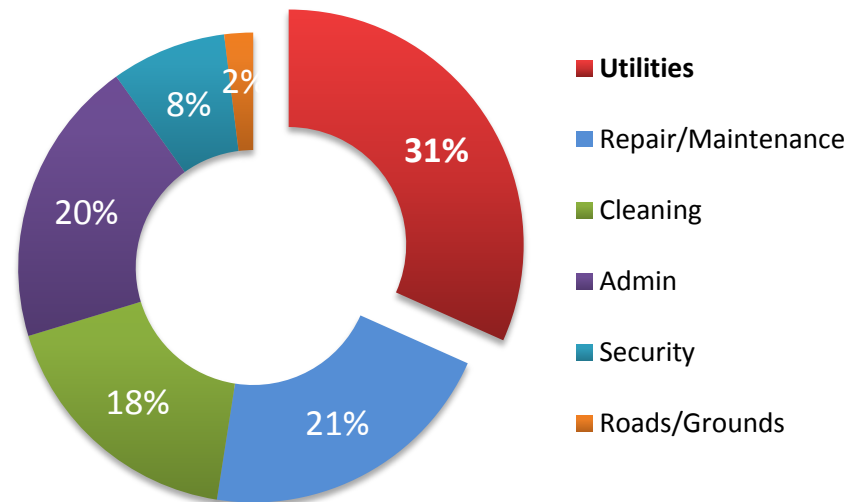
Building Energy Use in DC

Buildings are DC's largest source of Greenhouse Gas Emissions:

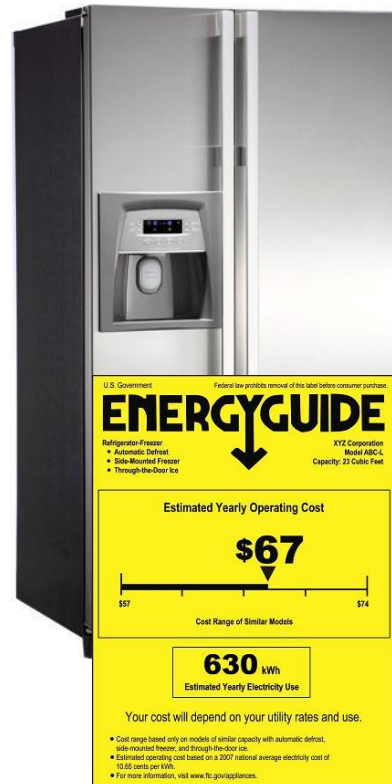
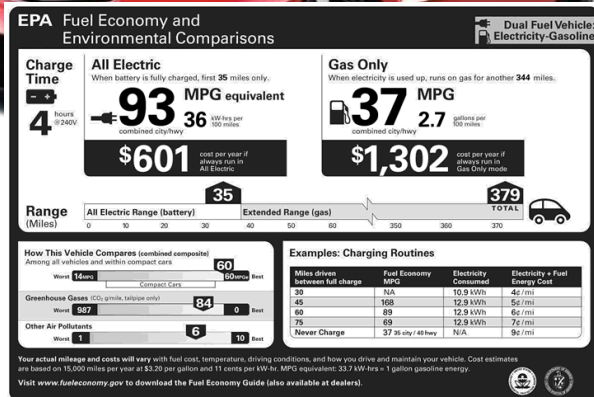
Utilities are the largest non-fixed expense for DC building owners.



Source: DC 2011 GHG Inventory



Source: BOMA, 2010





Based on Department of Energy & Environmental Protection
ENERGYGUIDE
Compare the Energy Use of this Refrigerator
with Others Before You Buy.

This Model Uses
62 kWh/year

Energy use (kWh/year) range of all similar models
50-70

Based on Department of Energy & Environmental Protection
ENERGYGUIDE
Compare the Energy Use of this Refrigerator
with Others Before You Buy.

This Model Uses
62 kWh/year

Energy use (kWh/year) range of all similar models
50-70

Based on standard U.S. Government Units
ENERGYGUIDE
Compare the Energy Use of this Refrigerator
with Others Before You Buy.

This Model Uses
60 kWh/year

Energy use (kWh/year) range of all similar models
50-70

DC BENCHMARKING LAW

• **Green Building Act of 2006 & Clean and Affordable Energy Act of 2008.**
DC Official Code 6-1451.02, .03(c). Also 20 DCMR 3513.

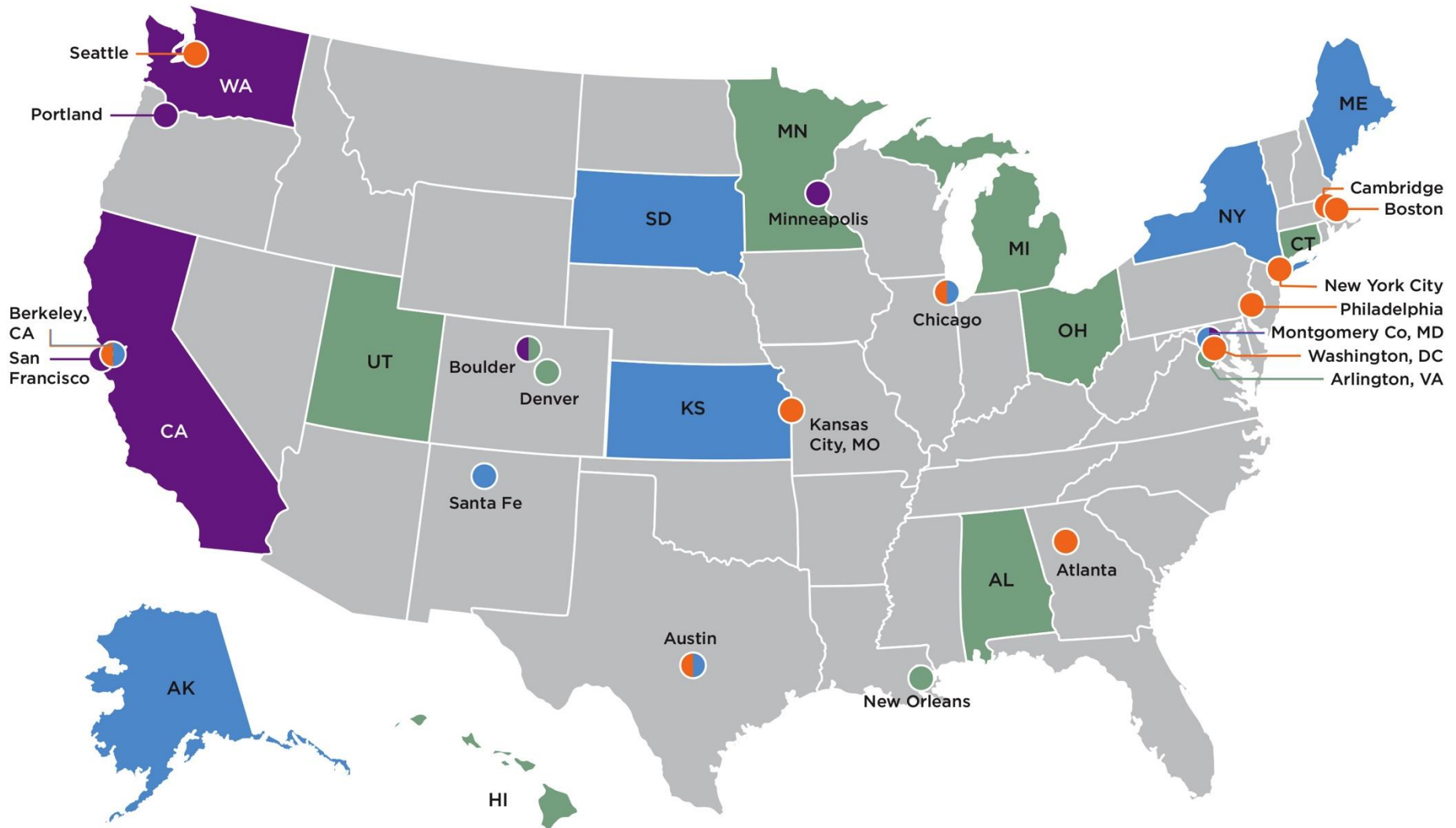
- All large existing buildings must annually benchmark energy and water usage in *ENERGY STAR® Portfolio Manager®* and report to DOEE by April 1st of each year
- (Large New Buildings must model and report projected energy use in *ENERGY STAR® Target Finder™*)
- Adopted in 2008, implemented 2013
- *Benchmarking data disclosed beginning in 2nd year*



