

# City and County of Honolulu ISWMP Advisory Committee Presentation

Section 3: Source Reduction

Section 4: Recycling and Bioconversion

Section 6: Household Hazardous Waste and Electronic Waste

February 13, 2018

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## Section 3: Source Reduction

# Source Reduction

Source reduction is any action that causes a net reduction in the generation of solid waste before the waste is collected

- Examples of source reduction programs:
  - Replacing disposable materials and products with reusable ones
  - Reducing packaging
  - Food donation
  - Establishing user fees with incentives to reduce waste
  - Reusing materials ranging from paper and containers to clothes
- Source reduction is the highest priority on the list of solid waste management practices and processing methods
- Approximately 21,500 tons of material were reused on Oahu in 2016



# City Source Reduction Programs

The City's **source reduction and reuse efforts** focus on providing **public education and awareness** of existing programs, **resources**, and **tools/regulatory mechanisms** that promote source reduction and that encourage residents and businesses to prevent waste at the source and include:

- Plastic Bag Ban
- Food Waste Reduction Efforts
- Public Education
- Government Procurement Policies
- Promotion of Reuse Organizations
- Advocating Manufacturer Responsibility
- Business Waste Prevention Guide & Mandatory Business Recycling Ordinances
- Measuring Reduction

# Plastic Bag Ban

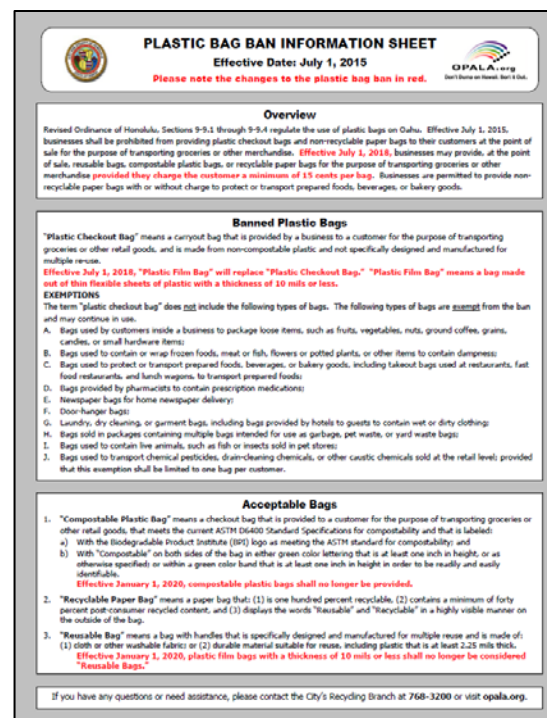
## Existing Programs and Future Strategies

### • Existing

- Effective July 1, 2015, an ordinance has been put in place to regulate the use of plastic bags on Oahu
- A charge of 15 cents for each plastic bag will be implemented July 1, 2018
- Compostable plastic bags will be phased out on January 1, 2020

### • Strategies

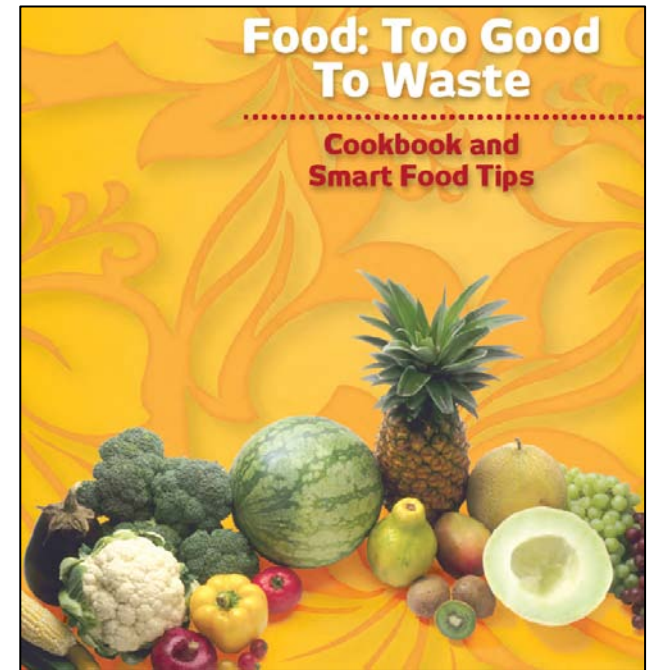
- Continue to encourage consumers to choose reusable bags rather than plastic bags
- Compare the existing City ordinance regarding plastic bags to other similar bans around the country; consider recommending changes to the law in order to optimize its effectiveness



