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# Guam

## Zero Waste Visioning

*Turning Challenges into Opportunities*



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# Meeting Agenda

- Welcome and Introductions
- Meeting Purpose
- Zero Waste Presentation
- The Visioning Process
- Group Breakout Session #1
- Group Breakout Session #2
- Group Breakout Session #3
- Prioritizing Guam's Zero Waste Opportunities
- Open Forum
- Next Steps & Wrap Up



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# Welcome and Introductions



**Guam Zero Waste Plan**

Turning Challenges Into Opportunities



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# What is the Purpose of this Meeting?

- The Government of Guam has contracted with Matrix Design Group to develop a Zero Waste Plan
- What is Zero Waste? Zero waste:
  - Focuses on waste diversion options that reduce the need for disposal (i.e., reduction, reuse, recycling and/or organics diversion)
  - Minimizes the need for disposal (i.e., landfilling and/or incineration)
- We are seeking stakeholder input on alternatives for consideration in the Plan



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## Guam's Zero Waste Guiding Principle #1

*We believe that resource management (reuse, recycling & organics diversion) should both replace Guam's focus on waste management & become an inherent part of the island's zero waste culture*



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## Guam's Zero Waste Guiding Principle #2

*We believe that we are stewards of the environment and waterways both now and in the future, and that moving toward zero waste is critical to preserving that environment for our children*



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## Guam's Zero Waste Guiding Principle #3

*We believe that effective and sustainable expansion of resource recovery practices are needed to protect public health and restore the natural beauty of our island, and that zero waste practices will bring sustainability to our island*



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## Guam's Zero Waste Guiding Principle #4

*We believe that our ability to manage waste as a resource will require respectful collaboration with partners of many kinds – public and private, lay and technical, for-profit and non-profit, individuals and groups – including the existing waste management sector*



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## Guam's Zero Waste Guiding Principle #5

*We believe community education & participation is indispensable for the success of any zero waste plan & that it is our responsibility to communicate the importance of resource conservation & the reduction of local pollution to the public, & to encourage them to share with us the stewardship role*



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# Zero Waste Video Presentation



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# The Visioning Process

- The sky is the limit...please think BIG picture.
- Anything goes – as long as the con is consistent with the Guiding Principles.
- Turn your cell phones & pagers off.
- Be courteous and show respect to all.
- Do not interrupt others or engage in private conversations.
- There is no such thing as a bad idea.
- If you have an idea, tell us! Don't think about physical or budget constraints right now.



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# Visioning Session House Rules

- Stick to the topic at hand.
- Be respectful of time limits on comments.
- Disagreements should be regarded as problems to be solved rather than battles to be won.
- **VISIONING is part of a bigger process.**  
The ideas that we come up with here today will influence but not dictate the plan that ultimately is developed.



# Three Group Breakout Sessions

What new or expanded policies, programs or infrastructure could Guam implement to create its zero waste vision through - ?

- “Upstream” Source Reduction Options (Session #1)
- “Midstream” Reuse Options (Session #2)
- “Downstream” Recycling & Organics Diversion Options (Session #3)



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# Each Breakout Group Needs to...

- Select a reporter
- Work quickly to develop as many options for Guam as possible
  - You'll only have 15 minutes in first sessions
  - You do not need to prioritize your options
- Report group results at the end of the session
- Use maps to describe results as needed



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## Remember . . .

- **Anything goes!**  
*(as long as it is consistent with the Guiding Principles)*
- **Money is no object!**  
*(don't limit your brainstorming because of potential cost)*
- **You can make everybody happy!**  
*(don't limit your brainstorming based on public acceptance or political will)*
- **Who cares if it works?!**  
*(we do – but not today – feasibility is a worry for the solid waste planners later on)*



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# Group Breakout Session #1

## “Upstream” or Waste Reduction Options



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# How Do We Generate Less Waste in the First Place?

