

UNC Charlotte CAP Kickoff

# CAP Overview

# Roles of Task Forces

April 18,2011

LandDesign™

**MOSELEY**ARCHITECTS

A black and white photograph of a forest path. The path is a narrow, dirt trail that curves through a wooded area. The trees are tall and thin, with some bare branches, suggesting a late autumn or winter setting. The ground is covered with fallen leaves and some low-lying vegetation. At the bottom of the image, there is a solid green horizontal bar.

# What is a Climate Action Plan?

- Commitment
- ROAD MAP to Neutrality
- Evolving Document
- Fiscal Tool
- Form of Communication

Climate Action Plan  
(CAP)



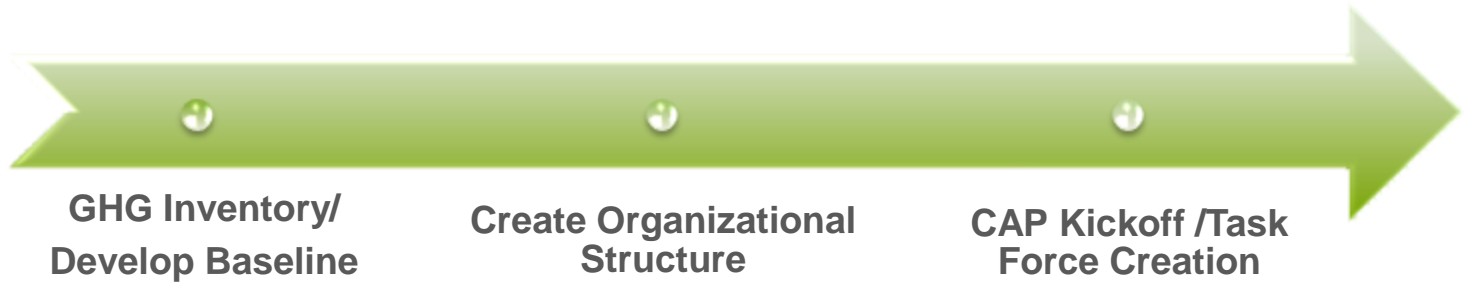


## Why is it important?

- Formalizes commitment
- Provides tracking & measurements
- Defines Strategies & Goals
  - Short & Long Term
- Brings together academic, research, campus operations, and community

# Process

**Already  
Completed**



## What's Next

**Mitigation Strategy Brainstorming**

**Mitigation Strategy Refinement**

**Establish Metrics + Synergy**

**Final Plan**

**Implementation**

**Plan Maintenance**



# CAP Final Product

1. Executive Summary
  - Review of commitment & overview of climate change
2. GHG Inventory Review
3. Path to Neutrality – Mitigation Strategies
  - Near Term
  - Long Term
  - Milestones



# CAP Final Product (cont'd)

## 4. Culture of Sustainability

- Guiding principals and goals
- Challenges & Opportunities

## 5. Transparency

- Yearly GHG Inventory Updates
- ASHEE upload of document

\*Sample CAP's available for review during breaks



## Task Forces

- Energy
- Transportation
- Solid Waste, Purchasing, Food
- Curriculum & Research
- Communications & GHG Inventory

# Schedule

Already  
Completed



## CAP Kickoff /Task Force Creation

- **4/21: CAP Kickoff**
- **5/2: Start Weekly Task Force Meetings**
- **5/2 – 5/31: Task Force Training Sessions**
  - *Determine group leader*
  - *SWOT Analysis*



## Mitigation Strategy Brainstorming

- **6/1: Task Force Joint Meeting #1**
  - Mitigation Strategy Brainstorm
  - Create Unified Metrics for Study

## Mitigation Strategy Refinement

- **7/1: Task Force Joint Meeting #2**
  - Mitigation Strategy Refinement
  - Initial Metrics submitted
  - Define Carbon Neutrality Date and Interim Milestones

## Establish Metrics + Synergy

- **8/1: Task Force Joint Meeting #3**
  - Group Strategy Synergies

## Final Plan

- **9/1: Task Force Joint Meeting #4**
  - Submit Strategy Analysis and Metrics
  - Submit Final Report for Compiling
- **10/3: Draft Climate Action Plan Report**
- **11/1: Send CAP report to campus community for comment and review**
- **12/1: Complete editing and graphics for Final Report**
- **1/2: Submit CAP report to AASHE for uploading on website**