ENERGY STAR®
PortfolioManager®

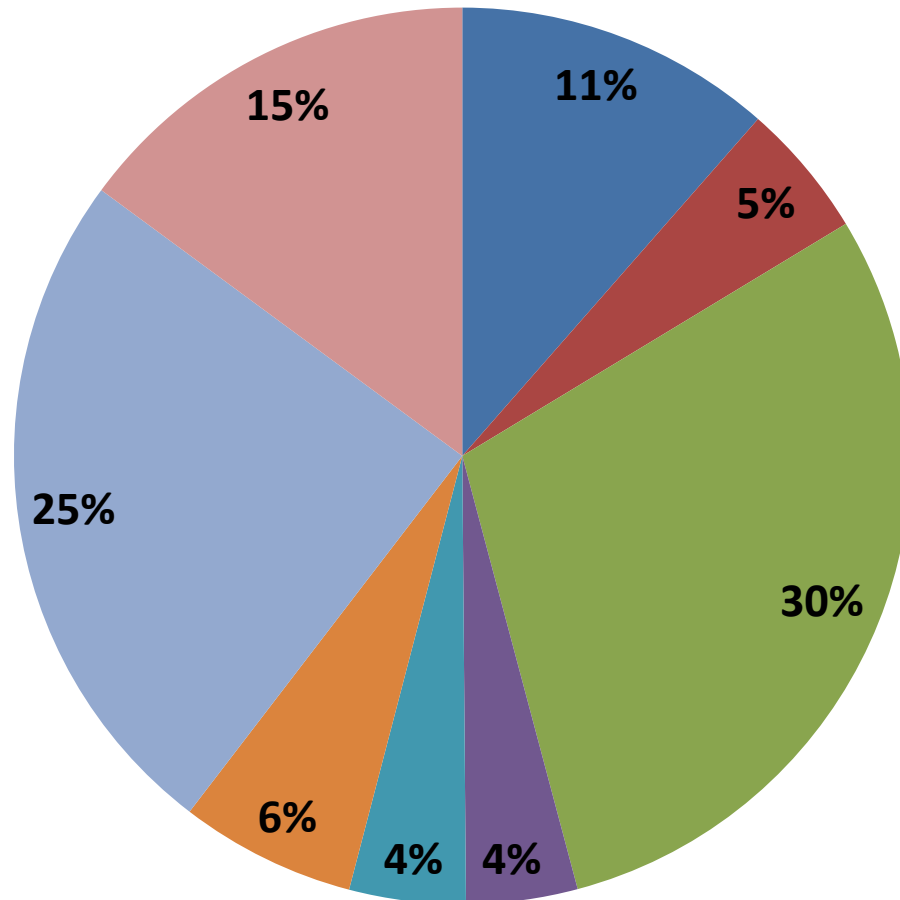


U.S. Building Benchmarking and Transparency Policies

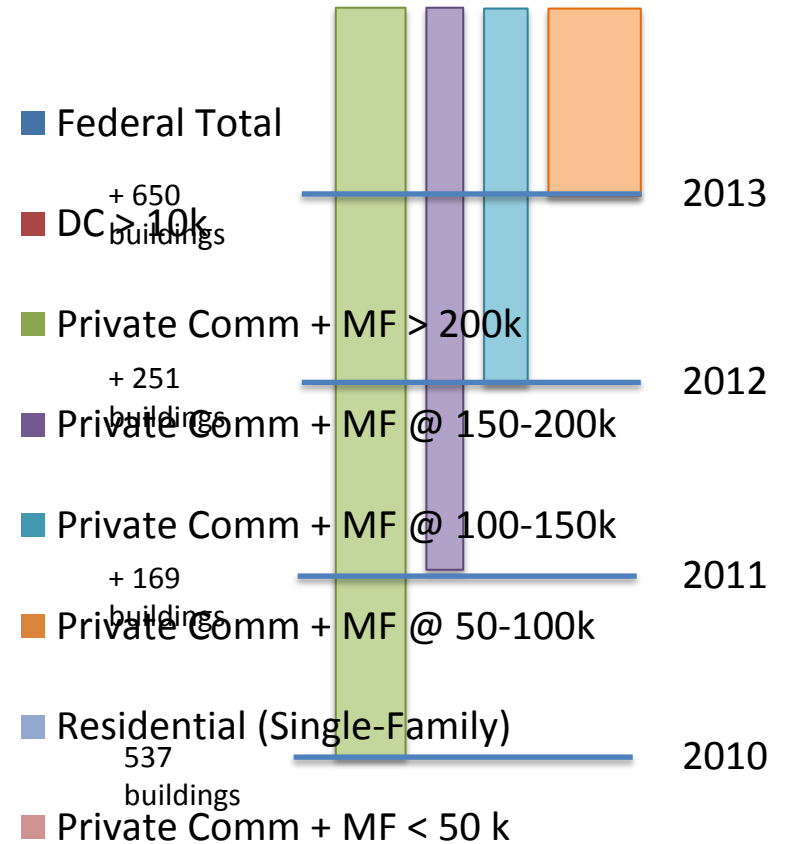


What Buildings?

Building Area Breakdown of DC



Years of Private Building
357 million covered square feet
Data Reported



Enforcement Cycle

Prepare

- **December - January**
- Publish Covered Building List, Updated Guidance Documents

Support

- **February – March: “Reporting Season”**
- Building owners compile data, enter in Portfolio Manager
- Benchmarking Help Line Provides Support

Report

- **April 1st**
- Annual Reporting Deadline

Review

- **April-May**
- DOEE reviews data completeness and quality; follows up
- Initial Data shared with Partners

Warn

- **May-July**
- Notices of Violation (NOVs) issued; sets 30-day warning period

Fine

- **July-Fall**
- Notices of Infraction (NOIs) issued
- Fines of \$100/day; usually \$1,000 for 10 days

Disclose

- **Late Summer / Early Fall**
- Public Disclosure published
- Summary Analysis published

Keys to Success

1. Common Standards
2. Transparency
3. Data Quality
4. Training & Engagement
5. Data Access
6. Enforcement

Common Standards

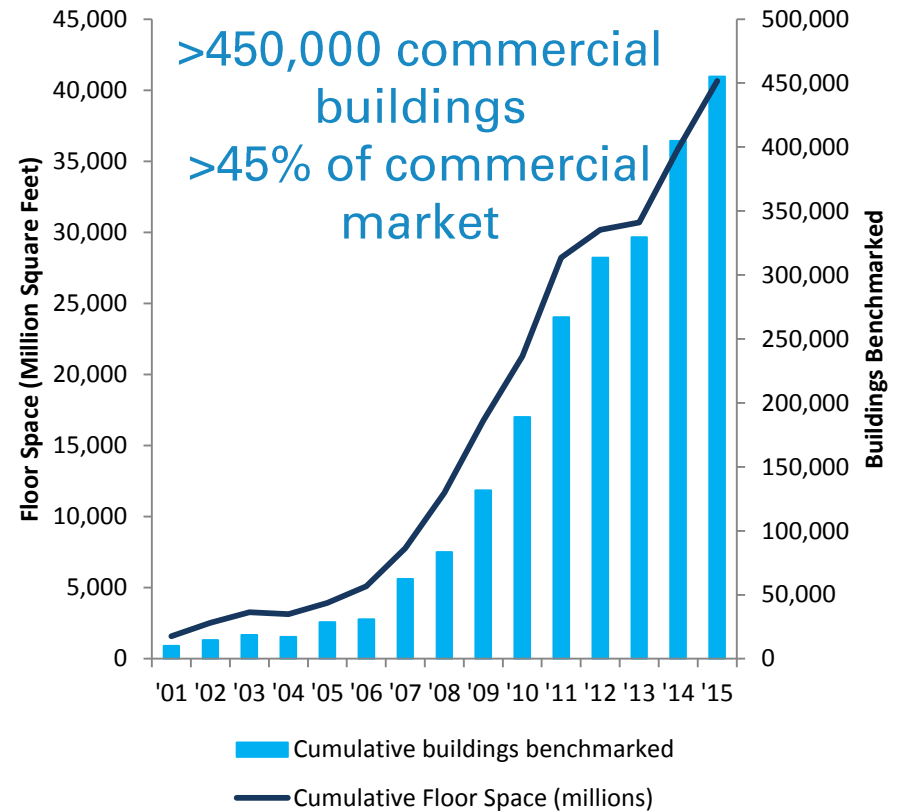


ENERGY STAR®
PortfolioManager®

The most-used energy measurement and tracking tool for commercial buildings.

