Federal Green Challenge Webinar

February 15, 2017

Reporting Results from *"Interim Guidance for Calculating Federal Compliance with Executive Order 13693 Waste Diversion Goals"*
into
Federal Green Challenge Database
for Federal Green Challenge Participants

Federal Waste Diversion Calculation Guidance Facts

https://www.fedcenter.gov/_kd/Items/actions.cfm?action=Show&item_id=30741&destination=ShowItem

- **Issued December 23, 2016 by the Council on Environmental Quality (CEQ)**
- **Calculation methodologies apply to non-hazardous waste**
- **Issued for calculating achievement of waste diversion goals in E.O. 13693 Section 3(j)(ii) and (iii)**
- **Includes municipal solid waste and construction and demolition (C & D) waste**
- **Waste diversion, plus credit for waste conversion, will be used to determine a *waste goal rate* for compliance with E.O. goals**
- **Although it's only for buildings of 5,000 gross square feet or more, agencies are encouraged to calculate smaller buildings, leased facilities, and/or non-building waste.**
- **Reporting is for agencies directly responsible for waste management or payment**
- **Actual amounts of materials are preferred, but, use of volume-to-weight conversion factors are okay**

Waste Diversion Calculation Guidance Facts, Cont'd

- Categories of Waste for Reporting – reflected in FGC Database System
- Reuse, Recycling, Composting and Food Recovery, Waste Converted to Energy, and Waste Landfilled
- Calculations are based on the EPA Waste Management Hierarchy
- Guidance has examples of calculation of waste in each category, the equations used, what conversions to use when estimating weights (in the absence of actual weights)
- Calculations correspond to FGC Database in most areas
- Definitions of terms used in calculations required

Categories of Waste for Reporting in Guidance

TABLE 3.0 B – Categories for Waste Reporting

Waste Management Hierarchy Category	Subcategory	Waste Goal Rate (WGR) Reporting Categories
1. Source Reduction & Reuse	1a. Source Reduction	N/A: no credit toward waste goal
	1b. Reuse	Total Waste Diverted (TWD) and Total Waste Stream (TWS) – *C&D calculation only*
2. Recycling/Composting	2a. Recycling[7]	Total Waste Diverted (TWD) and Total Waste Stream (TWS)
	2b. Composting[8]	Total Waste Diverted (TWD) and Total Waste Stream (TWS)
3. Energy Recovery[9]	3a. Waste to Energy	Total Waste Converted (TWC), Credit for Waste Converted to Energy Recovery (CWC), and Total Waste Stream (TWS)
	3b. Anaerobic Digester	
	3c. Other[10]	
4. Treatment & Disposal	4a. Landfilled or Incinerated[11]	Total Waste Stream (TWS)

Calculations

- **Waste Goal Rate (WGR)** = Total Waste Diverted (TWD) + Credit for Waste Converted to Energy (WTE)/(divided by) the Total Waste Stream (of MSW & C & D)
- **Total Waste Diverted (TWD)** = Weight of recycling and organics composted (also may use material salvaged for reuse)
- **Credit for Waste Converted to Energy Recovery (CWC)** = amount of total waste converted to energy recovery (TWC) –
  - Is limited and cannot exceed 50% of total waste diverted.
  - Limit applied agency wide not on individual facilities
  - CWC should be calculated separately for MSW & C & D waste.
- **Total Waste Stream (TWS)** = Total weight of all materials recycled and composted (Diverted) + waste converted to energy recover (Converted) + landfilled or incinerated.

Waste Reporting in FGC Database System

Waste/Materials

Baseline Year:

Select Year

(The recommended baseline year is the year of Federal Green Challenge registration. If data is not available for the registration year, an earlier baseline year may be used. A recent baseline year is preferred.)

Reuse

Please select a material in the drop-down box below and then click "Add"

	SOURCE	ACTIVITY	MATERIAL	AMOUNT	UNIT	TONS	MEASUREMENT METHODOLOGY	COMMENTS/ACTIVITY DESCRIPTION	NEXT YEAR'S GOAL (% INCREASE)	
1	Select	Select	Select		Select		Select			REMOVE

ADD

Recycling

Please select a material in the drop-down box below and then click "Add"

	SOURCE	MATERIAL	AMOUNT	UNIT	TONS	MEASUREMENT METHODOLOGY	COMMENTS/ ACTIVITY DESCRIPTION	NEXT YEAR'S GOAL (% INCREASE)	
1	Select	Select		Select		Select			REMOVE

