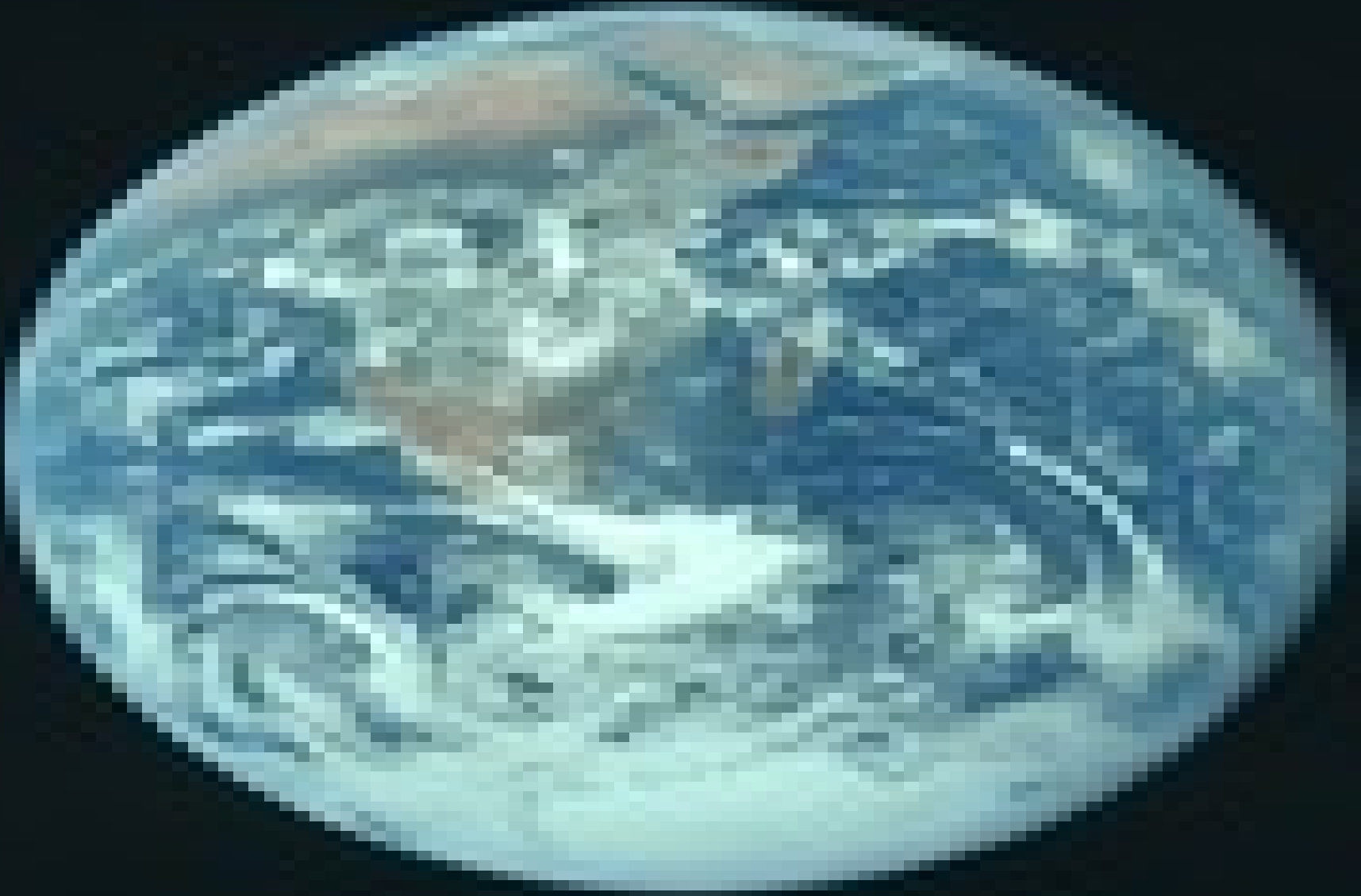


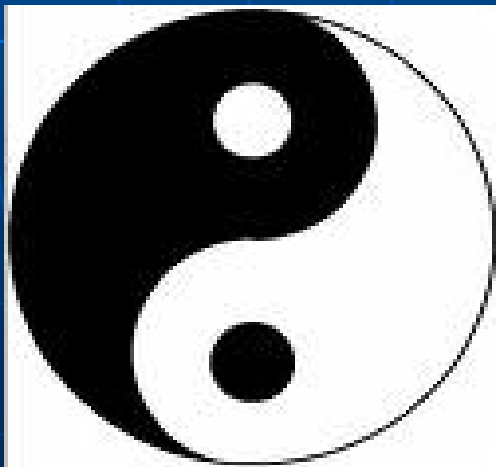
# Sustainability & The Cruise Lines



- Sustainability, environmental protection and conservation are global issue that affect everyone
- Every human activity has an impact on the environment and our global existence
- Our actions as individuals, family members, members of society, members of a nation and the job we perform have a global impact