Benefits of using Portfolio Manager:

- Free
- Accessible (web-based)
- Industry-standard
- Provides 1-100 score to help building owners easily assess energy usage



Transparency

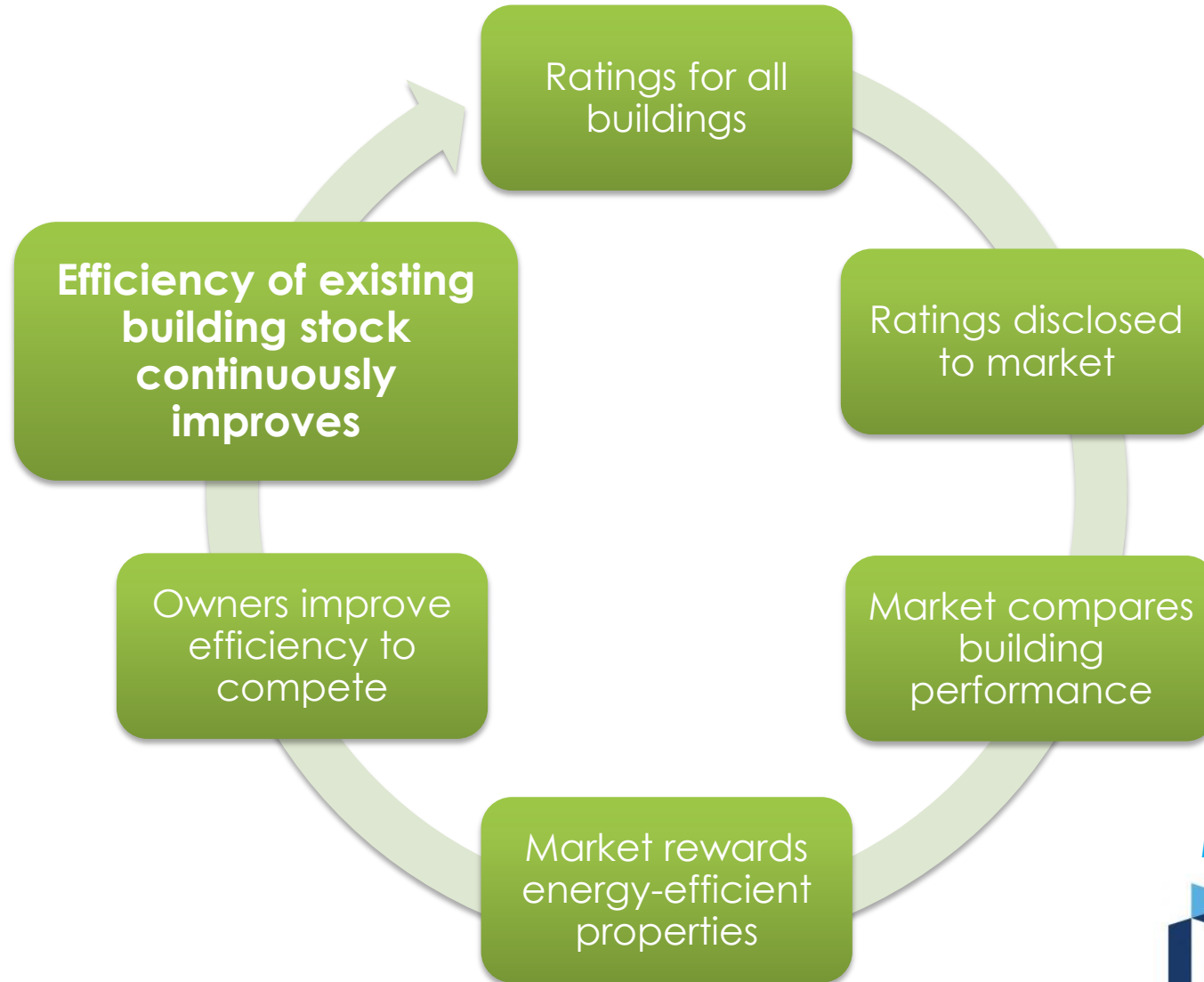


Image courtesy of

ENERGY USE ADDS UP

Over **400 DGS facilities** serve nearly **100,000** people every day.

\$75,000,000
spent on energy, annually

360,000 tons of CO²
emitted every year by buildings

10% drop in kWh
since BuildSmart DC launched



DELIVERING RESULTS

Innovative programs **create savings** and **lower emissions** by finding **new and unique** sources of power.

Dunbar High School Rooftop Solar Panels

Last school year, DGS - Sustainability & Energy proudly presided over the launch of a 463 kiloWatt solar panel installation at Dunbar High School. This installation is the largest rooftop solar panel array in the District, and helped Dunbar receive the highest LEED certification score ever for an American high school.

LEED POINTS
91

SIZE
343,400 SF

ANNUAL ENERGY COST
\$735,088

463
KW

FIND YOUR BUILDING

BUILDINGS



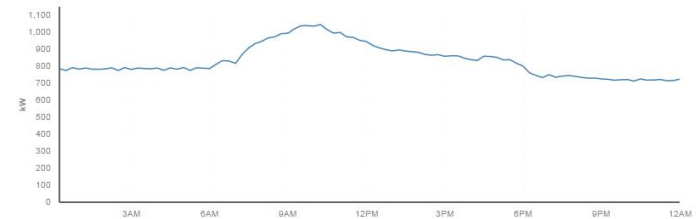
The John A. Wilson Building, popularly known simply as the Wilson Building or the JAWB, houses the offices and chambers of the Mayor and Council of the District of Columbia. Originally called the District Building, it was renamed in 1994 to commemorate former Council Chair John A. Wilson. [Show More](#)