# Food Waste Reduction Efforts

## Background and Existing Programs

- Current estimates find that wasted food represents **23 percent of global agriculture** and that Americans throw away approximately **one quarter of all the food and beverages** that they purchase
- City Ordinance requires food establishments of a certain size and/or capacity to recycle food waste, indirectly disincentivizing food waste generation by businesses
- The City sends compliance mailers out to and randomly inspects businesses to which the Food Recycling Ordinance may apply
- The City website promotes source reduction of food waste by sharing information and resources that promote source reduction, feeding hungry people, and feeding animals
- The City's Food: Too Good to Waste Booklet provides recipes and tips for using leftovers and reducing food waste



# Preventing and Diverting Wasted Food

## Future Strategies

- Continue compliance enforcement for Food Recycling Ordinance
- Continue website and booklet promotion of food waste reduction
- Continue to provide technical assistance regarding implementation of **food waste prevention/source reduction practices** to residents and businesses upon request
- Continue to enforce food waste recycling ordinances for businesses and promote **food donation** and use as **animal feed**
- Monitor progress in this arena to see if additional strategies are appropriate for implementation on Oahu; revise outreach as necessary



# Public Education

## Ongoing Existing Programs/Future Strategies

- Promoting public education and awareness is key to successful source reduction. Equally important is adequate funding for educational programs. The following ongoing programs will be used:
  - Website promotion and updates
  - Continued technical assistance regarding implementation of source reduction activities to residents and businesses upon request
  - Social media to promote source reduction





# Source Reduction

## Ongoing Existing Programs /Future Strategies (continued)


- **Government Procurement Policies** – The City will serve as a model by increasing the emphasis on source reduction and reuse in its procurement policies (e.g. bulk purchasing, material reuse)
- **Promotion of Reuse Organizations** – The City supports reuse organizations (e.g. thrift stores, share networks, and reuse establishments) by promoting the services on its website and by hosting tours of these facilities and businesses
- **Advocating Manufacturer Responsibility** – The City advocates for manufacturer responsibility whenever able; however, it is difficult for a municipality to drive manufacturer responsibility since these topics are typically influenced at the state and federal levels

# Source Reduction

## Ongoing Existing Programs /Future Strategies (continued)

- **Business Waste Prevention Guide –**  
Provides information to businesses about producing less waste, dealing with excess waste, and understanding the various ordinances and bans that the City enforces related to waste
- **Measuring Reduction –** The City surveys businesses that recycle annually to determine the types and quantities of materials that are being recycled or reused

**DON'T DUMP ON HAWAII. SORT IT OUT.**



**OFFICE PAPER RECYCLING - Tips and Guidelines**

- It's The Law
- Going Green Is Good For Business
- What To Recycle
- Collection Options

**It's The Law**  
City & County of Honolulu Ordinance, Chapter 9, Article 3.1 requires the owners of office buildings to arrange and provide for the separate collection and recycling of office paper, newspaper and corrugated cardboard.

To be in compliance with City law, any office building or group of connected buildings with an aggregate of 20,000 square feet or more of office space are required to recycle office paper, newspaper and corrugated cardboard.

**Going Green Is Good For Business**  
Recycling is not only the law, it is also the smart thing to do. It's good for business and good for the environment.

Recycling paper offers an opportunity to reduce refuse costs by reducing the volume of waste collected and taken for disposal.

Paper accounts for approximately 23% of the waste stream on Oahu. Recycling paper and other materials will help to extend the life of our landfill. We all need to work together to reduce waste to promote our island's sustainability.

**What To Recycle**  
High-grade paper (white and color ledger) which is generated in larger quantities, has stable markets and commands a higher price. Low-grade papers are in less demand, so dealers pay less (and sometimes nothing) for them. Higher volumes of high-grade papers can help to defray the costs to collect the low-grades, and can significantly reduce your disposal costs.

<b>You Can Recycle</b>	<b>You Can't Recycle</b>
Colored ledger paper including: Yellow legal paper Color stock copier paper Carbonless multi-copy forms Corrugated cardboard File folders Newspaper White ledger paper including: Copier paper Black inked "blue" prints Staples need not be removed.	Bindings: glued, metal, spiral Blue inked blueprints Carbon paper Envelopes Labels, adhesives, tape Paper bags, plates, cups Paper clips, binder clips Paper towels, napkins Photographs Rubber bands Tissue Glossy magazines Telephone books

Check with your collector to verify acceptable materials.

