

# CSWD's Processed Glass Aggregate

## Presentation to the Senate Transportation Committee

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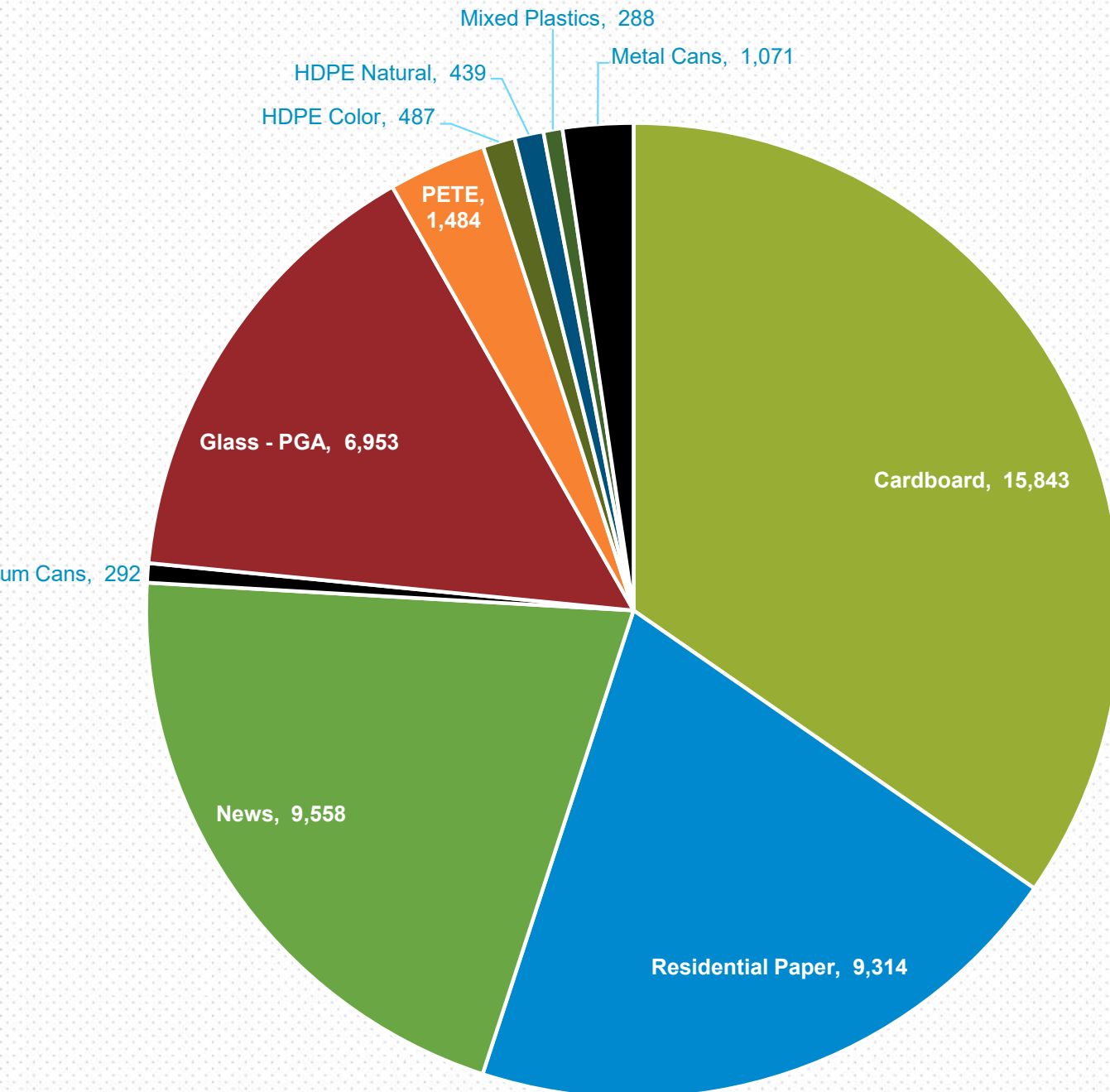


Chittenden Solid Waste District

# CSWD Materials Recovery Facility - Williston

Owned by CSWD; Operated by Casella Waste Systems

- Built in 1993
- 48,000 Tons/Year avg.
- Serves ~325,000 Vermonters, mostly central, north central, and northwest Vt.
- 14% of processed material is glass bottles and jars



PETE: #1 plastics (ex: soda bottles)

HDPE color : #2 jugs (ex: laundry detergent jugs)

HDPE natural: #2 jugs (ex: milk jugs)

Mixed Plastics: mostly #5 (ex: yogurt containers)

Residual trash: 3,387 tons

Rigid Plastics: 12 tons

Shredded Paper: 22 tons

**FY2021 CSWD MRF TONS PROCESSED: 49,150**

# Processed Glass Aggregate

ANR defines Processed Glass Aggregate (PGA) as “mixed-glass cullet produced from crushed and screened clean food and beverage containers”.

UVM further defines it as “fine crushed recycled glass with a high potential to replace sand borrow and other free-draining fill materials” in construction and transportation projects.

Sand borrow is a rapidly diminishing natural resource in Vt. VTRANS estimates needing upwards of 320,000 cy on an annual basis.

CSWD has the potential to produce approximately 4,000 cy of PGA sand borrow replacement each year.