# In Order to be Sustainable we Need:

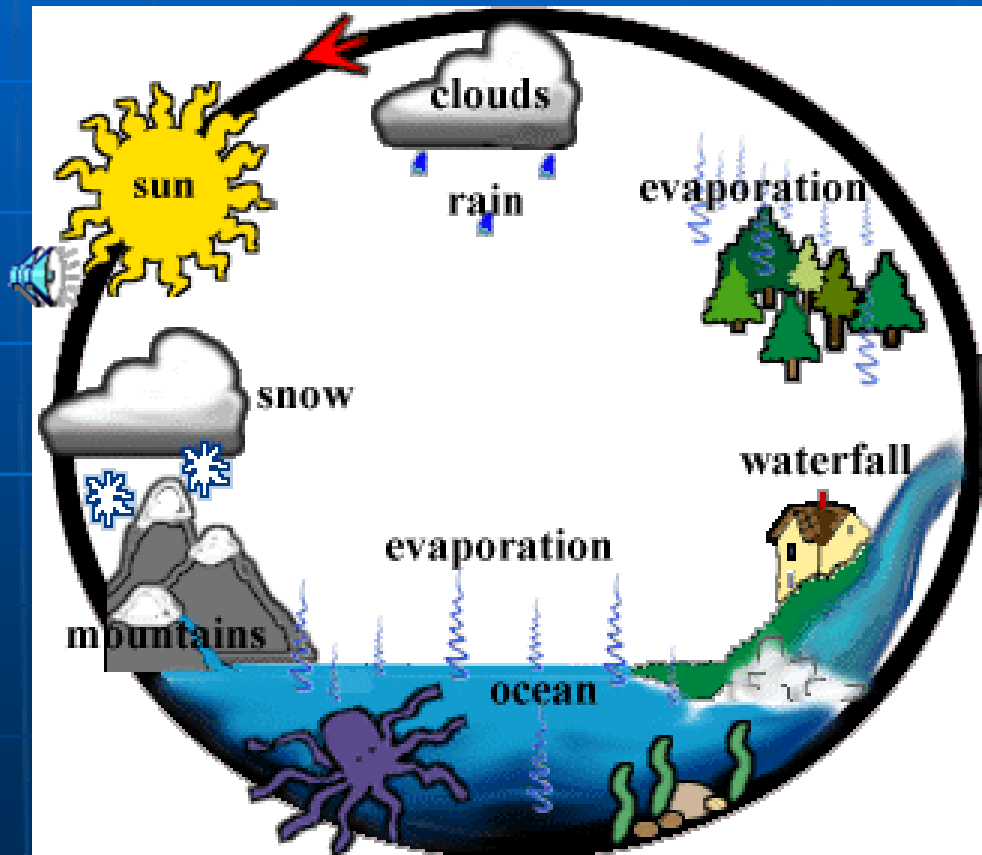
- To protect the natural **balance** of the environment
- To respect human life
- To manage natural resources
- To factor a profitable economy



# Environmental Protection &

**Conservation** - Is about Protecting the air, water, animals, plants and our natural resources.

**Ecology** –gives us the knowledge to understand the inter-relations and balances between living beings and the natural environment.