768-3200    [www.opala.org](http://www.opala.org)

# Residential User Fees

## Additional Future Strategy for Source Reduction

- Residential user fees are an alternative or a supplement to using property taxes to finance the collection and disposal of municipal solid waste and recycling where customers are billed directly for their collection services. The City may implement residential user fees as a possible mechanism to encourage waste prevention.
  - User fee systems can be structured in many ways
  - Can provide a financial incentive to reduce waste
  - Are more complex and costly to implement than paying for services through property taxes
  - Currently, the City does not charge user fees for residential solid waste management services
  - City legislation would be required to implement a user fee system. While such legislation has been proposed in the past, no City user fee legislation has ever been established

## Section 4: Recycling and Bioconversion

# Recycling and Bioconversion

As defined in Hawaii Revised Statutes (HRS) Chapter 342G-1:

**"Recycling"** means the collection, separation, recovery, and sale or reuse of secondary resources that would otherwise be disposed of as municipal solid waste, and is an integral part of a manufacturing process aimed at producing a marketable product made of postconsumer material.



**"Bioconversion"** means the processing of the organic fraction of the waste stream through biological or chemical means to perform composting or generate products including, but not limited to, fertilizers, feeds, methane, alcohols, tars, and other products.



# Recycling and Bioconversion

- Recycling and bioconversion are second on the list of solid waste management practices and processing methods
- The City's goal is to recycle materials to the greatest extent possible and in a fiscally responsible manner
- The **ratio of recycled materials to total municipal solid waste** has risen from **41 percent to 53 percent between 2012 and 2016**, not counting waste-to-energy processes
- There are a variety of State and local regulations and ordinances that dictate recycling and bioconversion in Oahu