- We can choose to reduce the amount of waste we generate
  - Buy “less”
  - Buy selectively - re-useable, recyclable & compostable products
  - Share the wealth with manufacturers
  - Creative incentives for others to reduce
- We can also reduce by importing less “stuff” – *everything that comes on to the island must eventually be managed*



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# Environmentally Preferable Purchasing (EPP)

- EPP = policy for purchasing goods & services that reduce human health & environmental impacts compared to other options
- Procurement specifications for waste reduction, recycled content, re-usability, recyclability &/or compostability
- Uses the buying power of government & businesses to create the demand for “green” products & services

Do you know what our governments spend on goods & services each year?

Federal - \$300B

State/local combined - more than \$1T



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# Extended Producer Responsibility (EPR)

- EPR = policy of “encourag(ing) manufacturers to design environmentally-friendly products by holding (them) responsible for the costs of managing their products at end of life”
- E-waste, thermometers, batteries, carpet, etc.
- Reduces burden on local governments
- Corrects market signals by changing product \$\$



EPR example = European Green Dot program  
(23 countries – 130K companies – 460B items)

British Columbia EPR – beverage containers, printed paper, packaging, antifreeze, used oil, filters, e-waste, batteries, light bulbs, paint, pharmaceuticals, tires



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# Variable Rate Pricing (PAYT)

- PAYT = policy for charging households for how much waste they generate as an incentive to get them to recycle more & “trash” less
- Utility-type pricing & creates equity amongst generators
- Gives pricing control to residents
- Relatively easy to implement
- Single most effective recycling incentive – over 7k US communities using PAYT currently

Midland Park, NJ – reduced household costs from \$464 to \$243/year for trash collection & disposal

Fort Worth, TX – reduced disposal costs by \$7M by implementing PAYT



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# Brainstorming Session #1



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# Group Breakout Session #2

## “Midstream” or Reuse Options



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# One Man's Waste is Another Man's Treasure

- How can we (or others) re-utilize our “stuff” before it really becomes waste?
- Reuse, repair & repurposing – how can we do more?
  - Thrift stores
  - Used building material programs/facilities
  - Food donation programs
  - Innovative “libraries” for sharing resources
- Who are our partners?
  - Individuals & businesses
  - Non-profit organizations
  - Hospitality industry
  - Food service industry
  - Military



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# Reuse & Repair Examples

Reuseables Depot & Thrift Store  
(Arcata, CA)



Boulder, CO Resource Yard  
"Tool Library"





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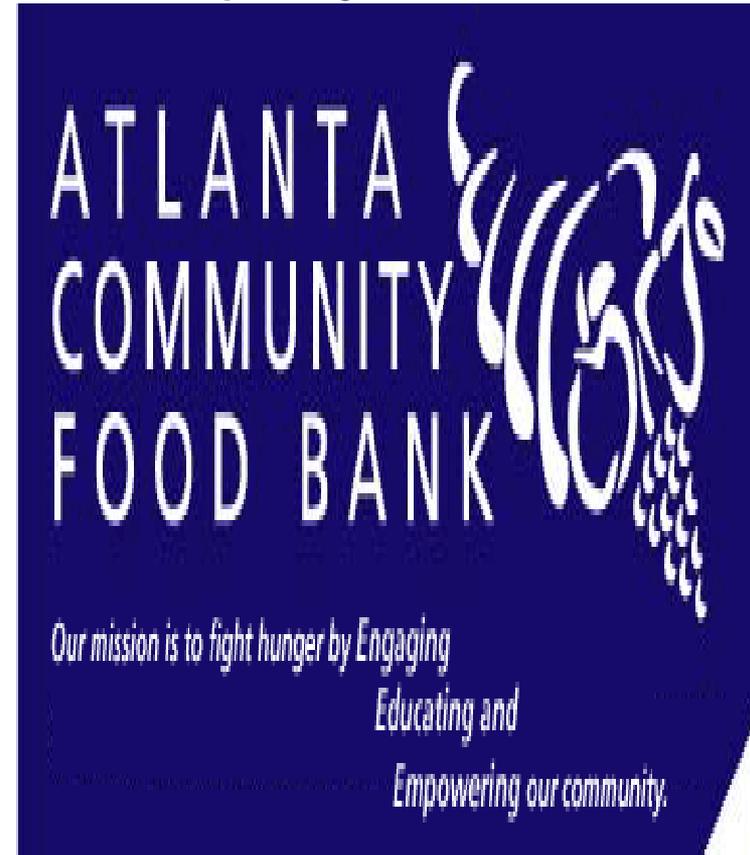
# Trash...or Treasure?