ADD

Composting

Please select a material in the drop-down box below and then click "Add"

	SOURCE	MATERIAL	AMOUNT	UNIT	TONS	MEASUREMENT METHODOLOGY	COMMENTS/ ACTIVITY DESCRIPTION	NEXT YEAR'S GOAL (% INCREASE)	
1	Select	Select		Select		Select			REMOVE

Waste reporting in FGC Database System

Waste Converted to Energy

Please select a material in the drop-down box below and then click "Add"

	SOURCE	ACTIVITY	MATERIAL	AMOUNT	UNIT	TONS	MEASUREMENT METHODOLOGY	COMMENTS/ ACTIVITY DESCRIPTION	
1	Select	Select	Select		Select		Select		REMOVE

ADD

Waste Landfilled

Please select a material in the drop-down box below and then click "Add"

	SOURCE	ACTIVITY	MATERIAL	AMOUNT	UNIT	TONS	MEASUREMENT METHODOLOGY	COMMENTS/ ACTIVITY DESCRIPTION	
1	Select	Select	Select		Select		Select		REMOVE

ADD

Calculations

Total Materials Reused: *tons*

Total Materials Recycled: *tons*

Total Materials Composted: *tons*

Total Waste Converted to Energy (TWC): *tons*

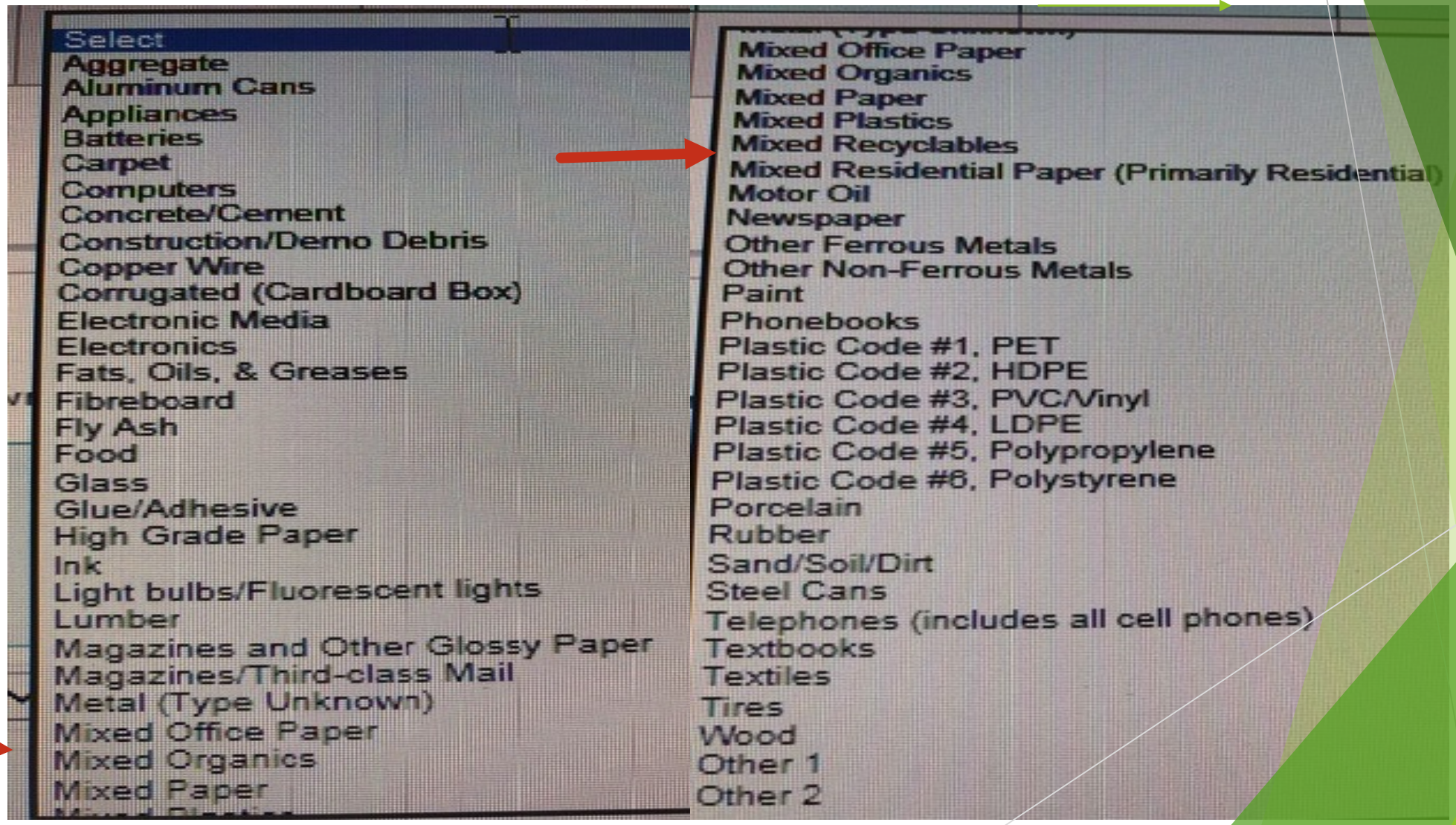
Total Waste Landfilled: *tons*

Total Waste Stream (TWS): *tons*

Type of Materials Management	Source	Activity	Material(s)	Amount	Unit	Tons (equivalent	Measurement Methodology	Comments/activity Description
Reuse	-Building Related -Non-Building Related	-Internal -Sold -Donation	See Drop down picture		Tons Pounds		-Actual Weights -Volume to weight conversion	
Recycling		N/A	See Dropdown picture					
Composting			-Branches -Food -Grass -Leather -Leaves/brush -Mixed Organics, -Other yard waste, -Sand/Soil/Dirt -Yard Trimmings					
Waste Converted to Energy		Waste converted onsite or offsite	-MSW -C & D					
Waste Landfilled		Waste landfilled ontsite or offsite	-MSW -C & D					

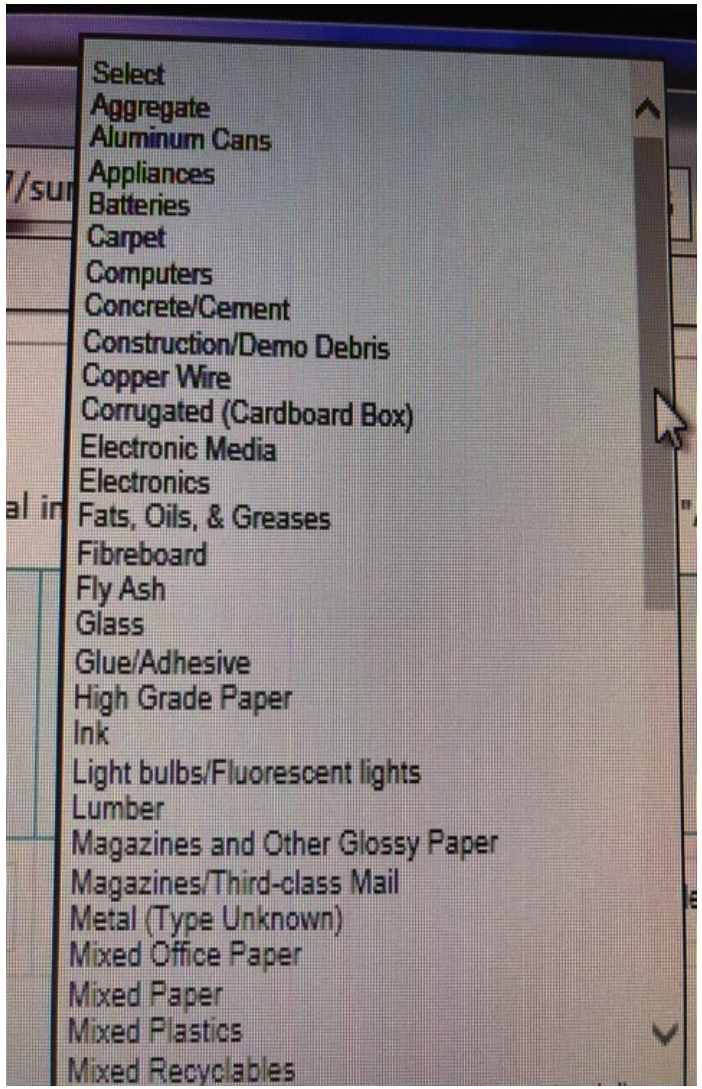
Reused Materials Selection- You can add each in separately or choose mixed organics, mixed recyclables, etc.