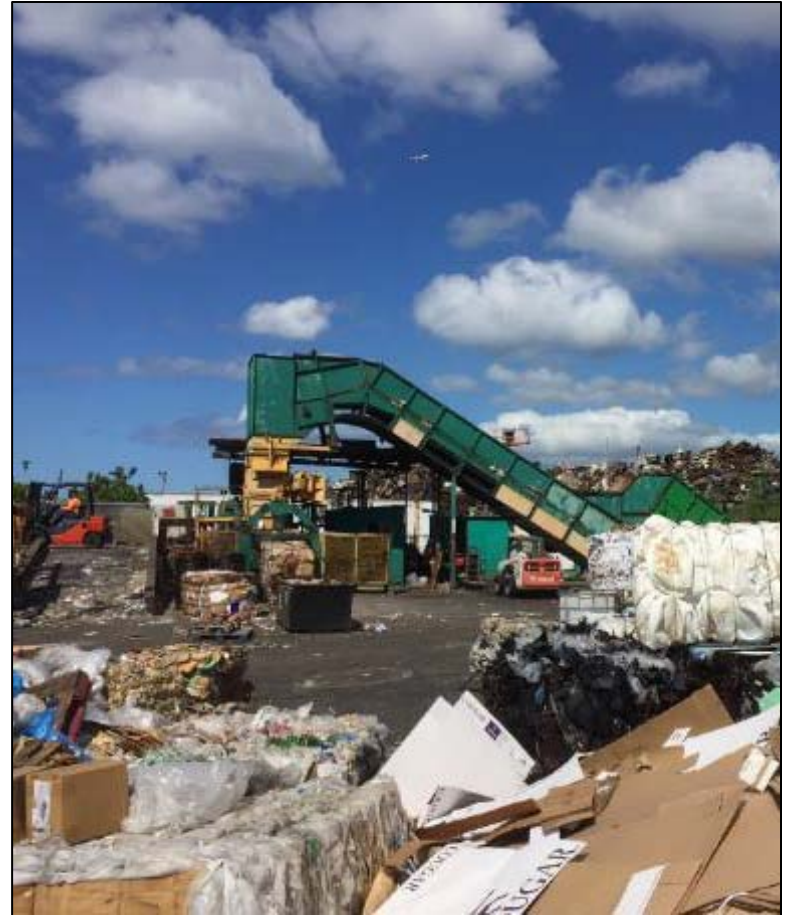




# Recycling and Bioconversion

## Current Markets and Volatility

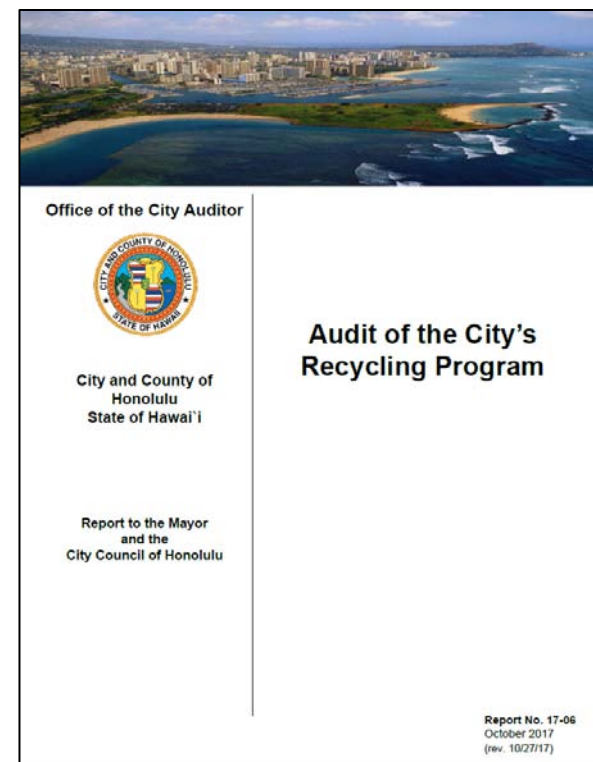
- Recyclers on Oahu process and sell recycled materials to end users on the continental United States or Asia
- Materials are baled or otherwise reduced in volume before being shipped to market
- Markets exist locally for materials that are generated in high volumes, have relatively low value, and for which large and costly production facilities are unnecessary
  - Untreated wood, green waste, food waste, concrete, asphalt concrete, brick, aggregate



# Recycling and Bioconversion

## Current Markets and Volatility

- A recent audit of the City's recycling program (October 2017) concluded that the market for selling and buying recycled materials has declined and that **revenues generated from “the sale of solid waste [recyclables] are insufficient to offset the costs of processing the collected recycled waste.”**
- In response to this, the City is evaluating ways to optimize its programs and best allocate funds in pursuit of its goal to continue diverting waste from the landfill
  - Work towards flexibility in sending recyclables to H-POWER
  - Continue contracting and procurement in a way such that periodic adjustments to service fees can be negotiated, waste guarantees are avoided (when possible), and reductions in payments can be made in the event of unprocessed waste
  - Continue education to encourage source reduction





# Recycling and Bioconversion

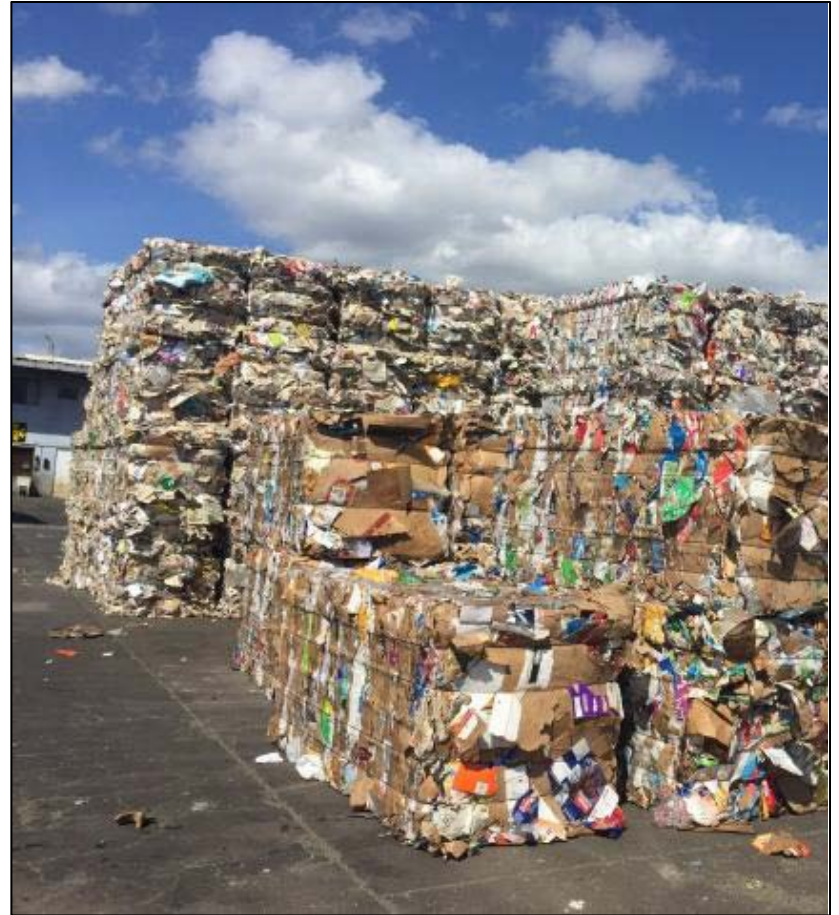
## Current Markets and Volatility

- Recycling markets are affected by fluctuations in the global recycling industry
- China's Green Sword
  - In July 2017, China notified the World Trade Organization of its plans to ban import of 24 “solid waste” materials by the end of 2017. The types of banned materials include certain plastics, unsorted paper, and textiles
  - New regulations would establish low contaminant limits for material acceptance
  - Has had an immediate effect on existing markets for recyclables, causing recyclers to seek new markets and to evaluate methods to achieve lower contaminant levels

