

**TESTIMONY FOR THE COMMITTEE ON GOVERNMENT
OPERATIONS, VETERANS AFFAIRS, AND CONSUMER PROTECTION**

VIRGIN ISLANDS WASTE MANAGEMENT AUTHORITY

36TH LEGISLATURE OF THE VIRGIN ISLANDS

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VIRGIN ISLANDS WASTE MANAGEMENT AUTHORITY



Good day, Honorable Senator Avery L. Lewis, Chairman of the Committee on Government Operations, Veterans Affairs, and Consumer Protection, other Committee members of the 36th Legislature and members of the viewing and listening audience. I am Daryl Griffith, the Chief Financial Officer of the Virgin Islands Waste Management Authority. I appear today with the Authority's Chief Engineer, Mr. Alex Bruney and Chief of Solid Waste Ms. Shena Esannason to provide testimony on the Virgin Islands Waste Management Authority's planned use of Air Curtain Incinerators to manage green and wood waste.

We appreciate the opportunity to clarify the Authority's permitted and appropriate methods for the disposal of green waste, with a specific focus on the Authority's planned use of Air Curtain Incinerators (ACIs) as a modern, controlled, environmentally sound system for managing vegetative debris across the territory.

Background and Context

The U.S. Virgin Islands faces structural and environmental challenges common to small island communities, including limited land availability, high per-capita waste generation, and costly logistical constraints that restrict long-term reliance on landfills. These challenges are well-documented in global and regional research on island waste systems.

VIWMA is simultaneously navigating major priorities such as landfill expansion, closure mandates, and compliance with federal consent agreements. As testified previously, the Authority's long-term strategy places significant emphasis on waste diversion, especially organic and compostable materials, which make up a substantial portion of the territory's waste stream. Waste characterization data confirms that the USVI has meaningful opportunities to divert vegetative waste from disposal practices that overburden the landfills. Today, most vegetative debris such as tree limbs, brush, yard waste, and storm debris, is still directed to our already constrained landfills, creating fire hazards, space limitations, and operational inefficiencies. ACIs present a safer, cleaner, and federally recognized alternative.



What an Air Curtain Incinerator Is (and Is Not)

An Air Curtain Incinerator is an environmentally sound engineered combustion system using a high-velocity “curtain” of air across the top of a burn chamber to:

- Trap smoke and particles,
- Reburn them at high temperatures,
- And drastically reduce visible emissions.

This results in a cleaner, more complete burn with far less smoke.

ACIs are formally recognized and approved for vegetative debris reduction by:

- The U.S. Environmental Protection Agency (EPA)
- The Federal Emergency Management Agency (FEMA)
- The U.S. Army Corps of Engineers

These systems are safe and widely used after hurricanes because they rapidly reduce storm debris while adhering to environmental standards. An Air Curtain Incinerator is **not** an open burn pile.

Managing emissions is a critical component of operating any waste-reduction technology, and Air Curtain Incinerators (ACIs) are specifically engineered to maintain environmentally safe smoke levels during operation. Unlike open burning, where smoke is uncontrolled and can carry ash, particulates, and visible emissions into surrounding communities. The ACIs use a powerful air curtain to create a highly efficient, high-temperature burn. This process dramatically reduces smoke, minimizes particulate pollution, and ensures compliance with strict federal opacity standards. By controlling opacity, which means the amount of light blocked by emitted smoke, we ensure that operations remain cleaner, safer, and significantly less impactful on public health and the environment. The ACI’s ability to consistently remain within allowable opacity limits is one of the primary reasons this equipment is recommended. It provides the Authority with



a reliable, environmentally sound method of managing vegetative waste while reducing nuisance smoke, improving air quality, and preventing violations that could arise from uncontrolled burning.

Understanding Smoke Levels (Opacity)

Opacity refers to the percentage of light blocked by smoke:

- **0% opacity** = clear air
- **100% opacity** = thick, black smoke

Federal requirements mandate ACI operations at 10% opacity or less, demonstrating a highly controlled, low-emission burn. Short-duration opacity allowances (up to 35%) apply only during the first 30 minutes of startup.

Equipment Under Consideration

VIWMA is evaluating the Air Burners, a high-capacity, above-ground unit designed specifically for clean wood and green waste.

Key Features

- Processes 6–10 tons per hour
- Uses a clean Tier 4 diesel engine
- Refractory-lined firebox for high-temperature, controlled burns
- Dual rear doors for ash/biochar removal
- Deployable at the Anguilla, Bovoni, or other vegetative waste sites

What Can Be Burned (and What Cannot)

Allowed



- Tree trunks
- Branches and brush
- Stumps and yard trimmings
- Clean, untreated lumber
- Storm debris consisting only of vegetation

Prohibited

- Painted or pressure-treated wood
- Construction and demolition debris
- Household waste
- Plastics
- Engineered wood
- Hazardous or medical waste

This ensures the system is used only for natural, clean materials.