Last Recorded Day
03/09/2015

Last 10 Days
Electricity Demand

Monthly
Energy Usage

Downloads



BUILDING TYPE
Office

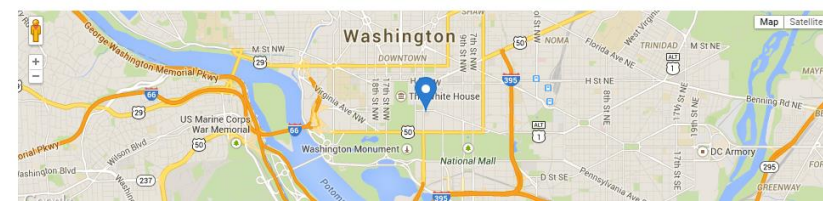
SIZE (FT²)
328,760

EUI (KBTU/SF/YR)
63

ANNUAL ENERGY COST
\$705,502.28

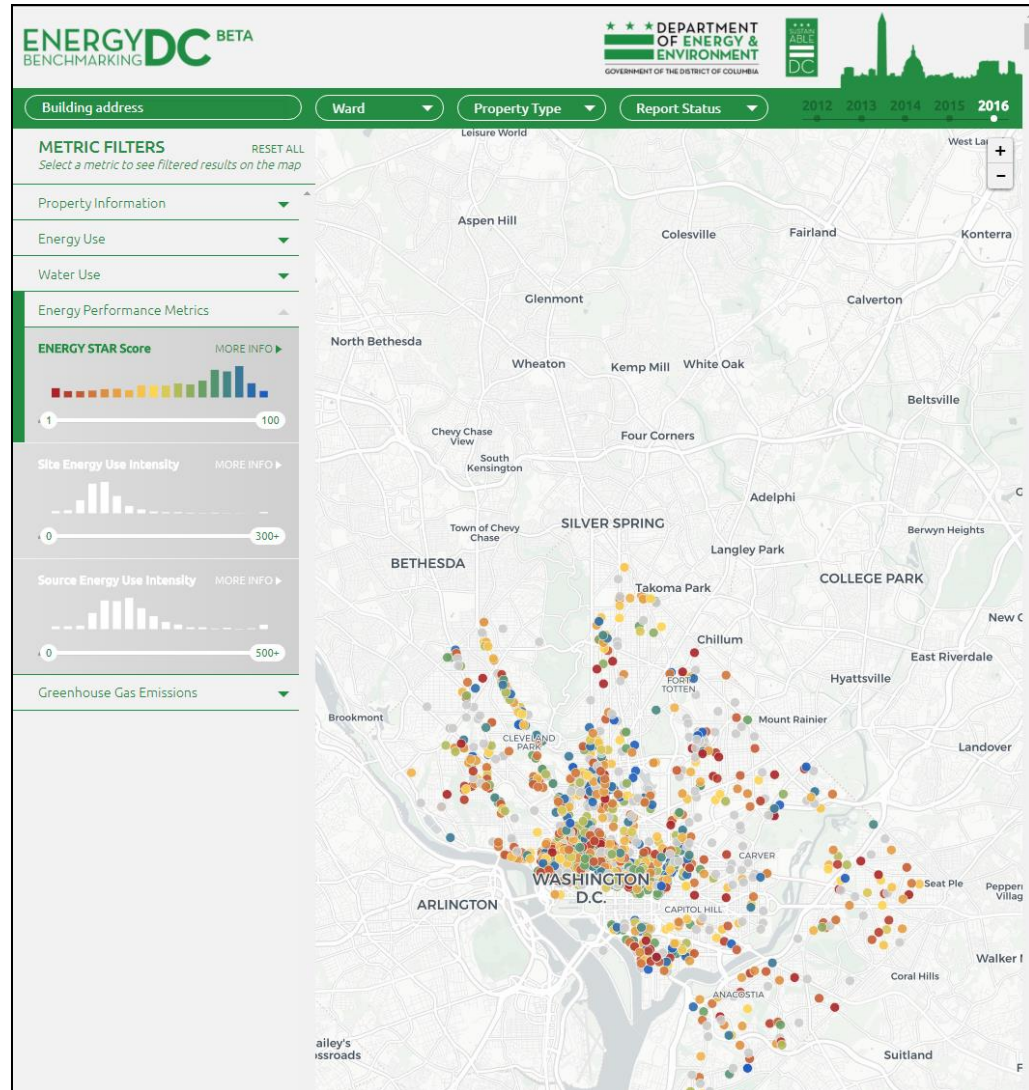
ANNUAL GHG EMISSIONS (TONS)
3,572.74

Data services and analytical graphics provided by



Transparency

DOEE launched
new map in
September
2017

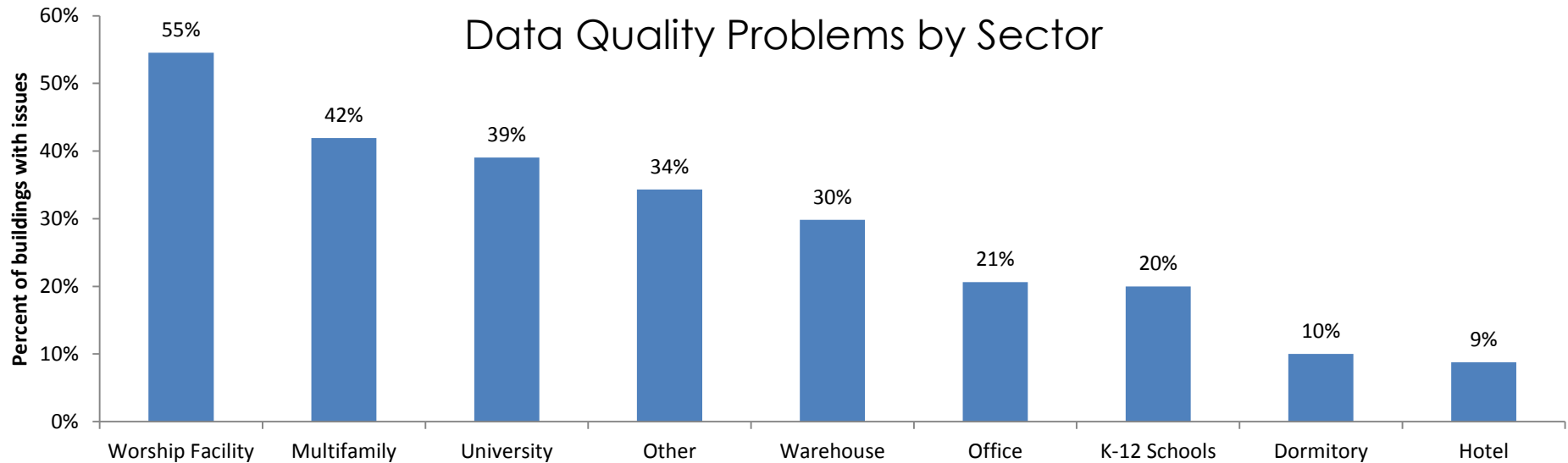
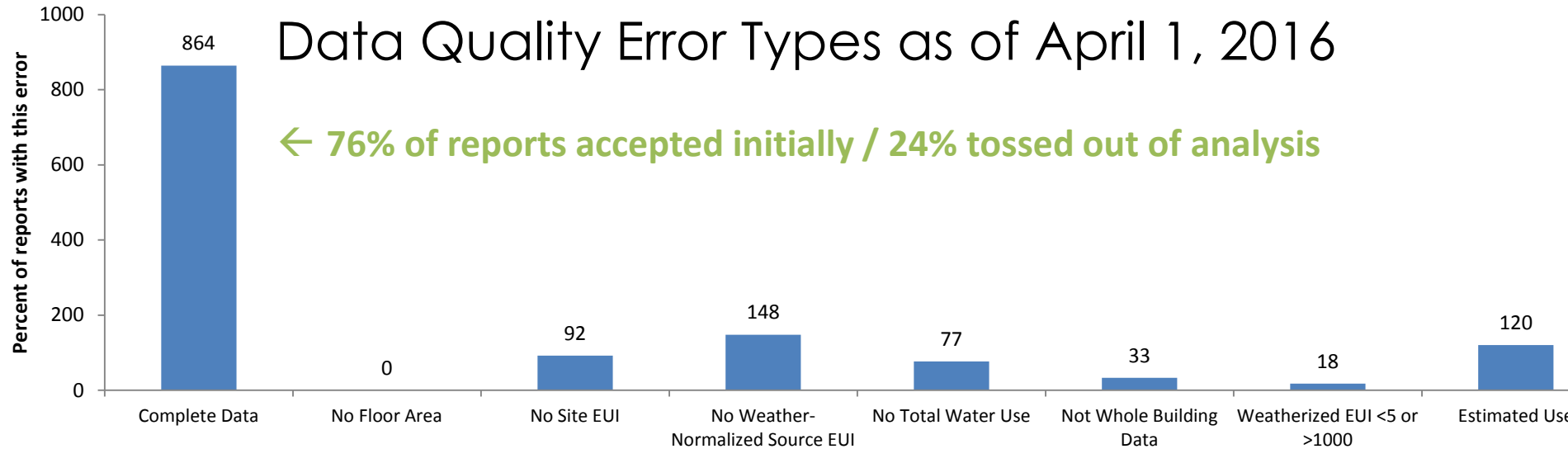


www.energybenchmarkingdc.org

Data Quality

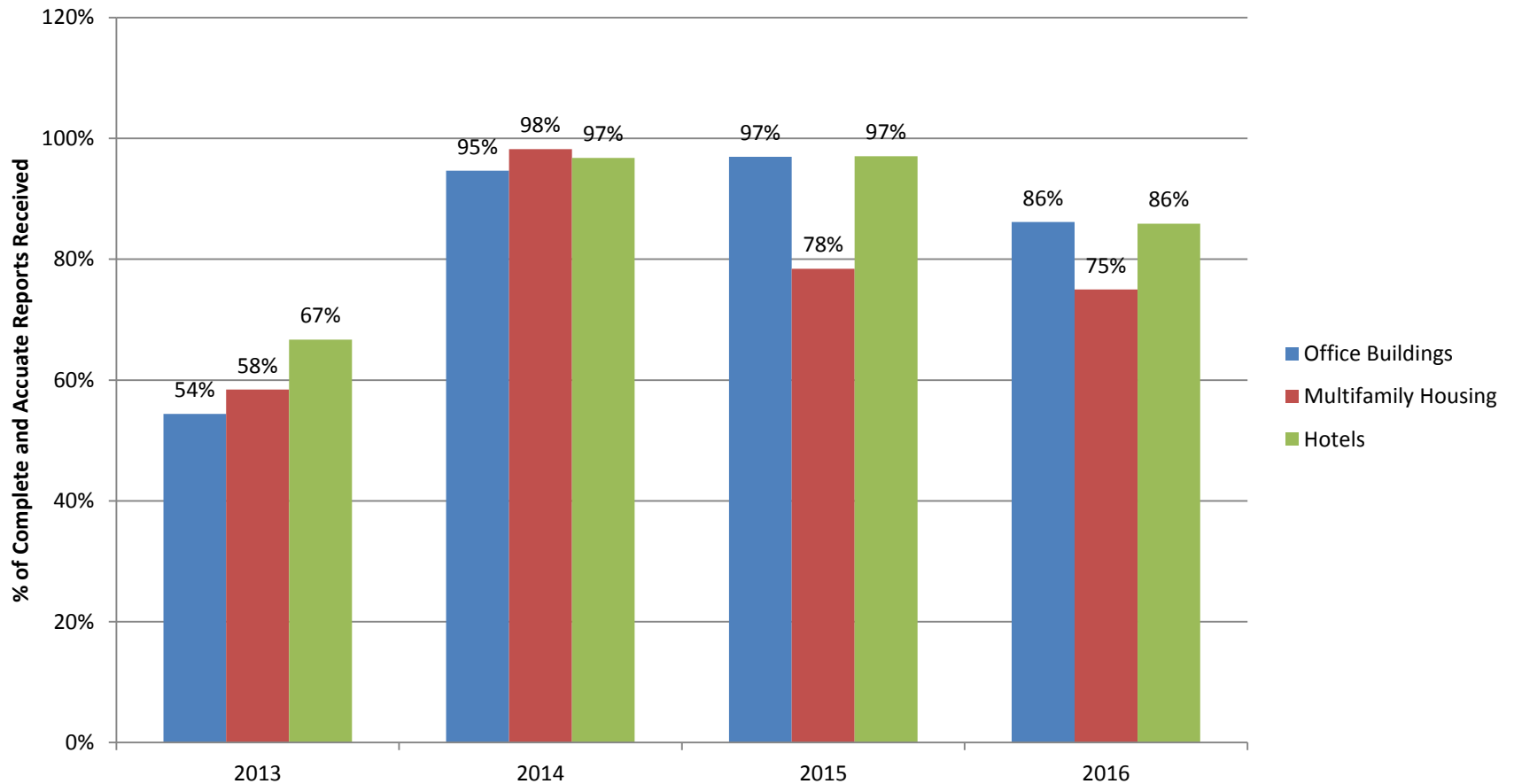
Data Quality Error Types as of April 1, 2016

← 76% of reports accepted initially / 24% tossed out of analysis



Data Quality

Complete and Accurate Reports for Private Buildings by Sector (2013-2016)



Training & Engagement

•Benchmarking Help Center

- 2013-2014, @ DCSEU: Over 3,000 email & phone requests
- 2015-present @ DOEE: Over 4,000 email & phone requests
- 20+ in-person trainings
- Assistance both before *and after* reporting