# Recycling and Bioconversion

## Current Markets and Volatility

- Volatility in the recyclable commodities market and the economic and environmental impact of processing and shipping recyclables to overseas markets has encouraged the City to look for options
- The City is pursuing changes to laws that would give it the flexibility to send certain recyclables to H-POWER, where they will be processed into renewable energy for Oahu when markets are down
- This flexibility would give the City the ability to manage materials in the most economically and environmentally sustainable way possible



# Recycling and Bioconversion (2016)

- The City, along with private companies, have implemented recycling programs that have contributed to an increase in the amount of recyclables recovered from residential, commercial, and industrial sources
- Oahu recycled...
  - **74,000 tons in 1988**
  - **1,261,200 tons in 2016** (including general material recycling, construction and demolition [C&D] debris recycling, and some reuse)
- Three types of material, **C&D debris**, **green waste**, and **metal** (particularly ferrous metal), comprised the majority of all material recycled

Material Type	Quantity (Tons)
<b>Paper</b>	
<i>Corrugated Cardboard</i>	41,053
<i>Newspaper</i>	10,551
<i>Office Paper</i>	24,980
<i>Other Paper</i>	1,320
<b>Metals</b>	
<i>Ferrous (includes autos)</i>	111,084
<i>Non-Ferrous (includes aluminum)</i>	16,293
<b>Glass</b>	15,480
<b>Plastic</b>	5,251
<b>Tires</b>	7,919
<b>Auto Batteries</b>	6,337
<b>Electronic Scrap</b>	2,468
<b>Green Waste (yard trimmings)</b>	112,128
<b>Wood Waste/Pallets</b>	12,381
<b>C&amp;D (rock, concrete, asphalt)</b>	830,414
<b>Food Waste</b>	42,109
<b>Other Reuse (Goodwill, Salvation Army)</b>	21,478
<b>Total</b>	<b>1,261,246</b>

Source: [http://www.opala.org/solid\\_waste/archive/facts2.html](http://www.opala.org/solid_waste/archive/facts2.html).

# State HI-5 Program

## Ongoing Existing Program



- Hawaii's beverage container deposit program has been in place since 2005
  - A 5-cent deposit per beverage container (DBC) is charged for the purchase of select glass, bi-metal, aluminum, and plastic containers statewide
  - A 1-cent to 1.5-cent non-refundable container fee is also assessed to support the costs of recycling and State program administration
  - DBCs are redeemed at privately-operated Redemption Centers and transported to recycling facilities for processing and marketing
  - The City is working to identify more City-owned parcels that are capable of hosting a redemption center. Any property will be made available through a competitive bidding process (redemption center would be privately operated)

# City-Involved Community Recycling (White Bin) Program

## Former Program

- Community recycling bin program in 1990 with 20 locations on school campuses where residents could recycle newspaper, cardboard, office paper, glass, aluminum and plastic containers
- Transitioned to private contractor in 2012
- Private contractor discontinued the program thereafter

# Current City-Involved Recycling and Bioconversion Programs

The City's recycling efforts focus on providing convenient programs and services to encourage recycling, public education and awareness of such programs, resources, and tools/regulatory mechanisms that promote waste diversion from the landfill. These programs include:

- Tires
- Lead Acid Batteries
- C&D
- Green Waste and Cardboard Disposal Limits
- Backyard Composting/Grasscycling
- Ferrous/Non-ferrous Metal Recycling
- Mandatory Recycling Ordinances
- Public Recycling Receptacles
- Residential Recycling
- Energy Recovery
- Public Education



# Tires and Lead Acid Batteries

## Ongoing Existing Programs/Future Strategies

- **Tires**

- The State requires tire retailers and wholesalers to accept used tires in exchange for new ones purchased and typically prohibits the disposal of whole, used motor vehicle tires at all landfills and incinerators within the State
- In 2014, the City received a variance that allows H-POWER to accept and process tires collected by the Division
- Work with DOH to modify variance or change HRS to allow for disposal of all waste tires managed by the City at H-POWER



- **Lead Acid Batteries**

- The State prohibits the disposal of lead acid batteries in landfills by individuals, retailers or wholesalers
- The City collected lead acid batteries at Convenience Centers and Transfer Stations
- Continue to educate and promote existing program



# C&D Debris

## Ongoing Existing Programs /Future Strategies (continued)

- **Existing**

- Since January 2003, commercial haulers have been precluded from delivering loads containing any C&D debris to City facilities
- Commercial haulers are directed to the PVT Landfill for the disposal of C&D materials. There are also businesses and organizations that recycle or reuse C&D debris on the island

