

Kauai County SWAC Meeting Summary Minutes

June 27, 2006

The following represents a summary of the presentation and discussion from the June 27 SWAC Meeting. The PowerPoint presentation made by Beck staff is available and may be reviewed in conjunction with this summary.

Agenda

- Minutes and Status of Requests From Meeting #3
- Update on Commercial Survey Results
- Review Section 1 – Programs and Costs
- Review Section 2 – Waste Generation Projections
- SWAC Facilitated Discussion on Recycling Strategies
- Present Recycling Strategies
- Present Market Develop and Procurement Strategies
- Discuss Waste Reduction Technologies
- Questions and Answers/Public Comment

Information Requests

A brief discussion addressing some of the air emissions issues associated with WTE and ash management regulations was conducted.

Large Commercial Generator Survey

- Commercial generators surveyed included:
 - Aloha Beach Resort
 - Big Save
 - Courtyard by Marriott
 - County of Kauai
 - Garden Isle Health Care
 - Gay & Robinson
 - Grand Hyatt Resort & Spa
 - Hale Kupuna Heritage Home
 - ITT Advanced Engineering & Sciences
 - Kaua'i Coffee Company

June SWAC Meeting Minutes

- Aloha Beach Resort
- Big Save
- Courtyard by Marriott
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System Overview & Preliminary Costs

- Solid Waste Collection
- Transfer Stations
- Landfill
- Recycling and Bioconversion
- Source Reduction
- Special Waste Management
- HHW Management
- Public Education

PRELIMINARY COST OF SERVICE ASSUMPTIONS

- Full Cost of Service
- Based on 2006 Budget Rather than 2005 Expenditures
- Does Not Include Future CIP
- Does Not Include Street Department Expenditures
- Will be Modified When This Information is Received

System Preliminary Operating and Maintenance Costs

- Residential Collection – 12%
- Commercial Collection – 1%
- Transfer Stations – 19%
- Landfill – 46%

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- Recycling – 15%
- Green Waste – 7%

Population Projections

Three categories used to develop projections including:

- Resident Population
- Daily Visitors
- Functional Population

2005 System Solid Waste Quantities

GENERATION QUANTITY DISPOSED+DIVERTED=GENERATION

89,156 Tons Disposed+ 27,910 Tons Diverted = 117,066 Tons Generated

Projected Generation Rate

7.48lbs/capita/day

2005 Generation Quantities and 2020 Projections Developed by Planning District

- North Shore
- Kawaihau
- Lihue
- Koloa-Poipu-Kalaheo
- West Side

SWAC Facilitated Discussion

List of Potential Residential Recycling Strategies and Issues

- Increased number of drop-off bins
- Competition for providing services critical to program implementation of a public/private partnership
 - Cost/benefit
 - Efficient use of \$
- Expand resource center
- Curbside recycling coupled with PAYT
 - Private franchise as a means to provide service

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- HHW and white goods
 - More frequent collection
- Consider hybrid PAYT as opposed to PAYT
 - Limits as to set-out quantity
 - Incremental fee imposed for containers above limit

List of Commercial Recycling Strategies and Issues

- OCC/YW/etc./pallets
- Disposal Bans for Selected Items
 - Phase in the approach
 - No requirement at business level presently
 - Stakeholders group to review ordinance banning materials
- Shopping Center Drop-offs/Redemption Centers
- Ordinance Revision to Allow Businesses to Use Drop-off

Public Education

- Visitors – incentives to recycle
- Special event recycling
- Ambassador

Illegal Dumping Costs and Enforcement

- What are the counties' costs presently?

Integrated Solid Waste Diversion System Components

Front Diversion	Back End Diversion
■ Drop-off	■ Anaerobic Digestion
■ YW with Curbside Recycling	■ WTE
■ Source Reduction (product substitution)	■ Gasification

R.W. Beck Proposed Strategies

Strategies to Increase Recycling

- Increase the Number of Drop-Bin Locations

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- Resume Privately-Operated, Subscription Curbside Recycling
- Contract or Franchise Curbside Recycling
- Implement PAYT
- Increase Visitor Recycling
- Increase Business Recycling
- Enhance Special Event Recycling

Recycling Evaluation Criteria

- Increase Diversion
- Minimize Costs
- Promote Sustainability
- Protect the Environmental Health of the County
- Increase Participation

Increase Drop-Bin Locations

- Drop-off Recycling Center
- Refuse Transfer Station
- Green Waste Diversion Site
- Deposit Beverage Container Redemption Center

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Contract or Franchise for Curbside Recycling

Strengths

- ↑ Increased Diversion
- ↑ More County Control
- ↑ May Decrease Cost
- ↑ May Increase Competition

Challenges

- ↓ Increased Administrative Requirements
- ↓ May Decrease Competition
- ↓ Equity Issues if Mandatory Fee is Assessed

Expanding Drop-Bin Locations

Strengths

- ↑ Increased Diversion
- ↑ Reduced Transportation Costs and Time
- ↑ Increase Program Visibility

Challenges

- ↓ Increased Costs
- ↓ Siting
- ↓ Zoning

Resume Privately-Operated Subscription Recycling

Strengths

- ↑ Will Increase Diversion
- ↑ Some Residents Are Willing to Pay for the Convenience
- ↑ Provides an Option for Residents Without Transportation
- ↑ Invites Competition
- ↑ No Additional County Funding

Challenges

- ↓ The Majority of Residents Will Not Subscribe Due to Cost
- ↓ Minimal County Control

Implement County-Operated Curbside Recycling

Strengths

- ↑ Increased Diversion
- ↑ Total County Control
- ↑ May Decrease Cost
- ↑ System/Route Knowledge