•Partners are key



Utility Data Access: Protecting Privacy

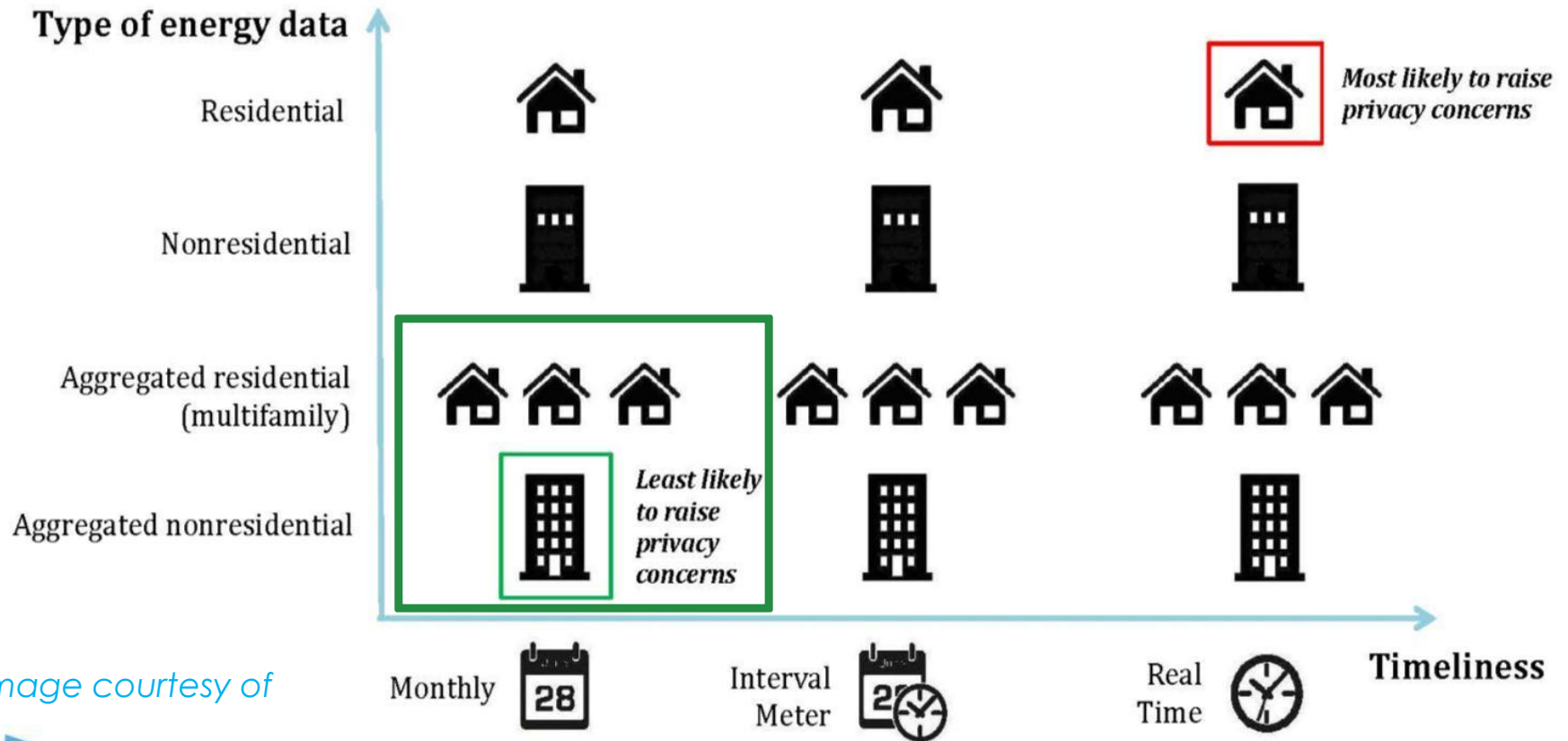


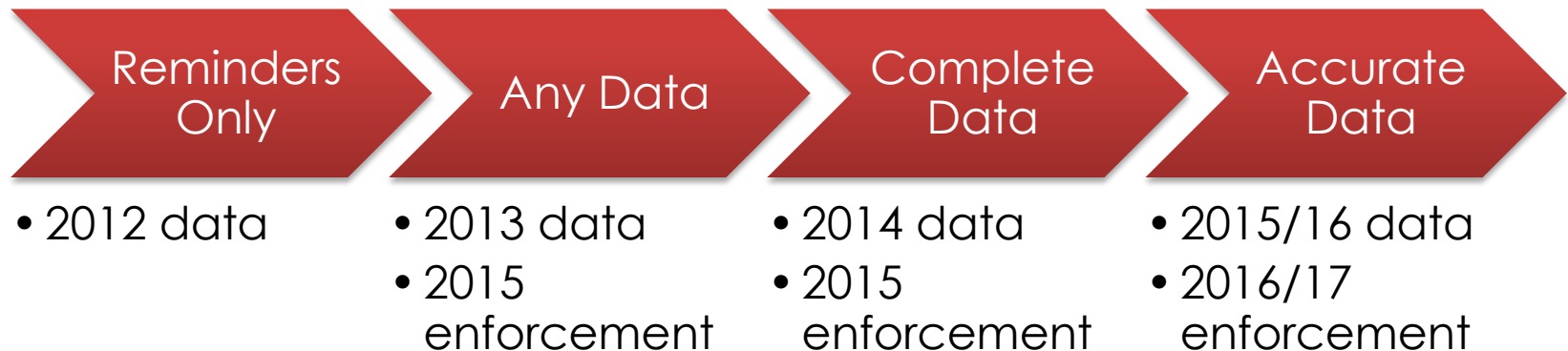
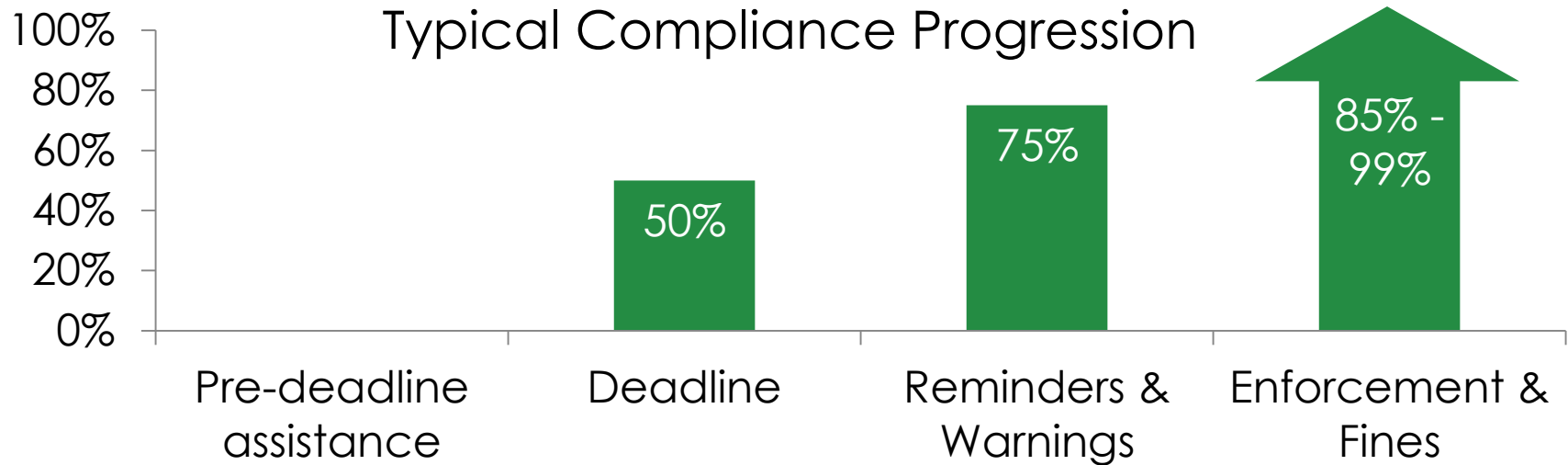
Image courtesy of

Utility Data Access: Expanded Access

- Partial Solution: DOE requires non-residential tenants to provide their landlord access to data
- Better Solution: **Aggregated whole-building consumption data, with direct automated upload to ENERGY STAR Portfolio Manager**
 - Mandated in the *Sustainable DC Act of 2014*
 - Pepco (Electricity): Aggregation & Upload Available Now
+ *Next-day Green Button Interval Data Feed*
 - Washington Gas: Aggregation Now, Upload in 2018



Increasing Enforcement



Thank You!