- **Strategies**

- Continue to enforce the ban of commercial and business C&D debris and burnable resident-generated C&D debris from WGS
- Continue to evaluate a potential policy to require builders to submit a C&D debris recovery plan with building permit applications
- Enhance education of recycling programs island-wide





# Green Waste and Cardboard Disposal Limits

## Ongoing Existing Programs /Future Strategies (continued)

- **Existing**

- **Commercial Green Waste and Cardboard** – The City limits green waste and cardboard disposal to 10% of loads accepted at H-POWER and WGSL (enacted 1998)

- **Future Strategies**

- The City plans to increase inspections at disposal facilities to enforce the ban
- Any loads found to visually contain noticeably more than 10% green waste or cardboard will be turned away

# Backyard Composting/Grasscycling

## Ongoing Existing Programs /Future Strategies (continued)

- **Existing**

- The City grasscycles at all City parks and recreation facilities
- The City promotes backyard composting/grasscycling on the website, and provides technical guidance on this subject area for people that call with questions

- **Future Strategies**

- Increased activity in backyard composting could complement curbside collection, thus the City will consider reinstating the free composting workshops previously offered (in partnership with HER)
- Continue to encourage grasscycling by providing technical guidance regarding backyard composting/grasscycling and other yard waste minimization techniques to residents and businesses upon request



# Ferrous and Non-Ferrous Metal Recycling

## Ongoing Existing Programs /Future Strategies (continued)

- Existing

- H-POWER

- Magnetic system recovers ferrous metals
    - Eddy current extracts non-ferrous metals

- Monthly curbside collection of residential white goods (bulky waste schedule)
  - White goods collection at convenience centers and certain transfer stations

- Strategies

- Appointment-based curbside collection of white goods

- The City is planning a pilot of an appointment based collection system

- White Goods RFP for processing of white goods in the City's "Solar Building" located on City property adjacent to H-POWER



# Mandatory Recycling Ordinances

## Existing Programs

- **Commercial Food Waste and Biosolids** – In 1997, the City established a mandatory recycling ordinance for large commercial food waste generators, such as restaurants, hotels, hospitals and manufacturers.
- **Office Paper, Cardboard, and Newspaper** – Ordinance to mandate recycling of these materials
  - The recycling of “targeted” materials is required by law for government agencies and businesses that meet square footage requirements
  - The City’s recycling ordinances identify the types of businesses that are required to implement a recycling system and which materials are targeted
- **Glass** – Ordinance to mandate various types of glass recycling
  - The recycling of deposit and non-deposit glass containers is required by Ordinance
  - Due to a lack of public recycling options for non-deposit glass, the part of the Ordinance requiring recycling of non-deposit glass is currently suspended

**DON'T DUMP ON HAWAII. SORT IT OUT.**

**GLASS RECYCLING - Tips and Guidelines**

- It's The Law
- Going Green Is Good For Business
- Collection Options

**It's The Law**  
City & County of Honolulu Ordinance, Chapter 9, Article 3.5 requires the owners of food establishments located within the City and County of Honolulu to: 1) arrange and provide for the separate collection of food waste and for its recycling by a recycling facility in the city or 2) separate food waste from all other solid waste generated by the food establishment and deliver the food waste to a recycling facility.

**Effective 4/1/2019**  
Revised Ordinance and recycling deposit guidelines 9-3.1.

To be in compliance with City law, restaurants, food courts, hotels, grocery stores, food manufacturers/processors and hospitals meeting the following criteria are required to recycle food waste.

**Recycling tea and coffee**

**Do Not Recycle**

**Going Green Is Good For Business**

Recycling food waste helps to extend the life of our landfill. We all need to work together to reduce waste and promote sustainable waste management.

**DON'T DUMP ON HAWAII. SORT IT OUT.**

**FOOD WASTE RECYCLING - Tips and Guidelines**

- It's The Law
- Going Green Is Good For Business
- Collection Options

**It's The Law**  
City & County of Honolulu Ordinance, Chapter 9, Article 3.5 requires the owners of food establishments located within the City and County of Honolulu to: 1) arrange and provide for the separate collection of food waste and for its recycling by a recycling facility in the city or 2) separate food waste from all other solid waste generated by the food establishment and deliver the food waste to a recycling facility.

To be in compliance with City law, restaurants, food courts, hotels, grocery stores, food manufacturers/processors and hospitals meeting the following criteria are required to recycle food waste.

