

Our Green Journey:



Our Green Journey:

*The costs and returns of
operational sustainability.*



Our journey in three parts...

- Low cost
- Increasing operational/capital investment
- Transition to core mission



Our Themes:

- Measurement
- Communication
- Commitment
- Risk



Low cost...

- Recycling
- Saving Trees
- The Green Team, The *True Believers*



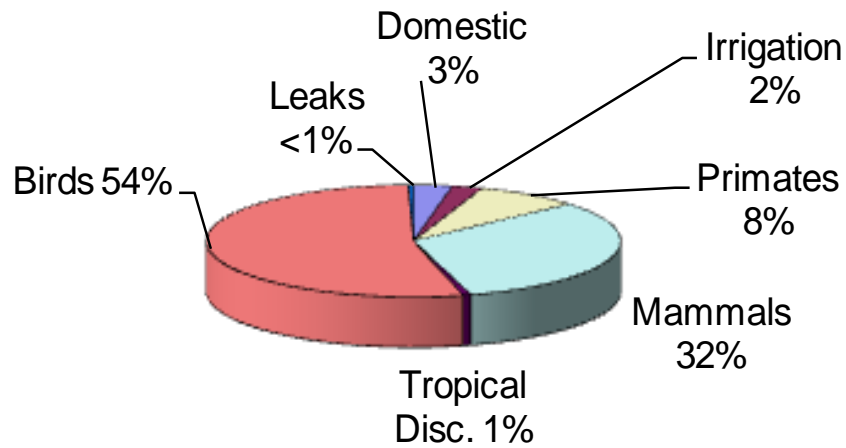
On the way up, water savings...

- Audit
- Identify
- ***Action!***



Water Savings...

Denver Zoo Audited Water Use
(Based on about 383 Million Gallons/Year)



Flamingo Pond

- 40 million gallons/year 1999
- Less than **500K**/year since 2003
- 50K investment – 1 yr ROI



Making it our mission...

- ELP and ISO 14001
- Gasification
- Product Procurement



ISO 14001...

- **SMS – Sustainable Management**
- Audits
- Continual Improvement



ISO and the Green Team...

- Changing attitudes
- Operational commitment 75K/yr.
- Cost neutral-profitable?



Gasification...What is it?

- Waste +
- Fuel =
- **Energy**



PINEAPPLE

CHICKS: SMALL

White Millet

HAY

Gasification... What's the problem?

BOTTLES

20 # office paper

PIG

STRAW

YAMS

FROZEN FISH

jumbo rats

ANCHOVIES

Horse Tails

F U Z Z Y M I C E

EARNS

WHEAT BRAN

PAPER PLATES

shavings

crane diet

green beans

Diapers

CONDIMENTS

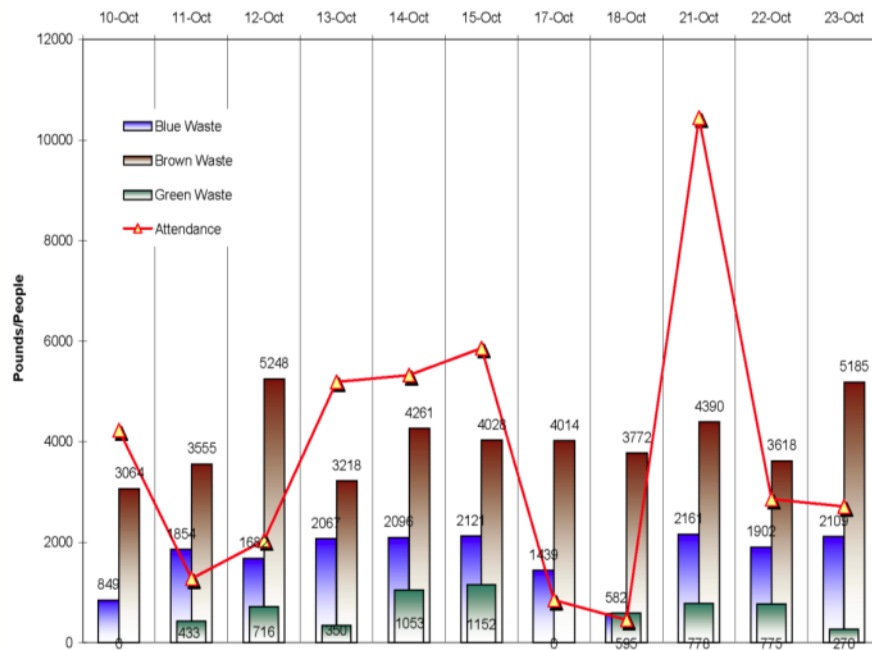
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CARDBOARD



Gasification...Measurement



Gasification...Outcomes

- Waste Stream
 - Process 90% of existing waste stream volume on-site.
- Combined Heat and Power
 - Generate up to 200 kwh to power Asian Tropics.
 - Produce 500K BTU/hr
- Costs/Return on Investment
 - Approximately **1.5 million capital investment.**
 - Potential savings of **\$150,000/year** at current energy and hauling rates.



Product Procurement

- Get your head out of the dumpster!
- We buy our Waste
- Waste = Fuel



Principles of Procurement



The Red Factor



Cost Savings

The Brown Factor



Viability as Fuel

The Green Factor



Sustainability



| Product | 2007 Cost | Order Cost Reduction | SMS Cost Reduction | Total Saved |
|-----------------|---------------|----------------------|--------------------|--------------|
| Cleaners | \$ 28,091.02 | | 15% | \$ 4,213.65 |
| Bleach | \$ 7,410.83 | 74% | | \$ 5,483.92 |
| Office Supplies | \$ 93,877.23 | 7% | 3% | \$ 9,387.72 |
| Electricity | \$ 538,176.09 | | 2% | \$ 10,763.52 |
| Natural Gas | \$ 403,200.02 | | 1% | \$ 4,032.00 |
| Water | \$ 477,771.80 | | 2% | \$ 9,555.44 |
| Envelopes | \$ 7,054.00 | 100% | | \$ 7,054.00 |
| Postage | \$ 209,167.16 | 3% | | \$ 6,275.01 |
| Sprint Printing | \$ 460,071.14 | 2% | | \$ 9,201.42 |
| | | | | \$ 65,966.68 |

| Other Possibilities | | | | |
|---------------------|--------------|------|----|--------------|
| Fuel | \$ 35,436.30 | 3% | 2% | \$ 1,771.82 |
| Meal Worms | \$ 9,515.70 | 100% | | \$ 9,515.70 |
| Wax Worms | \$ 8,130.50 | 100% | | \$ 8,130.50 |
| Shavings | \$ 26,584.50 | 15% | | \$ 3,987.68 |
| Pest Control | \$ 24,551.67 | 50% | | \$ 12,275.84 |
| | | | | \$ 35,681.54 |





Where are we going?

- Leadership in Conservation
- A model among...
- **Net Zero Waste by 2025**