Contact the DOEE Benchmarking Help Center:

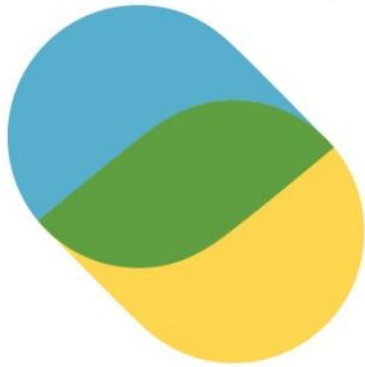
Website: <http://doee.dc.gov>

Email: info.benchmark@dc.gov

Phone: [\(202\) 671-3300](tel:(202)671-3300)

Twitter: [@DOEE DC](https://twitter.com/DOEE_DC)

Brandon Conheim, PE, CEM, LEED-AP
DC Sustainable Energy Utility (DCSEU)



DC SUSTAINABLE ENERGY UTILITY

Brandon Conheim, *PE, CEM, LEED-AP*

Account Manager, CRE

&

Rick Fleury

Trade Ally Manager

January 17th & 24th, 2018

AGENDA

- **DCSEU Overview**
- **Program Overview**
 - Available rebates & incentives
 - Available support resources
 - Step-by-step process for applying and estimated timeline

What Is the DC Sustainable Energy Utility?

- Technical Assistance and Rebates for District Residential, Commercial and Institutional Customers
- Performance-Based Goals:
 - 1% Energy Reduction in the District
 - Create Green Jobs
 - Provide Support to Low-Income Communities

Working with the DCSEU

- **Self Service**

- **Instant Rebates:** Lighting
- **Business Energy Rebates:** Lighting, HVAC, Refrigeration, Food Service Equipment
- **Value:** Up to \$50,000 in rebates per fiscal (per client site)

- **Custom Service**

- **Energy Management Support:** Assistance with custom analysis, incentives, obtaining project financing
- **Value:** Varies by project; typically capped at 50% of project cost

- **Income Qualified Efficiency Fund**

- **Value:** Project management, higher incentives,
 - *Low-Income Communities can be classified as Multifamily Buildings, Clinics, or Shelters that serve low-income households*
 - Must use a DCSEU Qualified Contractor for work performed

No-Cost Technical Support

IDENTIFYING OPPORTUNITIES

- Site walkthroughs
- Capital planning assistance
- No-cost technical assistance
- Interval data analysis
- Peer-to-peer information exchange
- New technology seminars

FINDING SOLUTIONS

- Project planning & prioritization
- Unbiased review of vendor quotes
- Data logging baseline energy usage
- Guidance on operations and maintenance adjustments

PROJECT ANALYSIS

- Cash flow and ROI analysis
- Post-installation data logging
- Project savings regression analysis

CALCULATING IMPACT

- Demonstrating value to decision makers
- Analysis of reduced operations and maintenance costs
- Increased comfort and employee performance
- Guidance on PR and marketing opportunities

Rebate Program Overview

Product Category		Rebates	Standard Rebate	Contact DCSEU
Lighting	Interior LEDs	\$3 to \$15	X	
	Exterior LEDs	\$3 to \$80	X	
	Controls	\$20 to \$40	X	
	Screw-Based LED Bulbs	\$3 to \$5	X	
	Ambient Light Fixtures and LED Tube Lighting	\$2 to \$60	X	
Heating and Ventilation	Condensing Boiler 75-225 kBtu/hr AFUE >= 90%	\$2.50 per kBtu/hour	X	
	Condensing Furnaces <225 kBtu/hr AFUE >= 95%	\$2.75 per kBtu/hour	X	
	Condensing Boiler > 225 kBtu/hr	Custom		X
	Variable Frequency Drives (VFDs) > 15hp	Custom*		X
	Demand Controlled Ventilation	Custom*		X
	Chillers	Custom**		X
	Steam Trap Replacement	Custom		X
	Heat Pumps	Custom***		X
Refrigeration	ENERGY STAR® Reach-in Refrigerators up to 80 cubic feet	\$75 to \$225	X	
	ENERGY STAR Freezers up to 80 cubic feet	\$100 to \$350	X	
	ECM Motors for Walk-in Coolers and Freezers	Custom		X
Food Service Equipment	Steam Cooker	\$750 (gas) / \$400 (electric)	X	
	Hot Food Holding Cabinet (electric)	\$300	X	
	Combination Oven	\$750 (gas) / \$600 (electric)	X	
	Convection Oven (electric)	\$225	X	
	Griddle	\$300 (gas) / \$250 (electric)	X	
	Fryer	\$500 (gas) / \$150 (electric)	X	
	Spray Rinse Valve (<= 1.6gpm)	\$40	X	

Custom Rebate Process

1. Provide DCSEU with project details:
 - Scope of work; old and new equipment specs; utility data; and answer additional questions
2. DCSEU engineer calculates or verifies estimated energy savings:
 - Retrofit savings = new equipment vs. old equipment
 - Market Opp. savings = new equipment vs. minimum code
 - New construction
 - Old equipment beyond ASHRAE life expectancy
3. DCSEU provides Incentive Agreement for signature
4. DCSEU conducts visual inspection
5. Check mailed within 4 – 6 weeks

Energy Efficiency First-Steps

- LED Lighting
 - Quick payback: approx. 2 – 10yrs
 - Upstream lighting pilot program with participating distributors
- VFDs
 - 15HP and below, rebate incentive = \$150/HP
 - 15HP+, custom rebate incentives available
- Steam traps
 - Assistance with conducting steam trap survey
 - Rebate incentives for replacing inefficient/failing traps
- Pay-for-Performance (Pilot)
 - Sub-metering/Building Automation Systems
 - Identify problems and opportunities

Additional info available at:

www.dcseu.com/for-my-business

CONTACT INFO:

Brandon Conheim - Account Manager, CRE

mobile: (202) 420-8317 | email: bconheim@dcseu.com

Rick Fleury - Trade Ally Manager

office: (202) 677-4836 | email: rfleury@dcseu.com



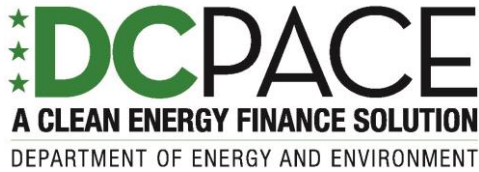
Upasana Kaku
Urban Ingenuity

DC PACE: Financing Energy, Water, and Infrastructure Upgrades



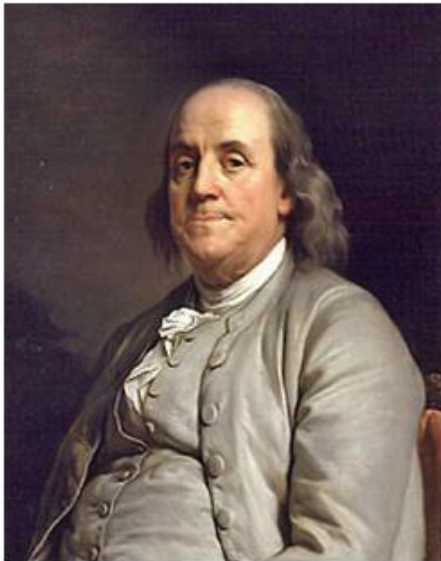
★ **DC**PACE
★
★
★
A CLEAN ENERGY FINANCE SOLUTION
DEPARTMENT OF ENERGY AND ENVIRONMENT

PACE: A New Use for an Old Concept



DC PACE is the District's clean energy financing program for building upgrades.