- Restaurant that occupies 5,000 square feet or more of floor area and serves 400 or more prepared meals per day
- Food court in a building or shopping center where five or more food establishments are situated and serviced by a common dining area
- Hotel with one or more kitchens, and function rooms
- Grocery store that occupies 18,000 square feet or more of floor area
- Food manufacturer or processor that occupies 5,000 square feet or more of floor area
- Catering establishment that serves or sells 400 or more prepared meals per day
- Hospital that serves 400 or more prepared patient meals per day

**You Can Recycle**

- Vegetable and Fruit Waste
- Eggs
- Meat and Fish Waste
- Dairy Waste
- Bakery Waste
- Noodles
- Rice
- Cooking Oil (separate & require separate)

**You Can't Recycle With Your Food Waste**

- Plastic
- Plastic bags
- Metal
- Wood
- Glass
- Cardboard
- Large amounts of paper
- Landscape clippings

Check with your collector to verify acceptable materials.

**Going Green Is Good For Business**  
Recycling is not only the law, it is also the smart thing to do. It's good for business and good for the environment. Keeping food waste out of the dumpster lowers disposal costs, and recycling food waste and other materials helps to extend the life of our landfill. We all need to work together to reduce waste and promote sustainable waste management.

768-3200    [www.opala.org](http://www.opala.org)

# Mandatory Recycling Ordinances

## Future Strategies

- **Strengthen Implementation of Recycling and Material Bans/Ordinances**

- Ordinances are enforced through compliance form mailers and random site inspections
- The City plans to increase frequency of random inspections
- The City plans to transition ordinance compliance forms from mailers to an online platform
- The City may further evaluate existing bans, based on results from the economic and environmental evaluation of WTE

# Public Recycling Receptacles

## Ongoing Existing Programs /Future Strategies (continued)

- Existing Program

- The City has multiple programs to encourage recycling and increase the recovery of recyclables in public areas
  - Containers in public locations, such as the Honolulu Zoo, Blaisdell Arena, and Waikiki – the City purchases permanent containers to collect deposit beverage containers
  - Blue Carts are set up at Waialua Collection Yard and Kailua Transfer Station
  - DIY HI-5 Public Recycling Containers – workshops are offered to help community organizations to construct self-serve baskets
  - Temporary recycling receptacles – the City has a loan program for ClearStream pop-up receptacles

- Future Strategies

- Identify City-owned parcels for new HI-5 redemption center sites



# Residential Recycling Existing Programs

- **Residential Recycling** – The City offers the following services that support residential recycling
  - Automated Curbside Recycling of recyclables (blue cart) and green waste (green cart)
  - Multi-Unit/Family Recycling Subsidy
  - White Goods/Bulky Item Pick-up





# Residential Recycling Future Strategies

- **Optimize Curbside Collection of Residential Mixed Recyclables**

- Blue carts currently have a set out rate of 55 to 60 percent. Compared to the usage rates of other types of carts and programs, blue cart utilization is low
- The City plans to reduce blue cart collection to approximately “once-per-month” (every fourth week) in order to optimize the residential curbside collection program and reallocate resources to other tasks





# Residential Recycling Future Strategies (continued)



- **Expand Mixed Recyclables and Green Waste Collection to Manual Service Areas**

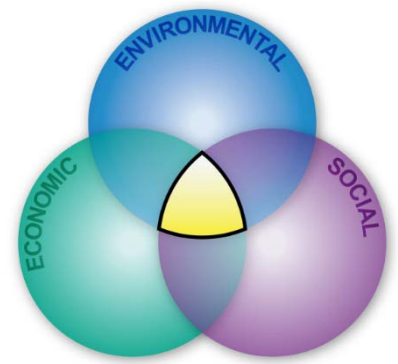
- Manual collection service is currently provided to approximately 20,000 homes where access with an automated truck is limited
- These areas do not have separate mixed recyclables or green waste collection; refuse is collected twice a week
- Adding service for mixed recyclables and green waste collection would increase the recovery of recyclables and green waste
- The City is investigating ways to expand recycling collection to these areas; the type of collection (automated or semi-automated) will depend on the restrictions of the street/neighborhood

# Energy Recovery Existing Program

- H-POWER employs refuse-derived fuel (RDF) and mass burn incineration methods to process combustible solid waste materials into energy
  - MSW, including bulky waste, sewage sludge, certain types of tires and medical waste and other special wastes are accepted at H-POWER
  - Up to 90 percent of the volume of the MSW received at H-POWER is diverted from WGSL and converted into renewable electric energy. H-POWER can provide up to 10 percent of Oahu's electricity
  - Approximately 70 percent reduction of waste by weight that would otherwise have been landfilled



# Energy Recovery Future Strategies



- **Evaluate Expansion of Energy Recovery**

- H-POWER has a WTE processing capacity of up to 1,000,000 tons of waste per year
- The City may evaluate the feasibility of adding a fourth boiler, or otherwise increasing the facility's capacity, as the need arises

- **Evaluate the Environmental and Economic Benefits of Increased Utilization of WTE**