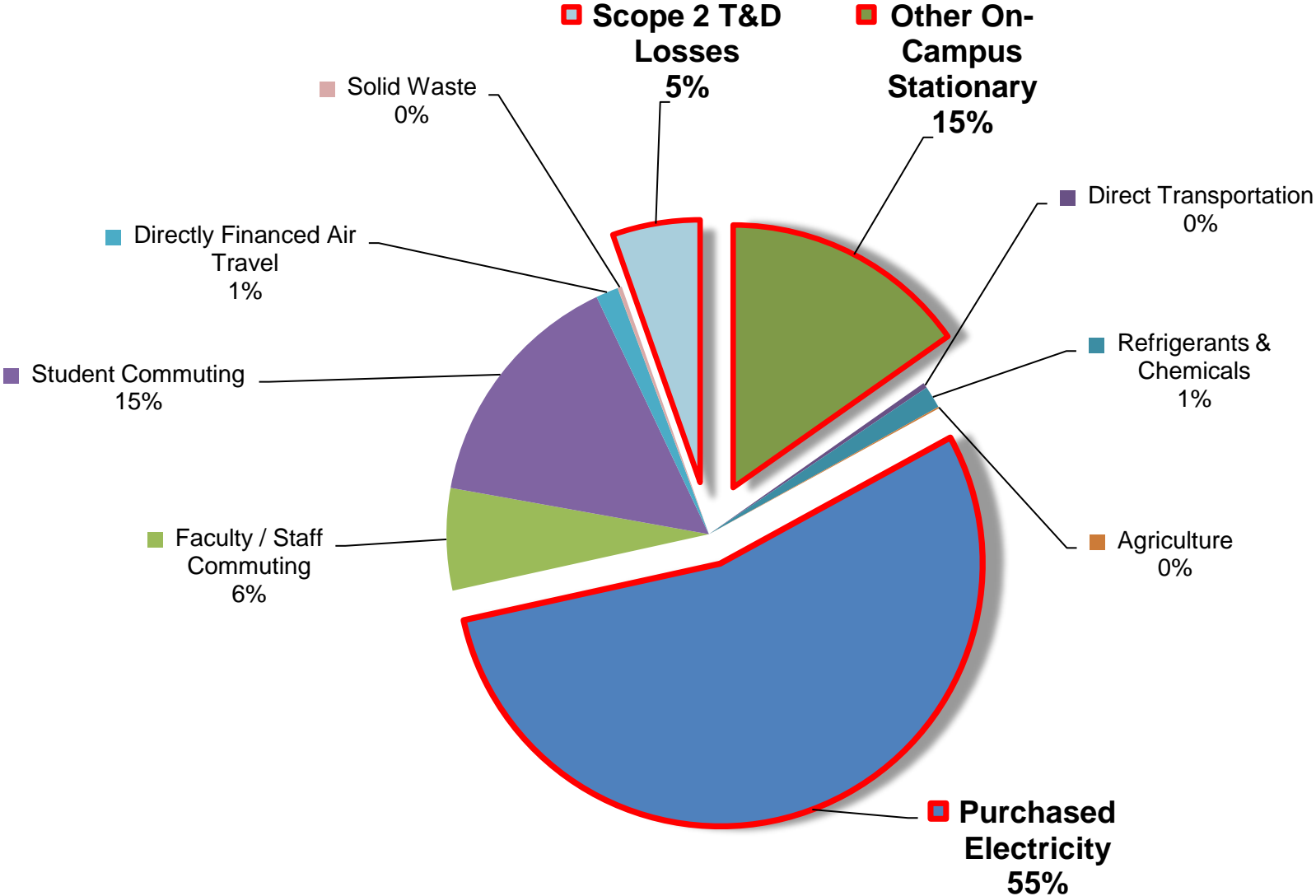
## Implementation

## Plan Maintenance

A low-angle photograph of a forest with a large green leaf overlay. The text "Task Force – Energy" is centered on the green leaf.

# Task Force – Energy

# Energy GHG Emissions (Scope 2)





# Energy Sub Groups

- Energy Conservation
  - Built environment: efficiency
  - New Buildings
  - Campus Growth (master plan)
  - Behavioral change
  - Future policies (internal, local, federal)
- Energy Supply
  - Grid electricity
  - Alternative Fuels
  - Renewable Energy