## Habitat for Humanity ReStore



Guam Zero Waste Plan

## Food Donated by Food Services & Hospitality Industries



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# More Reuse & Repair Examples!

Donated Personal Hygiene Products  
from Hotel Industry to 3<sup>rd</sup> World  
Countries



Clean the World®

Guam Zero Waste Plan

Donations from Hotel Industry &  
Business to Needed Families  
(Bridging - MN)



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# Brainstorming Session #2



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## Group Breakout Session #3

# “Downstream” or Recycling and Organics Diversion Options



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# Now We've Got Waste – What Are We Going to Do With It?

- If it can't go to the landfill, where will it go? (infrastructure)
- How will it get there? (program)
- How will our people know? (program)
- How will we encourage them to recycle? (policy)

EO 13514 requires federal agencies to divert at least 50% of non-hazardous solid waste & 50% C&D by FY2015



# Infrastructure

- Traditional materials recovery facilities (MRFs)
  - Sort, clean & bale to reduce transportation costs & to improve quality & increase market revenues

**Honolulu earned \$1.5M in recyclables revenues in FY2011**

- Organics recovery facilities
  - For yard waste, wood, food waste, food-contaminated paper
  - Mulching/chipping, composting, anaerobic digestion
- C&D transfer/processing facilities
- Other facilities
  - Household hazardous waste (HHW)
  - Hard-to-Recycle (HTR) - Styrofoam, plastic wrap, textiles, books, shoes, etc.
  - Reuse – furniture, fixtures, used building materials, etc.



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# Infrastructure (con't)

## Boulder, CO MRF, Public Drop-Site & HHW Facility



## San Jose, CA Anaerobic Digestion/In-Vessel Composting Facility (2012)



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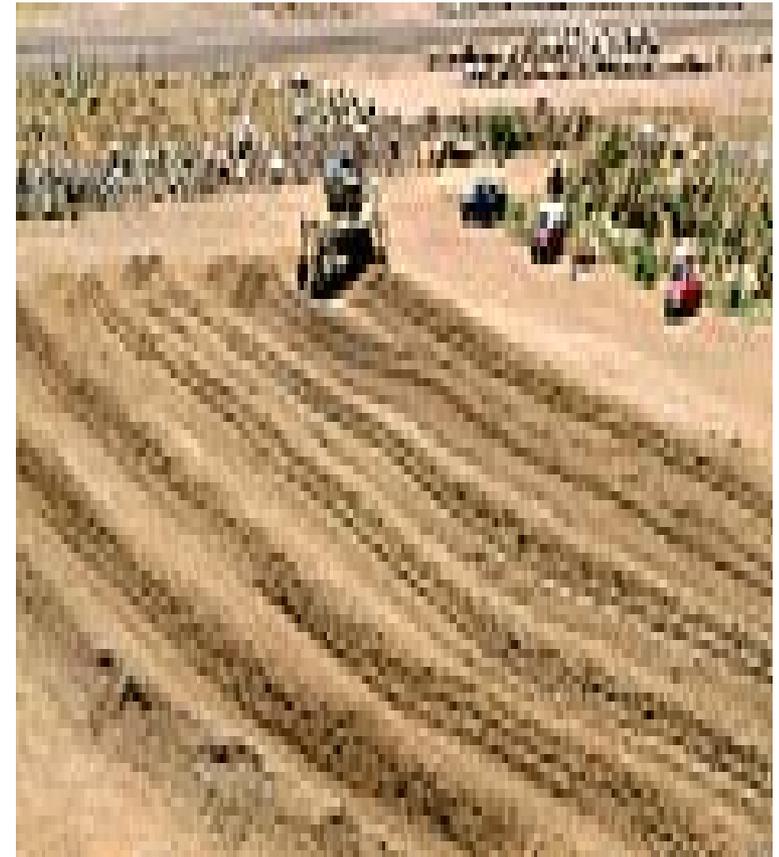
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# Infrastructure (con't)