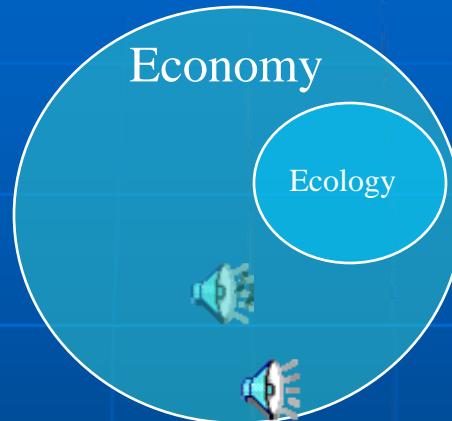
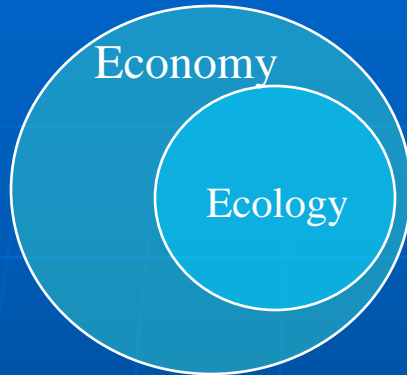


**Economy** – is the set of rules required for the management of resources to increase productivity of a community, a country or the world.

**The economy grows more productive by using more natural resources**

11 November 05 Revision

# Economy & Ecology



**Is this sustainable? – Is there a balance?**



It is all about **BALANCE**

# In Balance with Nature



Kayaking with Orcas



Pristine Beach

# Not in Balance with Nature



Oil contaminated water



Trash on the beach

# Current Global Issues

Global Warming &  
reducing carbon  
emissions



Adequate fresh  
water supply &  
Droughts



Alternative Energy  
& Waste  
Management



# How do we Achieve Sustainable Cruising



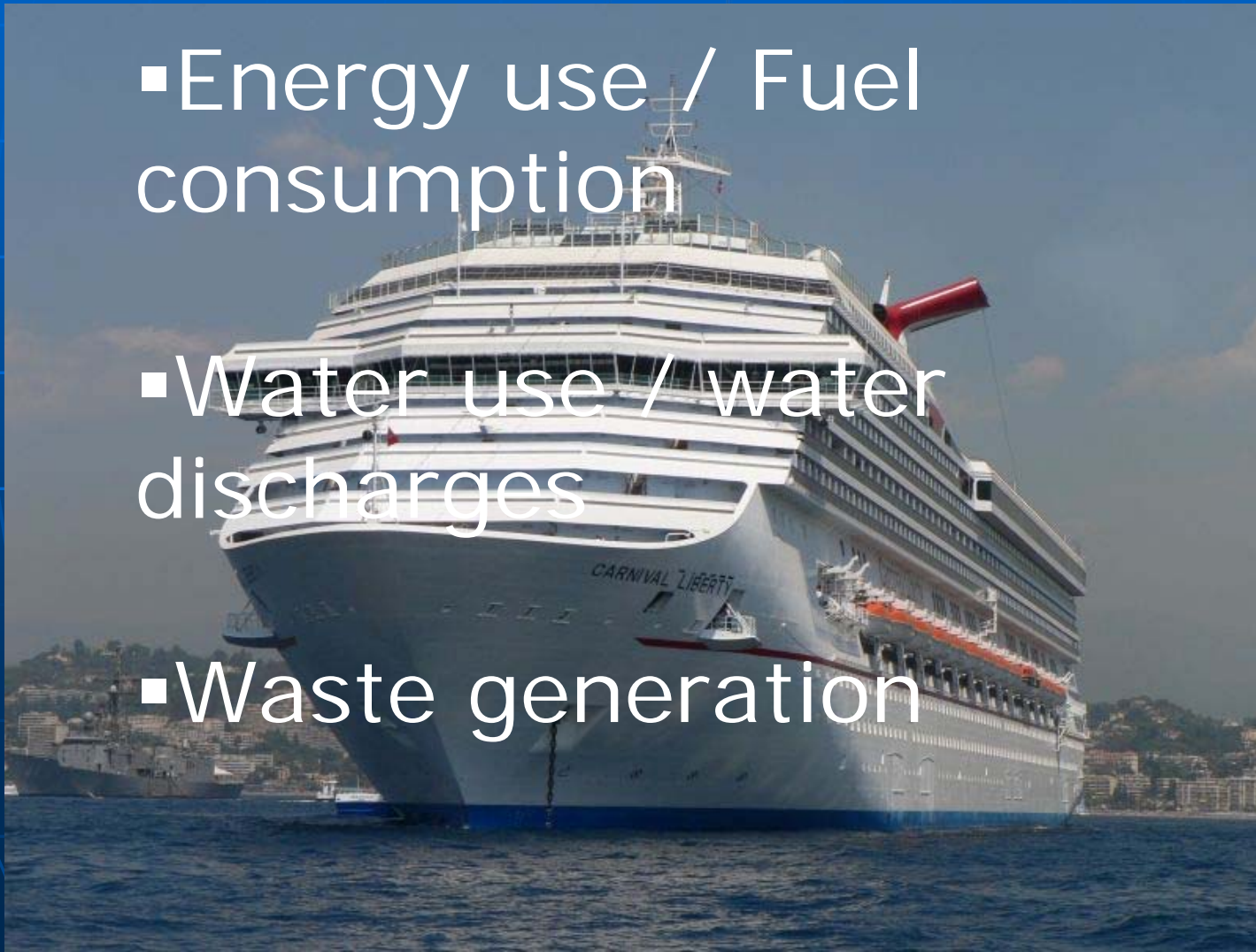
Developed by Carnival's Technical Environmental & Safety Department

In order to be sustainable you need to  
know what is your impact

# How Does A Cruise Ship Impact the Environment?

## Air – Water - Land

- Energy use / Fuel consumption
- Water use / water discharges
- Waste generation



# Balance is Achieved By:

- Implementing Best Management Procedures & Policies
- Research and Development Projects
- Using Technology/Equipment
- Educating our Guest & Crew
- Complying with Laws
- Working with all Ports of Call

# Compliance with the Law

- International Requirements
  - MARPOL
  - Montreal Protocol
- United States Requirements
  - Coast Guard
  - Environmental Protection Agency
  - Public Health Service
  - Department of Agriculture
- European Union Requirements
- Specific Country or Island Requirements



# Best Management Practices

- Energy Conservation
- Water Conservation
- Waste Management
- Ballast Management
- Air Emissions
- Marine Animals & Wildlife



# Education

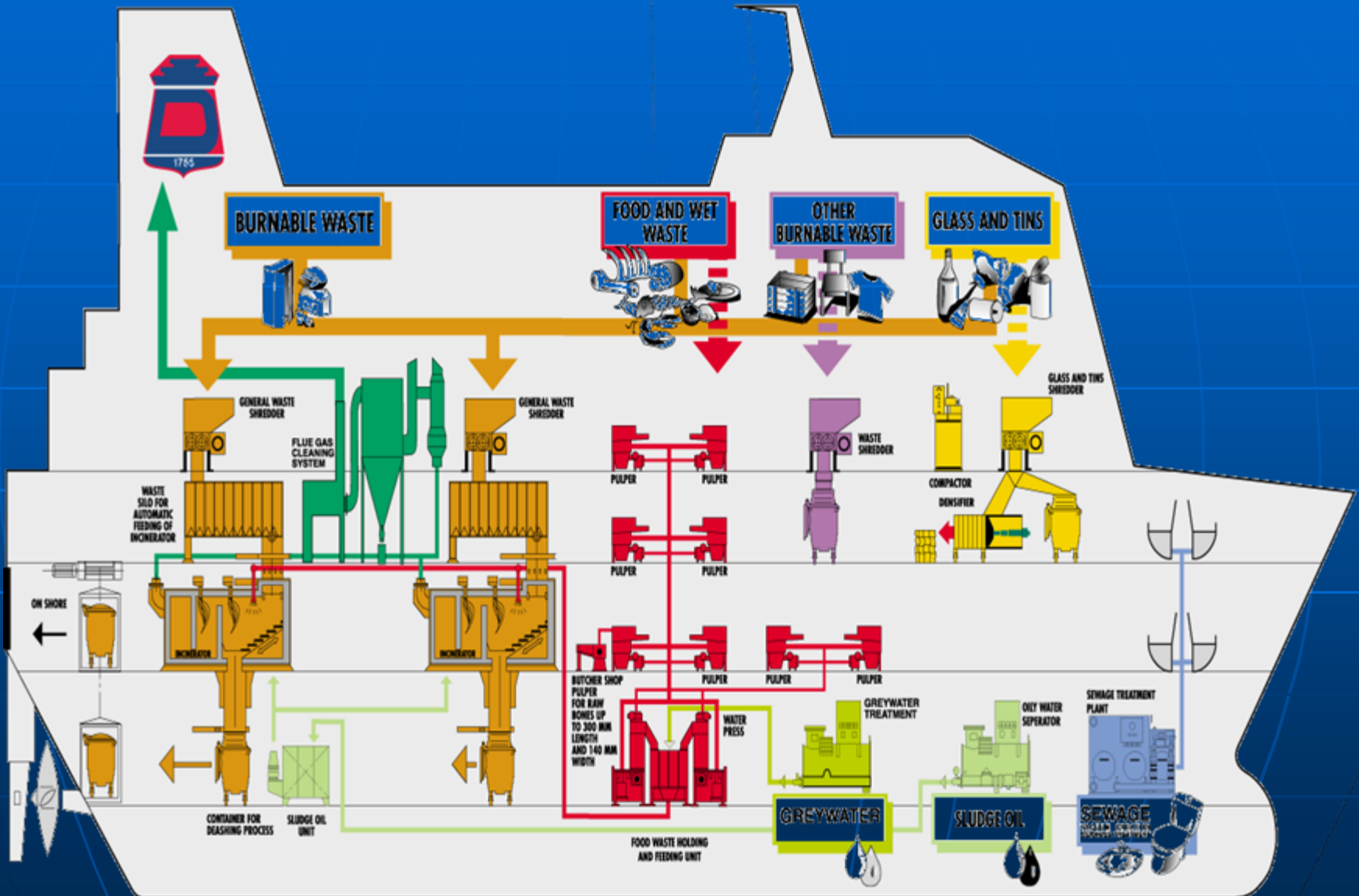
- Crew Education
  - Tier level training
  - Environmental Officer
- Guest Education
  - Kids - educational activities
  - Information provided & onboard operations
  - shoreside excursions – tour operators
- Community Participation

# Research and Development

- Fuel Homogenizers
- Trim Optimizing System
- Plasma – waste management
- Ballast Treatment System

# Technology/Equipment

- Incinerators
- Sewage Treatment Plants
- Advanced Waste Water Treatment
- Oil Water Separators
- Garbage Compactors
- Refrigeration Recovery Units



# Waste Management System

- Know the Operation
- Identify the “point of generation” of the waste
- Identify available treatment technologies
- Identify best management practices per waste stream
- Develop & implement crew/guest training programs

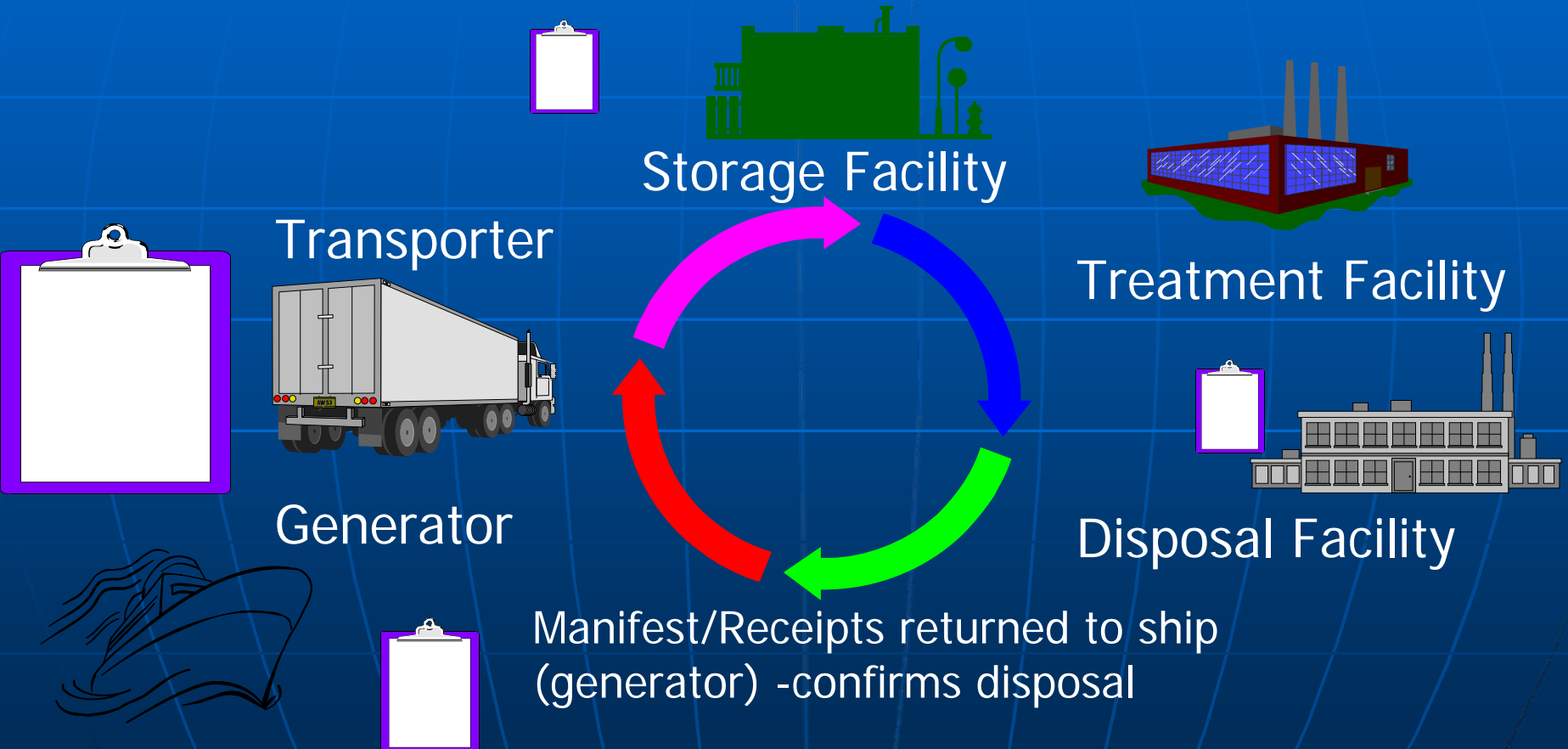
## Shipboard Waste Management System

- Disposal and discharge policies
- High level of segregation
- Onboard Vs. shoreside treatment/disposal

# Ship Waste Streams

- Solid waste
- food waste
- Recyclable waste
- gray water waste
- black water waste
- oily waste
- hazardous waste

# CRADLE - TO - GRAVE



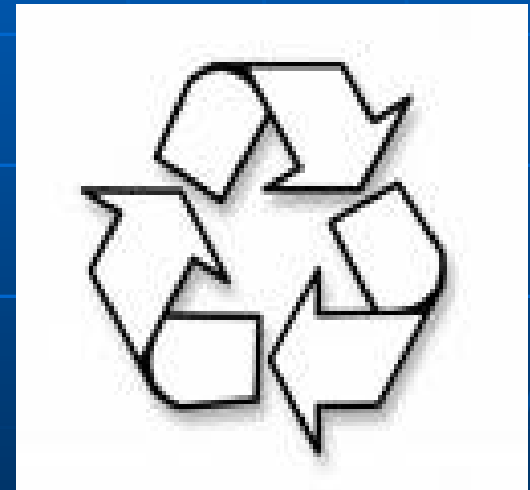
# International Environmental Standard

- Implement ISO 14001 which incorporates environmental consciousness into every aspect of the business
- Periodic System Audits
- Periodic Management review
- Proactive Management System



# What are CCL's ISO 14001 Goals?

- Waste Reduction/  
Recycling
- Energy Conservation
- Water Conservation



# Segregate Waste into Designated Containers

- Red-food
- Yellow-glass
- Blue-Aluminum
- White-china
- Grey-garb, rags, paper
- Stainless steel-plastic



# Recycling

- Glass ( green/brown/clear)
- Plastic
- Aluminum
- Scrap metal
- Cardboard
- Lamps
- Batteries
- Cooking oil
- Oily Waste
- Toner Cartridges
- Electronics



# Why Recycle?

*Because one ton of recycled paper.....*

- saves 24,000 gallons of water
- eliminates 3 cubic yards of landfill space
- eliminates 60 pounds of air pollutants
- saves enough energy to power the average home for 6 months
- saves about 20 trees
- saves 4 barrels of oil

**PLEASE DO  
YOUR PART**



# Glass Recycling

Glass can be recycled again and again with no loss in quality or purity



# Aluminum Recycling

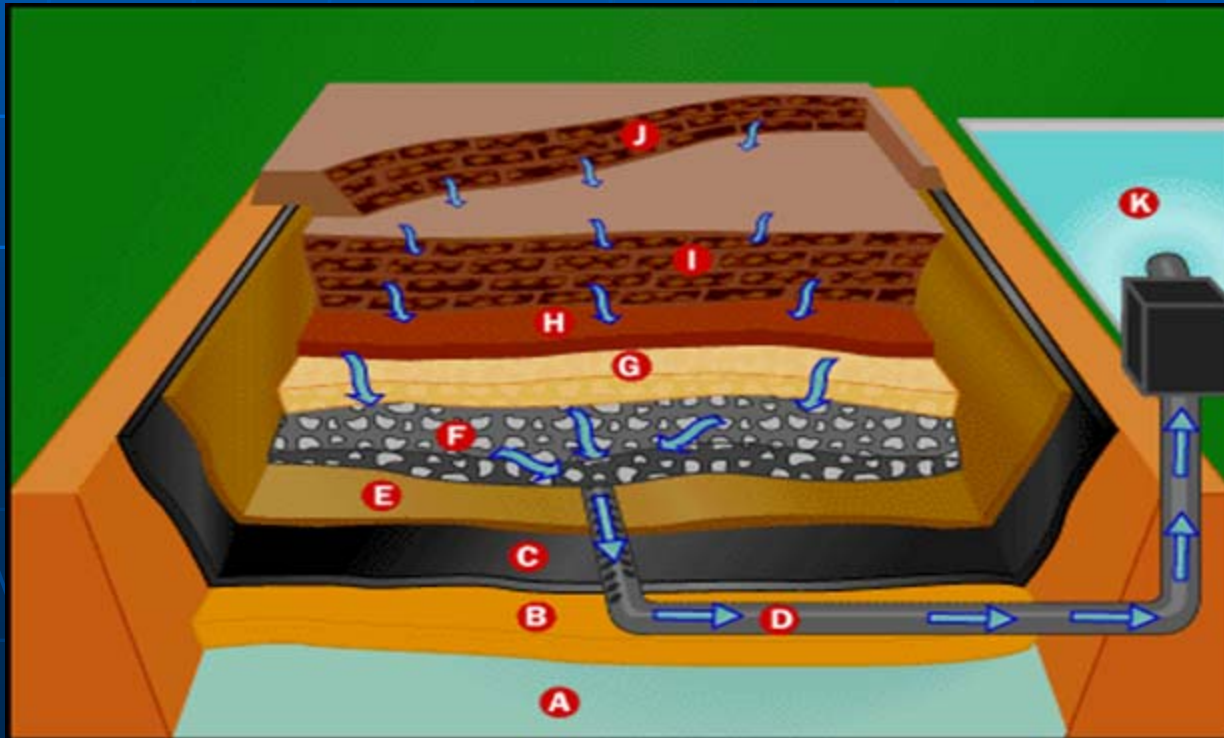
20 recycled cans can be made with the energy need to produce 1 new can



- Do you know what happens to garbage that is not recycled?
- It is burned or sent to a landfill or dump

# Landfill

- A carefully designed structure that isolates trash from the surrounding environment (groundwater, air, rain)



# Dump

- A land site where waste is discarded without regard to the environment



- The United States is #1 in trash production, producing about 1,600 pounds of trash per person per year
- Approximately 60% ends up in landfills

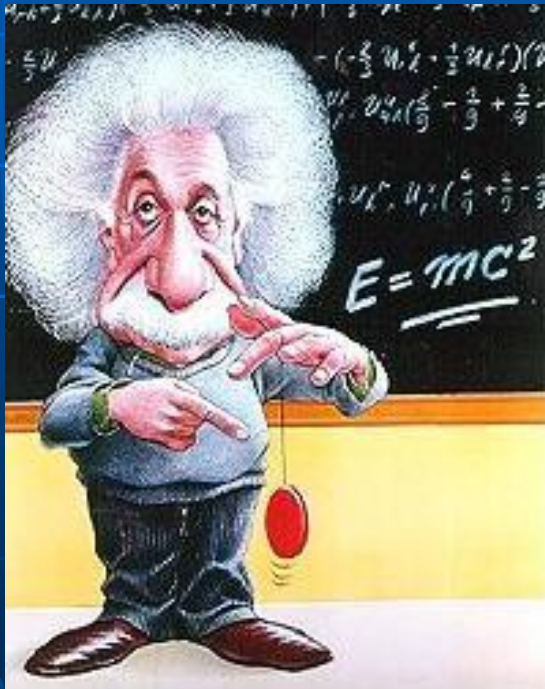


# Waste Reduction

- Garbage does not go away, it merely goes somewhere else
- We need to remember to reduce, reuse, and recycle

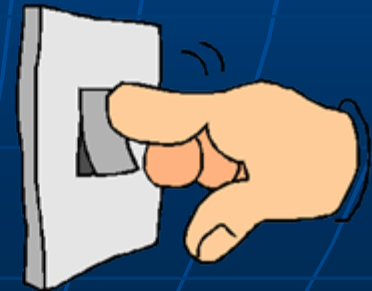
# Energy Conservation

You don't have to be a genius to know how to save energy!



**SAVE  
ENERGY**

THIS  
MEANS  
YOU!



# Energy Conservation

- Optimize fuel consumption
- Use fluorescent bulbs
- Turn off appliances/  
equipment not in use
- Close deck doors



# Water Conservation

- Don't leave water running
- Reuse towels
- Wash full loads of laundry and dishes
- Repair leaking faucet, running toilets



# Did you know?

A dripping faucet can waste up to 2,000 gallons of water a year!

There is about the same amount of waters on Earth as there was millions of years ago.

Nearly 97% of all the world's water is salty or undrinkable. Another 2% is locked in ice caps and glaciers. That leaves 1% for all our needs

More water is used in the bathroom than any other place in the home.

## Every Drop Counts

On average, each person in the U.S. uses about 50 gallons of water per day.

Water regulates the Earth's temperature. It also regulates the temperature of the human body.



- We all have different backgrounds, come from different parts of the world, and have different jobs
- One thing we have in common is protecting the Earth's natural resources in order to continue to provide beautiful destinations for our guests and ourselves

We sell vacations to beautiful destinations, if these places do not exist we have no business





# Is Sustainable Cruising Possible ?



# YES

Every human activity has an impact and the choices we make affect life on earth today and for future generations