# CSWD MRF



PEA GRAVEL

SAND FRACTION

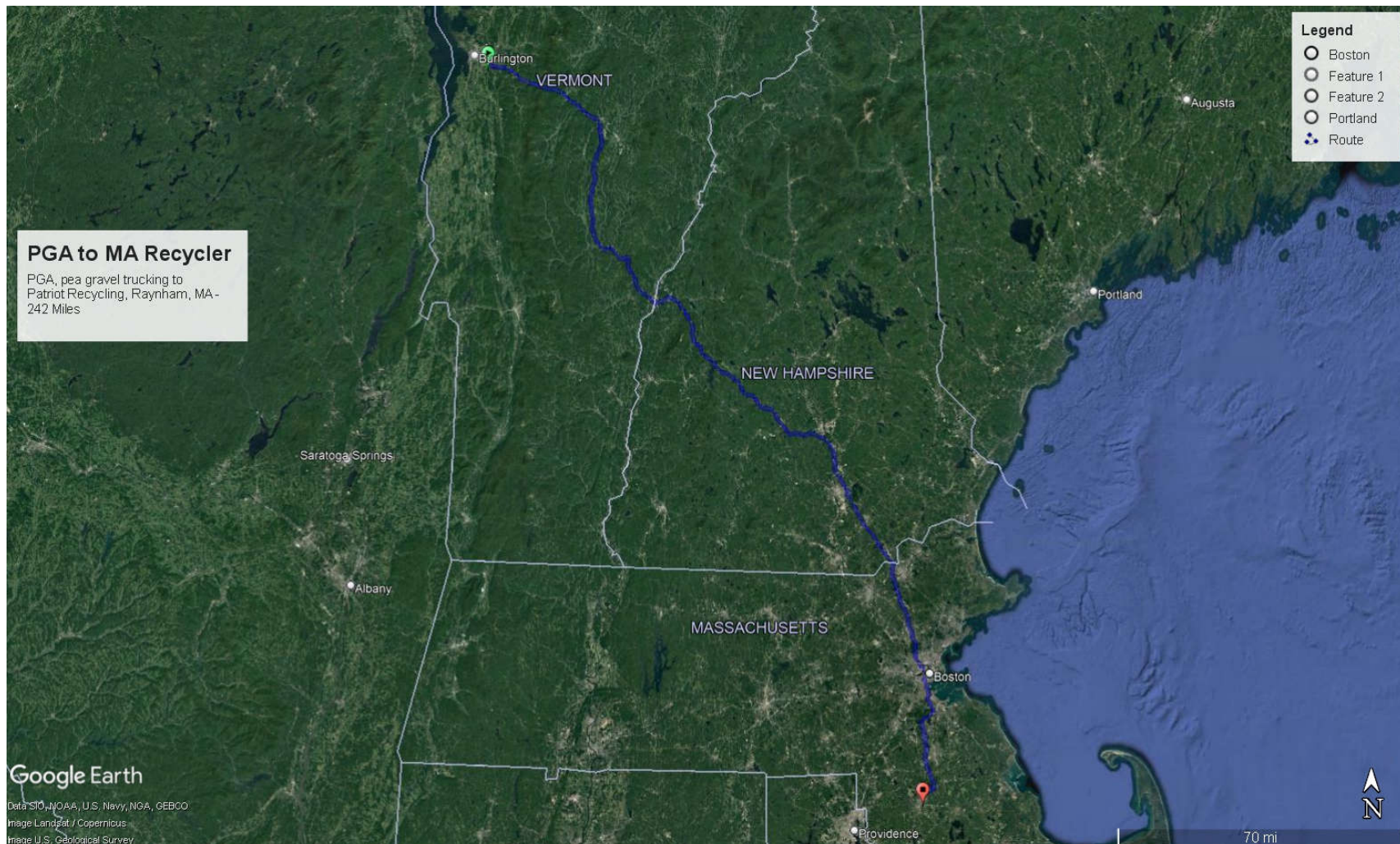
SAND FRACTION

TRASH

# Goal: Achieve consistent sand borrow quality PGA for local use

- Currently generate 25 tons/day outbound
  - Equal to 4,500-5,000cy/year of PGA as sand borrow equivalent (use 1-1)
- Two products
  - Pea gravel
  - Sand fraction
- Need to keep material free from contaminants
  - Shredded paper, plastics, organics
- Need to keep material dry
  - New MRF is key
- Want to keep finished material local to Vt

# Currently two outlets for material: Patriot Recycling, Raynham, MA – 242 miles Whitcomb Quarry, Colchester – 6 miles



# Costs – FY22 as budgeted

6,200 tons “marketed”

Budgeted Net to CSWD = \$56,921

- Revenue:
  - \$496,000 @ \$80/ton to CSWD
- Direct Expenses\*:
  - \$262,384 @42.32/ton processing fee to Casella
  - \$149,500 @\$115/ton transportation and tip fee to Patriot Recycling
  - \$27,195 @\$5.55/ton transportation fee to Whitcomb Quarry (going up to \$15/ton)
- \*Does not include CSWD Staff time, overhead, or capital



# Local Uses – Require VTRANS use specification

- Sand borrow
- Well drained construction material
- Underneath water or sewer pipes
- French drain
- Under stormwater collection systems (under concrete basins)
- Aggregate blending in general
- Blended into the subbase of a road or parking lot construction
- *Potential new use – Foam insulation (not VTRANS dependent)*

# Study partners, parameters, timeline

## VTRANS, CSWD, UVM

- VTRANS has the spec ready; Waiting for ANR sign-off on allowable “deleterious materials” levels
  - NY and NH allow levels higher than VT
    - VT’s current limit is 1%. Neighboring states allow 3-5%.
- UVM testing engineering properties of PGA as sand borrow and developing a standardized testing protocol to measure deleterious content levels
- Study should conclude within 18 months

# Consolidated Collection

## Transportation benefits, Consumer benefits

As of 2017, fourteen cities and towns across VT use consolidated collection systems.

- Hauling efficiency
- Fewer trucks on the road
- Safer streets and neighborhoods
- Lower costs to consumers
- Consistency of service
- Equity of service

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