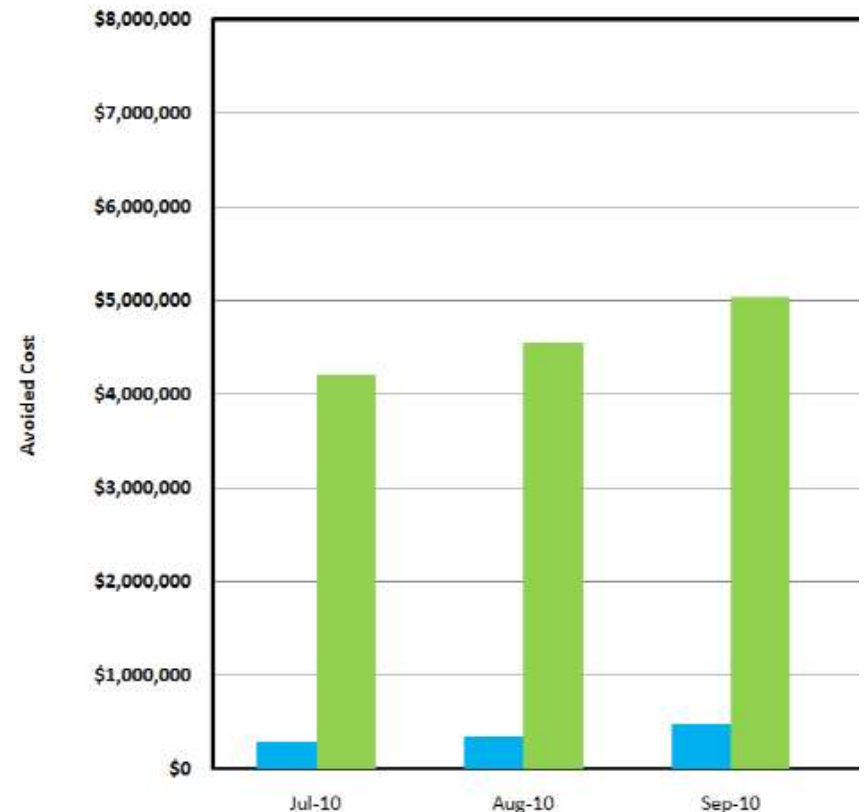
# Potential Strategies

- EPC / ESCO – Energy Performance Contracting
- Energy Efficiency
- Energy Policy
  - Occupancy Hours
  - Thermal Settings
- Alternative Sources – 3<sup>rd</sup> Party Leasing (PPA's)
- Competitions

# Case Study

## UNC Chapel Hill

- Building 'Tune Up'
  - Occupancy
  - Settings
  - Systems
  - Purchasing
- Saved ~ \$7mil
- Aug '09 – Dec '10
- Minimal capital cost



	Jul-10	Aug-10	Sep-10
■ Monthly Savings	\$294,518	\$345,775	\$476,489
■ Cumulative Savings	\$4,208,897	\$4,554,672	\$5,031,161

■ Monthly Savings ■ Cumulative

# Case Study

## USC: Biomass

- Biomass facility
  - 21,000 tons of wood chips a year
  - produces 80% of University's steam demand (heating, hot water)
- Annual energy cost savings of \$2mil +
- Stabilizes energy costs



# Case Study

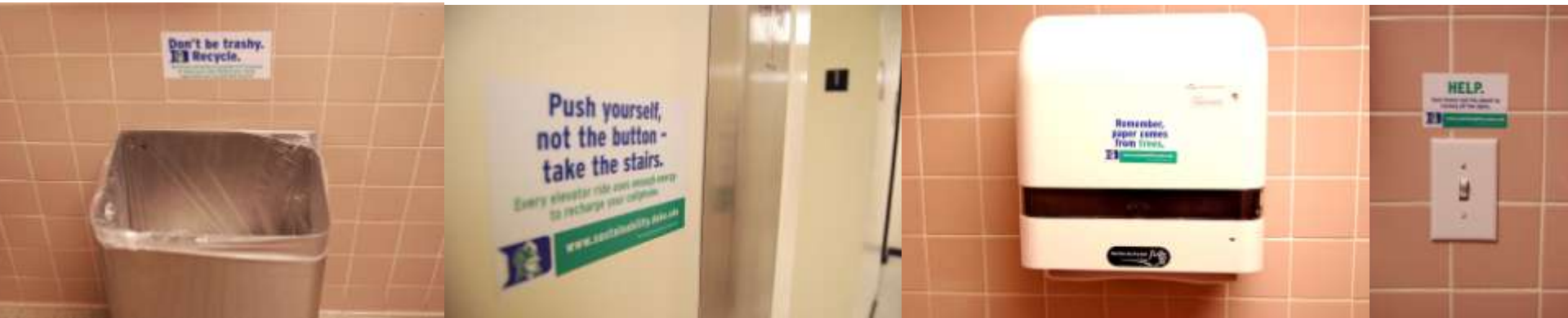
## USC: Flat Screen Monitors (Housing)