Urban Ingenuity is the DC PACE program administrator, under contract to DOEE



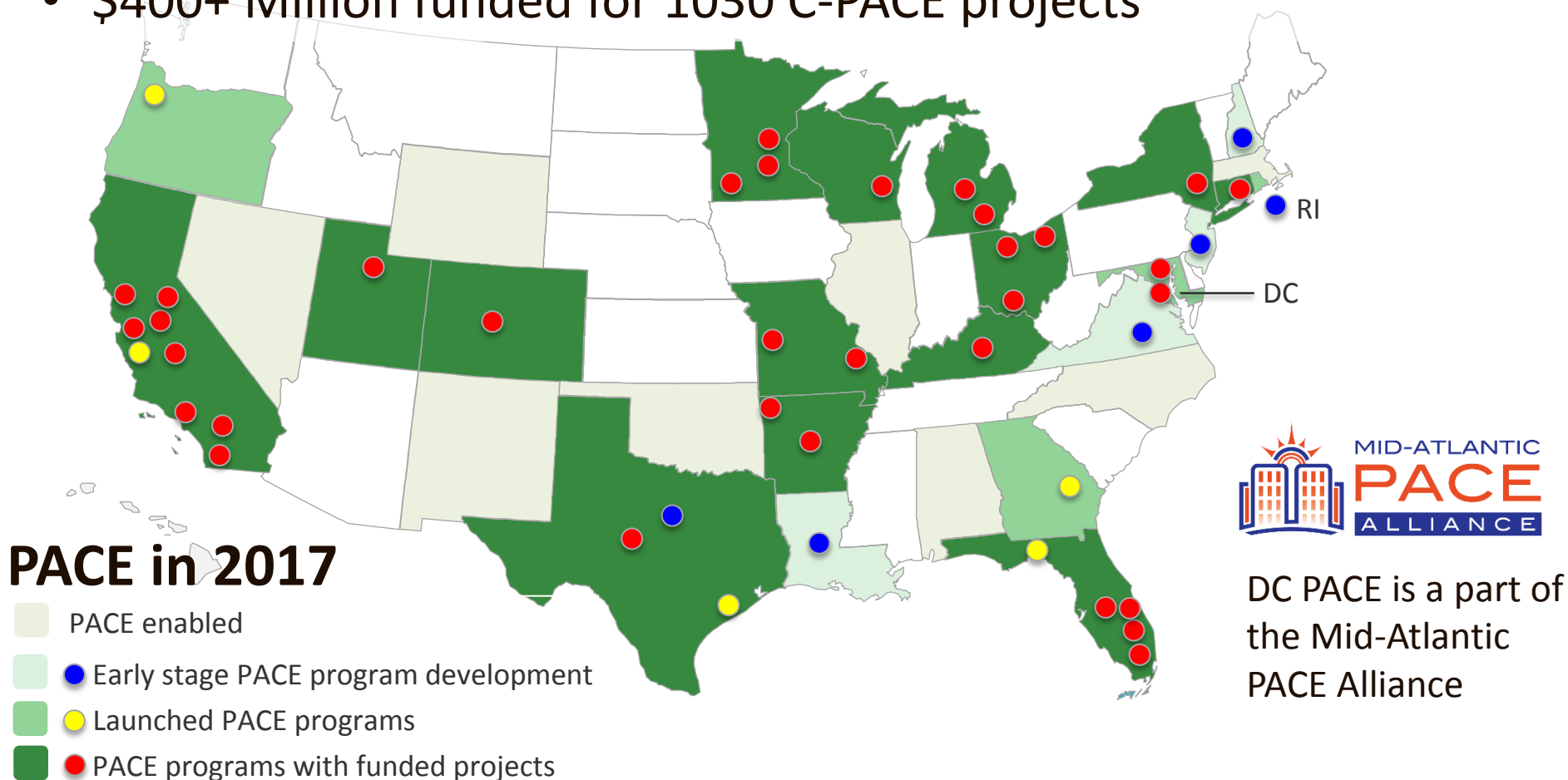
Philadelphia first used this mechanism for an opt-In Fire District in 1736

About Property Assessed Clean Energy

- **Zero Dollars Out-of-Pocket:** PACE provides property owners with up to 100% financing for energy and water upgrades at long (15 - 20 year) terms
- **NOI Positive:** Owners realize savings immediately, and use those savings to pay back the cost of the measures through a special assessment that is placed on the property
- **Off-Balance Sheet:** Extend the capital budget and finance comprehensive projects with potentially off-balance sheet financing – PACE is not conventional debt

Commercial PACE Programs Nationwide

- Commercial PACE available in 32 states + DC (19 active programs)
- \$400+ Million funded for 1030 C-PACE projects



What projects can be financed?



Office



Institutional



Multifamily



Industrial

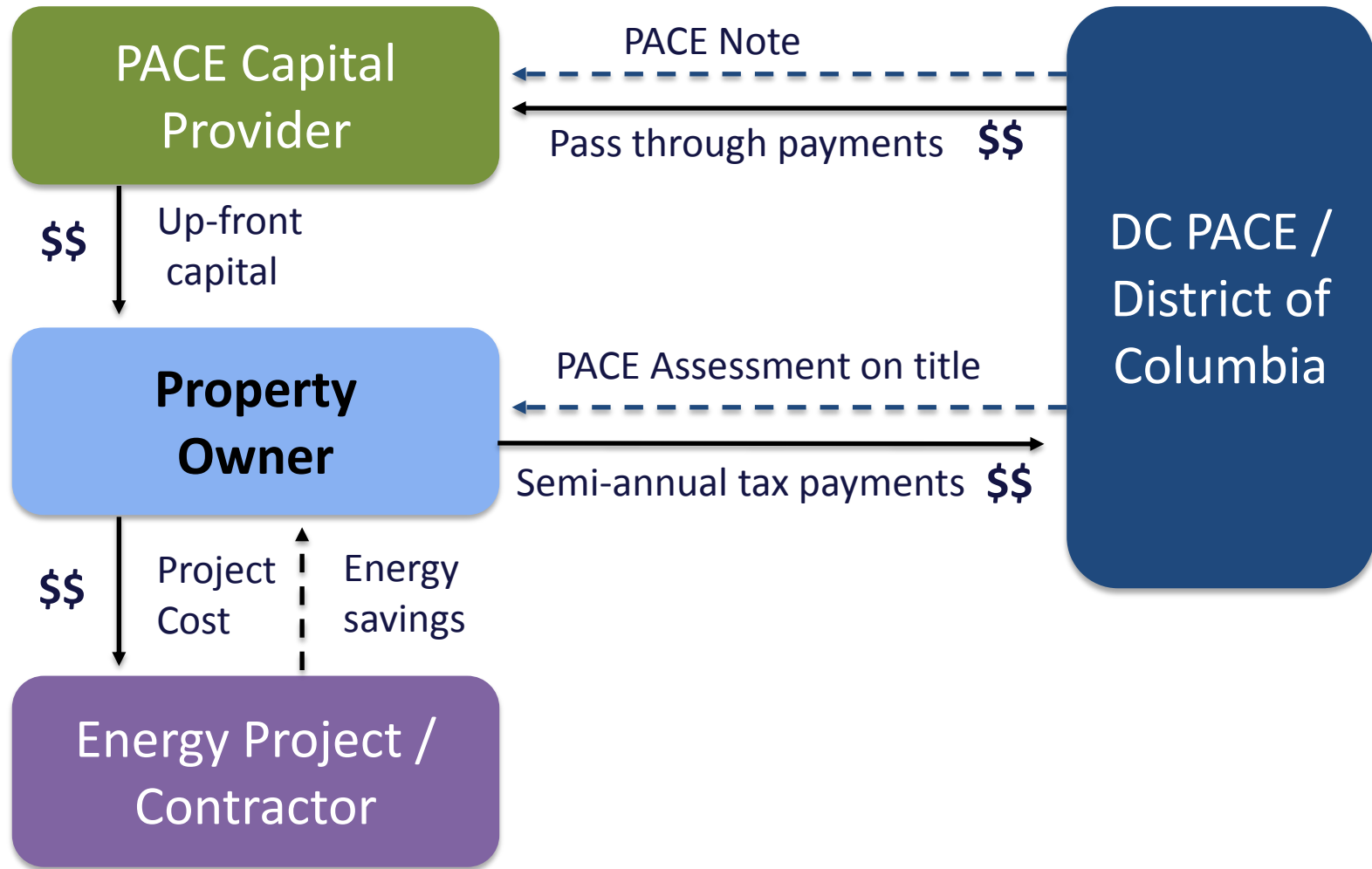
Properties

- Most commercial properties in the District of Columbia (many MD counties too)
- Both for profit and tax-exempt properties are eligible
- Stand alone / part of larger capital stack
- Must be current on taxes
- Not owned by govt. (but groundlease may be okay)

Measures:

- Almost anything tied to an energy or water saving
- Large multi-measure retrofits
- Single-measure like solar panels, boiler replacements, etc.
- Clean energy improvements
- Energy efficiency upgrades (HVAC, lighting, envelope, controls, etc.)
- Water conservation measures
- Rehab or new construction

How it works: *DC PACE transaction structure*



How PACE Works: *Case Study*

Customer: Downtown office building with energy-conscious anchor tenant

- High annual energy spend
- Building constructed in 1980s, due for capital upgrades

Challenge: Finance large retrofit project without adding debt

Project: EE, water conservation measures, roof replacement



Note: Project financials have been simplified for illustrative purposes.

How PACE Works: *Sizing the Financing*

ECMS	Cost
Lighting	\$150,000
Water conservation	\$25,000
HVAC improvements	\$775,000
Roof rehab	\$550,000
Building controls	\$100,000
Total	\$1,600,000

Annual Savings	
Energy	\$100,000
Water	\$10,000
O&M	\$60,000
Total	\$170,000



PACE Eligibility

- Savings can offset annual payments up to \$170,000
- That finances up to \$1,950,000 (20 year term)

How PACE Works: *Project Cash Flow*

Project Basics

- PACE Eligibility: Up to \$1,950,000
- Actual Project Size: \$1,600,000
- Annual PACE Payments: \$140,000

- Improved building performance, lower operating costs, and improved NOI for owner
- PACE includes cost of structural improvements, key infrastructure upgrades with no out-of-pocket cost

Annual Cash Flow	
Utility Savings	\$110,000
O&M Savings	\$60,000
Total Savings	\$170,000
PACE Payments	-\$140,000
Net Cash Flow	\$30,000
\$600K net cashflow over 20 years	

Note: Project financials have been simplified for illustrative purposes.