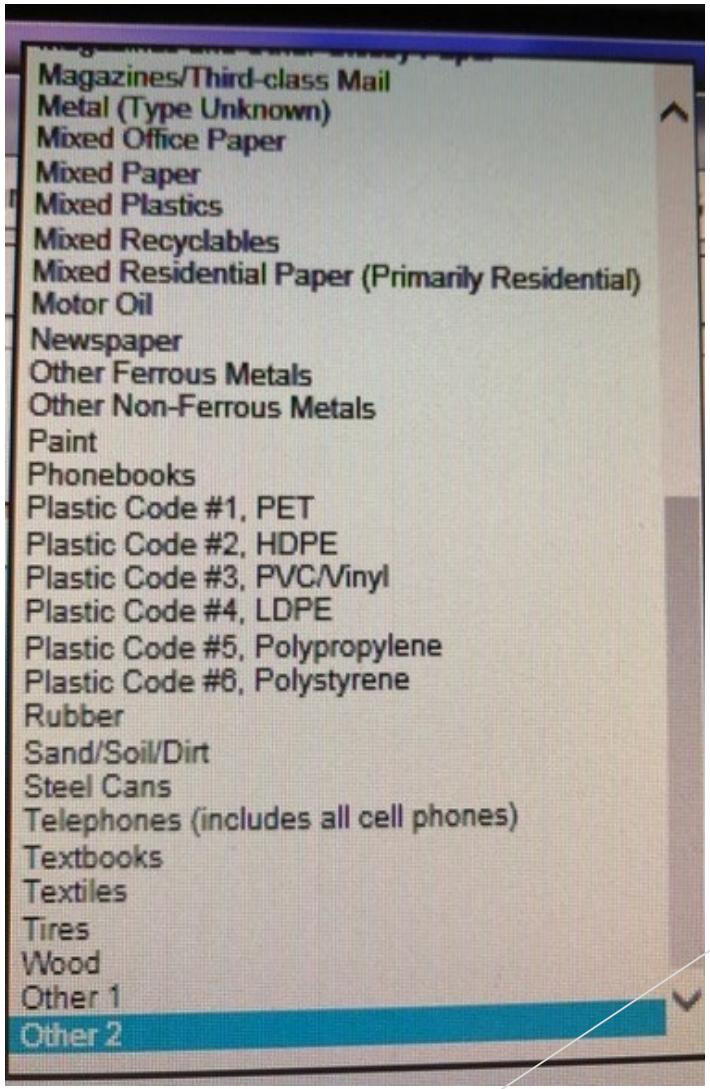
*Difference between Reuse and Recycle = food included in reuse.



Recycled Materials Selection

- you can add each in separately or choose mixed recycling





Estimating Waste Diversion Weights – Volume to Weight Conversion Factors

- Resources: EPA's latest conversion factors:
- https://www.epa.gov/smm/volume-weight-conversion-factors-solid-waste
- https://www.epa.gov/sites/production/files/2016-04/documents/volume_to_weight_conversion_factors_memorandum_04192016_508fnl.pdf
- **Examples: (see chart)**

Standard Volume-to-Weight Conversion Factors

Category	Recyclable Materials	Volume	Estimated Weight (lbs)	Source
Commingled Recyclable Material	Containers (Plastic bottles, Aluminum cans, Steel cans, Glass bottles) and Paper			
	Commingled Recyclables	cubic yard	262	4
	Containers (Plastic bottles, Aluminum cans, Steel cans, Glass bottles), Corrugated Containers and Paper			
	Campus Recyclables	cubic yard	92	7
	Commingled Recyclables	cubic yard	111	4
	Containers (Plastic bottles, Aluminum cans, Steel cans, Glass bottles) – No paper			
	Campus Recyclables	cubic yard	70	7
	Commingled Recyclables	cubic yard	67	4
	Commercial Recyclables	cubic yard	113	8
	Containers (Cans, Plastic) - No glass			
	Campus Recyclables	cubic yard	32	
	Containers (Cans, Plastic) and Paper - No glass			
	Residential Recyclables	cubic yard	260	
	Containers (Food/beverage, Glass) Corrugated Containers and Paper			
	Commercial Recyclables	cubic yard	88	
	Commercial Recyclables	cubic yard	58	
	Multifamily Recyclables	cubic yard	96	
	Multifamily Recyclables	cubic yard	51	

Questions?

- **For additional Information:**
  - **FGC - https://www.epa.gov/fgc**
    - **Marlene RedDoor, reddoor.marlene@epa.gov, 703-308-7276**
  - **Office of Federal Sustainability – https://sustainability.gov/resources.html**
  - **Federal Green Challenge Database: https://connect.re-trac.com/login**