How the System Operates

1. **Start-Up:** Ignition using clean kindling—no fuel accelerants.
2. **Air Curtain Activation:** The blower creates a high-speed air barrier across the firebox.
3. **Controlled Loading:** Material is added steadily to maintain temperatures of 1,600–2,000°F.
4. **Smoke Monitoring:**
 - ≤10% opacity during normal operations
 - Up to 35% opacity allowed during the first 30 minutes of startup only
5. **Safety Controls:** Ember screens, dust control, and clean surroundings reduce risk.
6. **Ash Handling:** After cooling, the remaining ash or biochar is safely removed.



7. **Recordkeeping:** Operators log burns, emissions readings, and maintenance for regulatory compliance.

Territorial Green Waste Volumes

To fully illustrate the necessity of ACIs, VIWMA provides the following volumes of green waste:

Daily Green Waste Intake

- **Territorial Total:** 80–85 tons/day
- **St. Thomas:** 20 tons/day
- **St. Croix:** 60 tons/day

Annual Green Waste Intake

- **Territorial Total:** 29,200–31,000 tons/year
- **St. Thomas:** 7,300 tons/year
- **St. Croix:** 21,900 tons/year

Why St. Thomas numbers are significantly lower:

St. Thomas' tonnage is significantly reduced because VIWMA currently cannot accept green waste at the Bovoni Landfill, which has no available space. This forces residents and haulers to store material or dispose of it unofficially, increasing fire risk and the likelihood of illegal dumping. To address the current inability to accept green waste on St. Thomas, VIWMA is actively implementing temporary alternatives to reduce stockpiling, fire risks, and illegal dumping until the Air Curtain Incinerators are procured and operational. In the interim, we are pursuing short-term solutions through private partnerships, allowing approved haulers and vegetation-management companies to assist with processing green waste off-site. Additionally, VIWMA is working with the Department of Property and Procurement (P&P) to identify and secure suitable temporary locations where green waste can be safely staged and managed. These measures will help stabilize conditions on St. Thomas in the short term, while the acquisition of ACIs will ultimately provide a long-term,



environmentally responsible solution for handling green waste efficiently and safely.

Environmental and Community Benefits

1. Protects Landfill Capacity

- Reduces vegetative material by **up to 90%**.
- Keeps bulky tree debris out of Anguilla and Bovoni, extending landfill lifespan.

2. Cleaner Air Compared to Open Burning

- Significantly reduces smoke and particulates.
- Meets strict EPA opacity limits.
- Avoids methane emissions created when vegetation decomposes in landfills.

3. Disaster Readiness

- Provides rapid processing after hurricanes or storms.
- Reduces hauling, transportation costs, and congestion at debris sites.
- Helps maintain smooth landfill operations during emergencies.

4. Cost Efficiency

- Cuts hauling and disposal expenses.
- Produces **biochar**, which can be used for soil improvement, erosion control, and landscaping.

5. Fire Risk Reduction

During the period of 2024 and 2025, a total of 15 fire incidents were recorded.

The total number of incidents increased between the two years:

- 2024: 6 total incidents. (5 STX & 1 STT)
- 2025: 9 total incidents. (6 STX & 3 STT)



<u>Year</u>	<u>Month</u>	<u># of Incidents</u>
2024	February	1
	March	1
	June	1
	August	1
	October	2
2025	April	6
	May	1
	June	1
	July	1

The 2024 incidents occurred during the following specific weeks:

- Feb 5–11: 1 fire (Feb 4)
- Mar 25–31: 1 fire (Mar 30)
- Jun 17–23: 1 fire (Jun 19)
- Aug 5–11: 1 fire (Aug 10)
- Oct 14–20: 1 fire (Oct 20)
- Oct 21–27: 1 fire (Oct 25)

The 2025 incidents occurred during the following specific weeks:

- Apr 14-20: 3 (Apr 20)
- Apr 21-27: 2 (Apr 21 & 23)
- Apr 28-May 4: 1 (Apr 30)



- May 12-18: 1(May 15)
- June 23-29: 1 (June 23)
- July 14-20: 1 (July 20)

6. Supports Sustainability Goals

- Moves the Territory toward more modern and environmentally responsible waste practices.
- Helps VIWMA meet recycling and diversion targets.

7. Illegal Dumping Reduction

Illegal dumping remains a significant issue, particularly at bin sites across the territory.

Giving residents official, permitted green-waste disposal sites reduces environmental and public health risks.

Conclusion

Senators, with 80–85 tons of green waste generated daily and up to 31,000 tons annually, the need for Air Curtain Incinerators on both St. Thomas and St. Croix is both clear and urgent.

These systems will:

- Protect and extend landfill capacity
- Provide a cleaner, federally approved method for vegetative-waste disposal
- Strengthen our hurricane-response capabilities
- Reduce illegal dumping
- Support VIWMA’s long-term diversion and sustainability goals

On behalf of the Virgin Islands Waste Management Authority, I respectfully urge your support for approval, funding, and deployment of Air Curtain Incinerators within the Territory. This concludes my testimony. Our



Team and I remain available to answer any questions the Committee may have. Thank you for your time and consideration.