How PACE Works: *Economic Case*

	Self-Funded	PACE
Investment by Property Owner	\$1,600,000	\$0.00
Annual Utility Savings	\$170,000	\$170,000
Annual PACE Payment	\$0.00	\$(140,000)
Net Benefit Year 1	\$(1,430,000)	\$30,000
Annual Net Benefit Years 2-20	\$170,000	\$30,000
5-year NPV of Cash Flows (@ 6% discount rate)	\$(793,000)	\$136,000
10-year NPV of Cash Flows (@ 6% discount rate)	\$(258,000)	\$221,000
5-year IRR	-18%	Infinite
10-year IRR	1%	Infinite

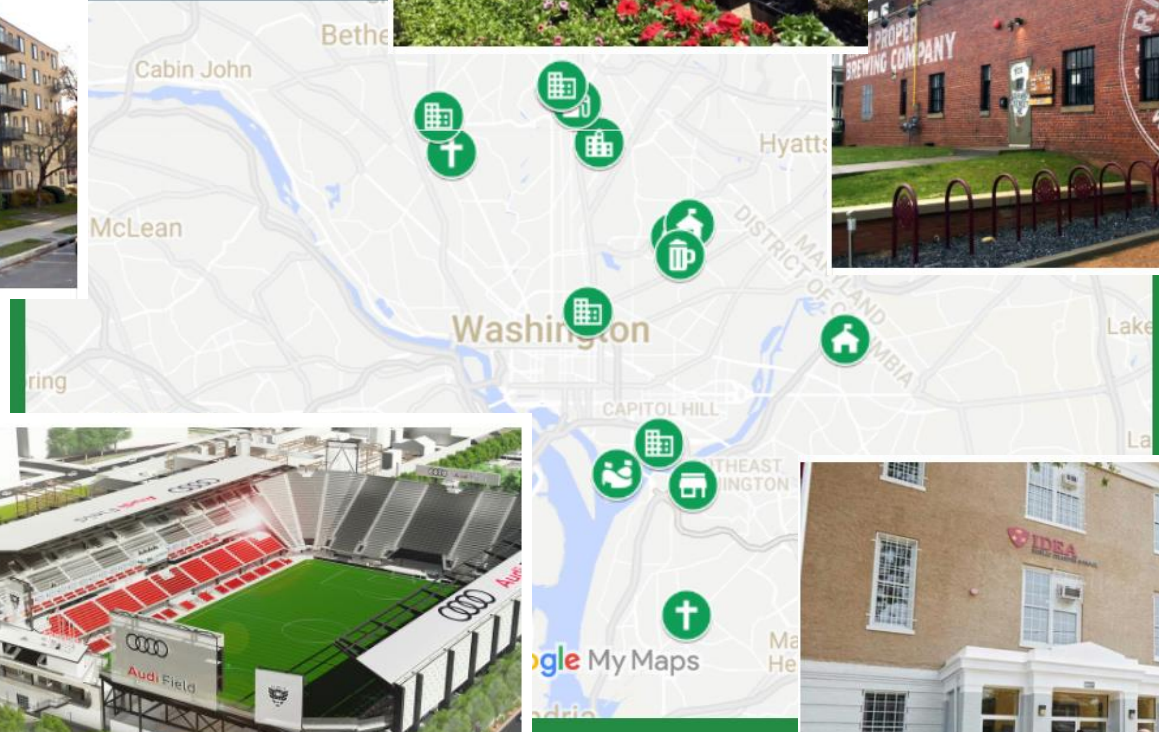
PACE increases NOI & property value with
Zero dollars out-of- pocket for the owner

Note: Project financials have been simplified for illustrative purposes.

Some Recent PACE Projects



DC PACE Project



DC PACE Process

Project Development



- Submit initial application online
- DC PACE will work with the design team to develop a PACE project scope around planned EE measures

Underwriting



- Technical validation of savings estimates
- Financial underwriting to ensure property meets program standards; lender consent with existing mortgage-holder

Closing



- PACE docs executed by property owner, capital provider, and District
- Funds made available for construction

Construction



- Owner draws down on funds as agreed in draw schedule
- Procurement and installation managed by contractors

Post-Construction

- Property owner makes semi-annual assessment payment
- M&V as required

Thanks!



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DC's RiverSmart Programs

Green infrastructure incentives

- Provides financial and technical incentives to help District property owners install green infrastructure
- Some offer a site evaluation and up-front funding; others provide rebates or discounts after projects are installed
- Incentives cannot be used to meet regulatory requirements

DC's RiverSmart Programs



RiverSmart Rooftops



RiverSmart Communities



RiverSmart Rebates

Other related programs:

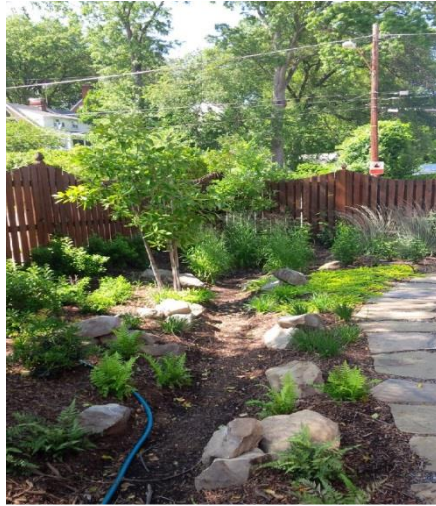
- RiverSmart Homes
- RiverSmart Schools
- RiverSmart Rewards
- RiverSmart Educational Boat Tours
- Stormwater Retention Credit Trading Program



- Reduce quantity and improve quality of stormwater runoff
- Encourage community watershed engagement
- Recharge groundwater
- Increase habitat diversity
- Promote conservation

Riversmart REbates

Eligibility: multi-family unit buildings, commercial buildings, houses of worship & non-profit institutions



Rebates

- All private property types welcome – even commercial
- \$2/gallon rebate for rain barrels/cisterns
- Up to \$100 per tree
- \$3/sq. ft. of treatment area for rain gardens
- \$10/sq. ft. for pavers
- \$5/sq. ft. for re-vegetation



Communities

Design/Build

- Limited to houses of worship and non-profit institutions
- Will pay entire cost of project
- Includes significant education and outreach requirements



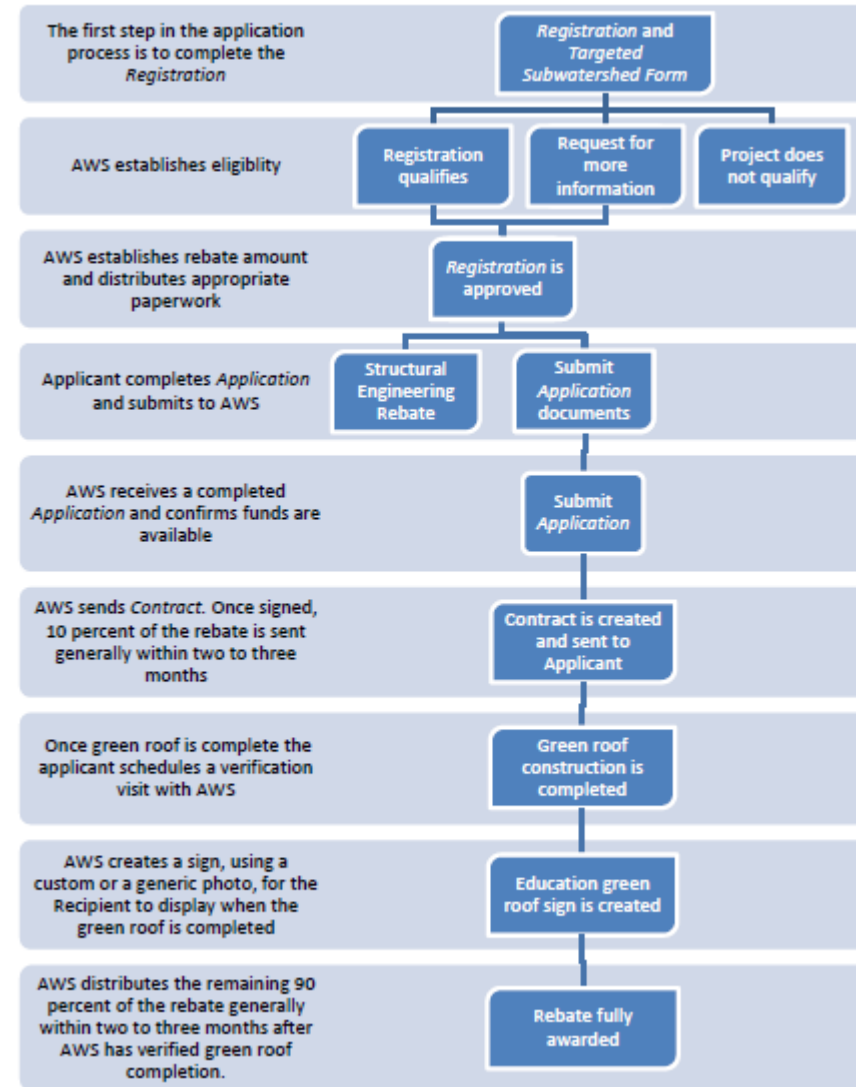
Riversmart Rooftops

Eligibility: all properties of all sizes, including residential, commercial, and institutional

\$10/sq. ft. rebate city-wide;
\$15/sq. ft. rebate in priority
watersheds

No maximum on size of
projects

Funds available to defray
cost of a structural
assessment for buildings
with a footprint of 2,500 sq.
ft. or less





Questions?

END