- 2 year lease program (admin offices & labs)
- Energy Savings – \$15,000 annual
  - Estimated \$976,400 annually for entire University
- Reduced coolings costs (LCD has less heat)
- Less space required
- No extra cost





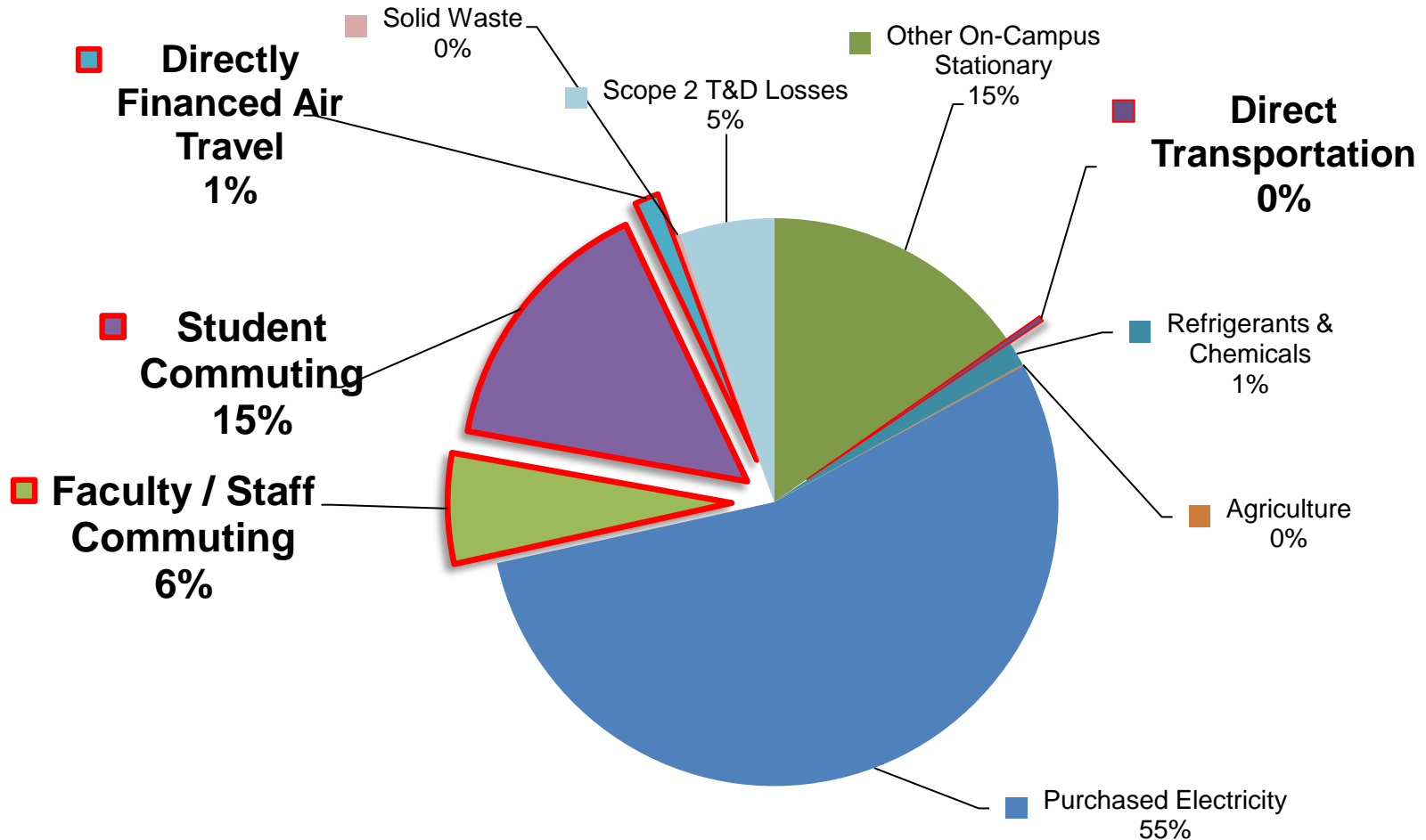
# Case Study – Duke University: Sustainability Signage



A low-angle photograph of a forest with a large green leaf overlay. The text "Task Force – Transportation" is centered on the green leaf.

# Task Force – Transportation

# Transportation GHG Emissions







# Transportation

- Scope 1
  - On Campus Fleet Vehicles
- Scope 3
  - Student Commuting
  - Faculty Commuting
  - Financed Air Travel







# Potential Strategies

- Ride Sharing & