Background

- October 2000 – The Board of Trustees adopted an environmental policy developed by the EAC
  - Implement an EMS for auditing inputs and outputs and quantifying savings from sustainable practices.
  - Produce an annual “Environmental State of USC” report under the leadership of the EAC
Assessing Environmental Progress

- To Accomplish Three Goals:
  - To gather preliminary information needed for an EMS
  - To identify indicators for each department that would allow us to measure progress over time and
  - To identify indicators that would be easy for department personnel to gather and report

- Assessment Method
  - By department
  - Questions have been dropped, refined, and some added
USC’s Progress

- **A Summary**
  - Successes and improvements
  - Future plans and goals
  - Questions regarding further improvement

- **Assessment Improvement**
  - Increase inter-department cooperation and information sharing
  - Maintain consistency
  - Obtain data in the same format and units
Dining Services

Successes/Improvements

- Students who use an “eco-mug” will receive a discount on beverages inside dining halls.
- Students have the option to “dine-in” rather than get food in a Styrofoam “to-go” container.
- The department purchases recycled content napkins.
- The department has switched to a pressed trophy cup, which uses less Styrofoam, from a complete foam cup.
Dining Services

- Future Plans and Goals
  - Changing to a paper cup from a foam cup.
  - Launch a campaign to alert customers to use china where available instead of paper.

- Questions Raised by the Campus Community
  - Would it be possible to provide signs advertising the “eco-mug” option where it is available?
  - Will the campaign to alert customers to use china where available include instructing employees to ask if patrons would like china or Styrofoam?
  - Would it be possible to wrap “to-go” sandwiches in paper or place them in plastic bags rather than in Styrofoam containers?
Energy Services

Successes/Improvements

- The department has signed a Performance Contract with Johnson Controls, Inc. to replace boilers, perform campus wide lighting retrofits, replace energy facility chillers, replace energy facility cooling towers, and install water efficient plumbing fixtures campus wide.
- Two independent audits were conducted in 2004.
- Solar water heating is utilized at West Quad.
- Purchasing Energy Star products has become a part of the department’s policy.
Energy Services

Future Plans and Goals
- Install energy-efficient windows in all new projects.
- A Biomass Energy plant will be built on campus.

Questions Raised by the Campus Community
- In light of increasing electricity and water rates, what can the department or campus community do to reduce consumption per square foot?
- Is it possible to track energy and water use by building to assist monitoring efforts and students interested in doing research projects?
- Would it be possible for the department to publicize or expand its policy of purchasing Energy Star rated products to the entire campus?
Electricity: Changes in Consumption (Kwh)/Sq.Ft.

Percentage Increase or Decrease

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Change</th>
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<tbody>
<tr>
<td>FY 93/94</td>
<td>2.4%</td>
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<td>FY 03/04</td>
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Electricity: Changes in Unit Cost (Kwh)

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage Increase or Decrease</th>
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<tbody>
<tr>
<td>FY 93/94</td>
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<tr>
<td>FY 94/95</td>
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<td>FY 99/00</td>
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<tr>
<td>FY 02/03</td>
<td>4.9%</td>
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<tr>
<td>FY 03/04</td>
<td>4.2%</td>
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</tbody>
</table>
Natural Gas: Changes in Consumption (MCF)/Sq.Ft.

- FY 93/94: 6.5%
- FY 94/95: -2.1%
- FY 95/96: 0.0%
- FY 96/97: 1.6%
- FY 97/98: -3.3%
- FY 98/99: -3.6%
- FY 99/00: -10.4%
- FY 00/01: -18.7%
- FY 01/02: 0.7%
- FY 02/03: 8.6%
- FY 03/04: 0.0%

Percentage Increase or Decrease
Natural Gas: Changes in Unit Cost (MCF)

- FY 93/94: 8.1%
- FY 94/95: 8.1%
- FY 95/96: 6.6%
- FY 96/97: -3.3%
- FY 97/98: -11.6%
- FY 98/99: 20.3%
- FY 99/00: 38.3%
- FY 00/01: 30.2%
- FY 01/02: 6.0%
- FY 02/03: 6.6%
- FY 03/04: 8.1%

Percentage Increase or Decrease:

-50.7%
<table>
<thead>
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<tr>
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Environmental Health & Safety

- **Successes/Improvements**
  - The department has developed an EMS, which was ISO 14001 certified in 2002.

- **Hazardous Waste**
  - The overall amount and cost of hazardous waste disposal has declined, even though the price per pound of hazardous waste disposal has increased.
    - 1999-2000: 46,500 pounds @ $79,216 ⇒ $1.70 per pound
    - 2002-2003: 21,900 pounds @ $73,422 ⇒ $3.35 per pound
    - 2003-2004: 18,650 pounds @ $52,141 ⇒ $2.80 per pound
  - The department has created a booklet which provides information about and encourages the exchange of surplus chemicals.
Environmental Health & Safety

- **Successes/Improvements**
  - **Radioactive Waste**
    - The cost associated with radioactive waste disposal has declined.
      - 1999-2000: $23,000
      - 2002-2003: $13,000
      - 2003-2004: $12,907
    - USC does **not** have an on-site incinerator.
Environmental Health & Safety

Successes/Improvements

Infectious Waste

- The overall amount of infectious waste generated and the associated disposal cost has declined.
  - 1999-2000: 19,248 pounds @ $7,500 ⇒ $0.40 per pound
  - 2002-2003: 12,547 pounds @ $6,824 ⇒ $0.54 per pound
  - 2003-2004: 16,677 pounds @ $5,837 ⇒ $0.35 per pound

Work Environment

- All complaints are handled with an assessment of the area and recommendations for improvement.
Environmental Health & Safety

Future Plans and Goals

- Continue yearly examinations of department activities to identify objectives and targets to reduce impacts on the environment, health, and safety.
- Recycle 10% of the surplus hazardous chemicals to prevent them from becoming part of the hazardous waste stream.
Questions Raised by the Campus Community

- **Hazardous Waste**
  - What steps could be taken by the department or the campus community to increase surplus hazardous chemicals recycling?

- **Radioactive Waste**
  - Since the decay in storage program for solid radioactive waste will not be put in place, are there other methods the department could explore to reduce the quantity of radioactive waste?

- **Infectious Waste**
  - What steps could be taken by the department or the campus community to reduce the amount of infectious waste generated?

- **Work Environment**
  - Could the department take a proactive approach to the mold issues on campus to alleviate the influx of complaints that occur at certain times of the year?
Facility Services
Environmental Services

- **Successes/Improvements**
  - Plastic, aluminum can, and cardboard recycling has increased.
  - The department has joined the EPA WasteWise Program but still needs to submit its goals.

- **Future Plans and Goals**
  - Improve recycling collections on campus.
  - Expand markets and materials accepted.
Aluminum Cans

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount in Tons</th>
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<tbody>
<tr>
<td>1999-2000</td>
<td>1.5</td>
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<tr>
<td>2002-2003</td>
<td>2.8</td>
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<tr>
<td>2003-2004</td>
<td>4.6</td>
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</table>
Questions Raised by the Campus Community

- Could the department do more frequent pick-ups?
- Could the department expand its electronics waste recycling program?
- Would it be possible to conduct regular waste composition studies to assist the department in tracking its progress?
Housing

Successes/Improvements

- The West Quad was completed in 2004 and is awaiting LEED certification.
- A variety of educational programs regarding sustainability issues are in place at West Quad in conjunction with the Living Learning Center.
- Green cleaning products are used at the West Quad.
- The department conducts Move-In and Move-Out recycling programs, which combined recycle nearly 50 tons of materials each year including: cardboard, cement blocks, wood, food, clothing, and toiletries.
- Motion sensors and occupancy detectors will be installed in residence halls during the 2005 summer.
- Energy efficient washers and dryers are used in residence halls saving approximately 2 million gallons of water and $20,000 per year.
Housing

Future Plans and Goals

- Seek ISO 14001 certification.
- Expand education and promotion of sustainability and recycling to residents with Environmental GA.
- Improve recycling infrastructure.
- Expand green renovations.
- Complete a West Quad case study and cost analysis.
- Continue documenting procedures under the BEST program.
- Expand green cleaning program to all residence halls.
Housing

Questions Raised by the Campus Community

- Will future residence halls be built with LEED certification in mind?
- Does the department plan to adopt an EMS of its own?


**Landscaping Services**

- **Successes/Improvements**
  - A pesticide usage form has been developed and is routinely used.
  - Landscape waste is composted.
  - About 10% of the irrigation systems on campus are drip irrigation systems.
  - The department is using more compost and mulch in flower beds in place of chemical fertilizers and herbicides.
  - The department uses devices that vacuum up leaf litter rather than blow it, which facilitates collection and reduces air-borne debris.
Landscaping Services

- **Future Plans and Goals**
  - Expand the initiative to develop an EMS and seek ISO 14001 certification.
  - Investigate using lower emission and noise level engines.

- **Questions Raised by the Campus Community**
  - Are there additional ways for the department to reduce the amount of chemicals it uses?
  - Will the department continue to install drip irrigation systems where possible?
  - Because atrazine is so hazardous, would it be possible to discontinue its use since only one gallon of it is used a year?
Successes/Improvements

- The paper products, except bond paper, purchased by the department for the entire campus contain a minimum of 50% post consumer recycled content; previously some products contained less than 50% post consumer content.
- Toner cartridges and electronics are collected for remanufacture, and the department purchases remanufactured toner cartridges and furniture.
- The department works with the State Surplus Property Office to recycle, reuse, and re-sell surplus items.
- Since 2000, the department’s purchases of copy paper have decreased 14%, and bond paper purchases have decreased 16%.
Future Plans and Goals

In November of 2005, the department will seek a five year term contract for the recycle/resale of surplus electronics to include computers and CRT monitors.

Questions Raised by the Campus Community

Would it be possible for the department to purchase a bond paper that contains some recycled content?

Would it be possible for the department to increase the collection and purchase of remanufactured products?
Vehicle Management

Successes/Improvements

- The department has two additional shuttle buses for a total of eleven.
- The use of bio-diesel and electric powered vehicles has increased, which in turn has decreased the department’s use of petroleum based fuels.
- The department will be installing an E-85 fueling station, which will fuel the 100 E-85 compatible fleet vehicles.
Vehicle Management

Future Plans and Goals

- The department plans to designate 30 administrative cars (Ford Tauruses) and 40 small maintenance trucks (Ford Rangers, Chevrolet S10's) as ethanol (E-85) only vehicles.
- Data will be collected on the use of these vehicles to determine the reduction in gasoline usage and air emissions.

Questions Raised by the Campus Community

- What steps could the department take to increase knowledge regarding the benefits of carpooling and public transport?
- Would it be possible for the department to purchase recycled batteries or re-treaded tires?
Suggestions

- How can we make the process easier, quicker, etc.?
- Ideas for data collection?
  - Quantitative values and cost figures
    - Can we assist the departments in obtaining this information?
- Ideas for posing questions?