Challenges

- ↓ Increased Capital, Labor and Administrative Costs
- ↓ May Need to Hire Crew

Institute a Hybrid PAYT Program

Strengths

- ↑ Offers Transition for General Fund to User Fees
- ↑ Mitigates Revenue Risk
- ↑ Offers Flexibility

Challenges

- ↓ Waste Reduction Not As Great Compared to Pure PAYT
- ↓ Customers Will Not Understand Full Cost of Service
- ↓ Potential For Illegal Dumping

June SWAC Meeting Minutes

Increase Visitor Recycling – 8 Million Visitors Annually

- Conduct Hospitality Industry Focus Groups
 - Green Tourist Recognition Program
 - Recycling At Tourist Destinations
 - Mandatory Recycling

Increase Visitor Recycling

Strengths

- ↑ Could Significantly Increase Diversion
- ↑ Increase Recycling Awareness and Visibility
- ↑ Establish a Relationship Between the Beauty of Kaua'i and Protecting the Environment

Challenges

- ↓ Increased Cost to the Hospitality Industry
- ↓ Inconsistent Service Levels with the Hospitality Industry
- ↓ Limited Space
- ↓ Outreach Campaign Would Be Expensive
- ↓ Increased Service Costs to the County
- ↓ Businesses May Not Be Motivated by “Green Tourist Destinations”
- ↓ Mandates Time-Consuming and Difficult to Enforce

Enhance Business/Institutional Recycling

- Target businesses by the type of waste they generate;
- Implement and evaluate the feedback from the current survey and periodic surveys in the future;
- Design a business waste reduction guide and waste exchange
- Develop a business-specific page on the County’s website
- Work with the large retailers that backhaul materials
- Provide grants or low-interest loans

Special Event Recycling

Koloa Plantation Days 2006

Immigration Celebration

Plantation Style

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Material Marketing and Procurement

Key Market Development Objectives & Opportunities

OBJECTIVE

- Nurture Existing On-Island Markets

OPPORTUNITY

- Increase institutional capacity for promotion
- Increase County use of glass and organics
- Expand range of materials used in compost
- Restructure glass recycling program

Market Development Objectives & Opportunities

OBJECTIVE

- Establish Public/Private and Public/Public Partnerships

OPPORTUNITY

- Reduce transportation costs and increase revenue through consolidation and combining backhauls
- Expand Hawai'i Scrap Tire and Electronics Processing Capacity and End Use Demand

OBJECTIVE

- Strengthen off-island recycling markets through:
 - County policies
 - Support for appropriate state and national policies

OPPORTUNITY

- Strengthen County's recycled product procurement policies
- Promote enhanced State and Federal market development efforts
- Adopt a County product stewardship and support State and Federal initiatives

Solid Waste Conversion/Reduction Facility Evaluation

Alternative Waste Reduction Technologies

- Anaerobic Digestion
- Waste-to-Energy
- Pyrolysis/Gasification
- MSW Composting

Methodology

- Develop a matrix describing alternative waste reduction technologies
- Weight criteria and apply to various technologies
- Identify a shortlist of up to two preferred alternative waste reduction technologies to further evaluate
- Evaluate the shortlist of technologies as applied to Kauai's solid waste stream

June SWAC Meeting Minutes

County of Kaua'i Solid Waste Composition Overview

Paper, 33.9%	HHW, 0.6%	Plastics, 13.5%	Sharps, 0.1%
Metals, 4.5%	Glass, 4.0%	Rubber, 0.3%	Yard Waste, 6.0%
Other Inorganic, 1.4%	Food Waste, 13.7%	Wood, 3.5%	C/R/D, 5.9%
Durables, 1.4%	Textiles, 3.7%	Diapers, 2.0%	Other Organic, 0.8%
Fines, 2.8%	Other, 0.2%	Special Wastes, 1.7%	

Evaluation Criteria – Results of SWAC Weighted Voting

- Environmental Impacts and Regulatory Considerations – 3.00
- Economics and Financial Considerations – 3.00
- Quality of Technology (commercially proven) – 1.6
- Social and Political Acceptability (Kauai ethic) – 1.5
- Systems Compatibility with Existing/Planned -0.7

Recommended for Exclusion by Beck

- Pyrolysis/Gasification
 - Some growth in R&D and its application to managing municipal solid waste
 - Economics vary considerably depending on process
 - Emissions still being evaluated using MSW as feedstock
- MSW Composting
 - Historically odor issues have been visible environmental and social concerns
 - Economics in many instances have been problematic
 - Lack of markets in many instances because of contaminants in by-products

Recommended Shortlist of Technologies

- Anaerobic Digestion
 - Tailored to Kauai solid waste stream with its large proportion of organics
 - By-products of digestate/compost and biogas have potential local markets
 - Biological process results in limited emissions as compared to other technology options
 - Proven application in Europe for managing organic component of waste stream
- Waste-to-Energy
 - Most cost competitive technology as compared to landfilling
 - Proven technology as applied to managing MSW in Hawaii (H-Power), as well as worldwide
 - Pollution control technologies provide capability to meet EPA emissions standards
 - Diverts up to 90% by volume of the solid waste stream

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- Displaces need to import non-renewable fuels and offsets greenhouse gas impacts

Waste-to-Energy Air Emissions Discussion

Air emissions can be appropriately managed with best available control technologies.

Types of emissions include:

- Nitrogen Oxides
- Sulfur Dioxide
- Carbon dioxide
- Volatile organic compounds and particulates
- Traces of heavy metals (lead, mercury, etc.)
- Dioxins and Furans

Next Steps in Evaluation

- Evaluate two preferred technologies
 - Diversion as applies to Kauai waste stream
 - Estimate planning level capital and operations costs as applied to Kauai waste stream
 - Refine description of potential environmental impacts

Questions & Answers