South Gate, CA C&D Facility  
(Interior Removal Specialists)



Maui, HI Co-Composting Facility (yard waste, WWTP biosolids & FOG)





# Nantucket, MA

- Island 30 miles on east coast US
- 10K population
- Major tourist destination
- Landfill contaminated & running out of space (tip fees \$177-\$372/ton)
- MRF for traditional, HTR & C&D materials
- In-vessel composting for organics & biosolids
- Private contractor operates all facilities
- Nearly 90% diversion
- Plans for future landfill mining





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# Programs

- Collection
  - Curbside collection - recyclables & organics
  - Reduce frequency of curbside trash collection
  - More drop site collections – recyclables, organics
  - More bulky & metallic collections

Every other week trash collection - Toronto, ON; Portland, OR; Renton, WA; Christchurch, NZ  
Every monthly/on-call trash collection - Boulder, CO; Arcata, CA

- Special Waste – for materials without regular collection (e-waste, tires, HHW, etc.)
- Education, education, education



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# Honolulu, HI



- Island-wide automated 3-cart residential collection system – recyclables, yard waste & trash
- Trash collected weekly
- Single-stream recyclables - every other week
- Yard waste – every other week
- Participation rate - 70%
- Recycling rate - 52%
- Future plans – add food waste to curbside collection & reach 75% diversion



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# Nova Scotia, Canada



- 950k population
- Native nation – Mi'kmag
- Relies heavily on tourism
- Curbside recyclables collection to all households
- Curbside yard/food waste collection to 94% households
- 75% C&D diversion mandate (Halifax)
- 2015 goal – generate only 1.8 lbs/person-day  
*(US generated 4.4 lbs/person-day MSW in 2010)*



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# Champaign, IL

- University town
- “Municipalized” recycling
- Contract operations
- City bought carts
- Implemented user fees
- Developed “Feed the Thing” brand





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# Policies

- Incentives – household & green biz awards

The RecycleBank program pays households in retail coupons based on amount they recycle

- Mandates

Seattle, WA mandates recycling/organics collection for residents/businesses

North Carolina requires restaurants/bars that sell alcoholic beverages to recycle all containers

San Diego requires 50% C&D diversion on large projects

- Material Bans

American Samoa, Maui, Kauai & Hawaii have banned plastic shopping bags

WI disposal bans glass/metal/plastic containers, OCC, ONP, OP, e-waste, YW, automotive, appliances

- Funding Sources – user fees, advanced disposal fees, landfill tip fee surcharges, litter/single use taxes

Hawaii notes that “free” trash & recycling leads to lower recycling rates (no incentive to recycle)



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# Christchurch, NZ



- Population 350K
- EPP & EPR (incl packaging)
- PAYT
- Recycling ordinance for new MFU & commercial
- Yard waste disposal ban
- Every other week trash collection
- 2020 goal – landfill only 1.9 lbs/person-day incl C&D  
*(US landfilled 2.9 lbs/person-day MSW only in 2010)*



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# Brainstorming Session #3



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# Prioritizing Guam's Zero Waste Opportunities



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## Open Forum

- Is Guam ready to shift their focus toward a zero waste culture?
- We've discussed a lot of ideas today during the Zero Waste Visioning Process.
- Did we miss anything?
- If so, this is your chance to tell us about it!



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## Wrap Up and Closing

- Thank you for joining us today.
- Please remember that VISIONING is part of a bigger process.
- The ideas that we come up with here today will influence but not dictate the Zero Waste Plan that ultimately is developed.
- If you have questions or would like to talk more, please contact:
  - [Mark.calvo@guam.gov](mailto:Mark.calvo@guam.gov)
  - [julie\\_carver@matrixdesigngroup.com](mailto:julie_carver@matrixdesigngroup.com)



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