- Oahu's physically remote location as an island results in higher costs for import and export activities concerning recyclable commodities
- China's initiatives are having an immediate effect on markets for recyclables, causing recyclers to struggle to find alternatives and solutions for processing collected materials
- It may not always make economic or environmental sense to export recyclables off the island when materials can be processed on the island
- The City plans to evaluate the environmental and economic implications of recycling and waste to energy on Oahu and use that information to determine the highest value use for the material

# Public Education

- Promoting public education and awareness is key to successful recycling, especially for residents. Equally important, is the need to have adequate funding for educational programs
- **Existing Programs**
  - Website
  - Continued technical assistance regarding recycling to residents and businesses upon request
  - Social media to promote proper solid waste management
- **Future Strategies**
  - Update the website to be more accessible for finding information on recycling
  - The City will enhance education of recycling and bioconversion programs



# Promote Beneficial Reuse of Hard-to-Recycle Materials

## Additional Future Strategy for Recycling

- Solicit proposals for recycling/beneficial reuse of ash
- Solicit proposals for recycling/beneficial reuse of glass
- Work with DOH to find a solution for non-deposit glass recycling
- Advocate for regulations that promote beneficial reuse of hard-to-recycle materials



## Section 6: Household Hazardous Waste and Electronic Waste

# Household Hazardous Waste and Electronic Waste

- Household hazardous waste (HHW), along with electronic waste (e-waste), can pose a risk to human health and the environment when managed improperly
- The City's goals for the management of HHW and e-waste are to:
  - Minimize disposal of HHW and used electronics at H-POWER and WGSL
  - Minimize the cost to manage or recycle HHW and used electronics
  - Continue to meet City National Pollutant Discharge Elimination System (NPDES) permit obligations by providing HHW collection events, thereby preventing disposal of HHW into storm drains or into the environment



# Household Hazardous Waste

As defined in the Hawaii Revised Statutes (HRS) Chapter 342G-1:

**“Household hazardous waste”** means those wastes resulting from products purchased by the general public for household use which, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may pose a substantial known or potential hazard to human health or the environment when improperly treated, disposed of, or otherwise managed.





# Household Hazardous Waste

## Existing Programs

- **Public Education** – The City's website provides extensive information regarding the safe handling and disposal of HHW. The City's Refuse Division and Wastewater Treatment Division collaborated to determine the most appropriate approach for managing over 60 products. A discussion of the management strategies for these products can be found at [www.opala.org](http://www.opala.org)
- **Collection Events** – The City hosts a HHW collection event every other month. Residents can dispose of HHW that requires special handling during these collection events by calling the Refuse Division's Household Hazardous Waste Line to schedule an appointment
- **Monitor Quantities Collected and Costs Associated with Program** – The City continues to evaluate the HHW collection program to ensure that it meets the needs of residents on Oahu

# Strategies for Expansion of HHW Programs

No new strategies are recommended for managing HHW; however, City staff will continue its existing programs and evaluate any new processes that become available.

# Electronic Waste

- “**e-waste**” includes discarded computers, cell phones, televisions and other electronic products.
- The Hawaii Electronic Waste and Television Recycling and Recovery Law (HRS Chapter 339D) was adopted in 2008 and requires electronics manufacturers to provide recycling programs for electronic devices and televisions.



# Electronic Waste

## Existing Programs

- **Residential Generators**

- Residential electronics are not banned from disposal with MSW
- Residents are encouraged to find alternatives
- Options for residents to donate computer equipment to local organizations for reuse, drop off e-waste with local e-waste recyclers, and take advantage of manufacturer take-back programs are listed on the City's website at [www.opala.org](http://www.opala.org)

# Electronic Waste

## Existing Programs (continued)

- **Commercial Generators**

- The City enacted a disposal ban on electronics for commercial and government generators (effective July 2006). These generators are directed to seek recycling alternatives by contacting the DOH or one of the reuse organizations or computer manufacturers listed on the City's website
- The City maintains updated information at [www.opala.org](http://www.opala.org) regarding alternatives to disposing of e-waste. The site lists the local non-profit agencies that are interested in receiving used computers as well as the computer manufacturers (Dell, Gateway, Hewlett -Packard, IBM, etc.) that provide recycling/trade-in services

# Strategies for Expansion of E-Waste Programs

The City is currently promoting proper management of e-waste through a variety of existing programs. The City will continue to promote these programs and activities. The following strategies will enhance existing efforts:

- **Producer Responsibility**

- The City will advocate for the State legislature to develop a state -wide solution and funding source to address the growing e-waste problem as opportunities arise and as appropriate
- As part of this effort, the City will encourage the State legislature to consider an Advanced Disposal Fee so that a fee on the sale of electronics is generated to support end of life management

## Next Steps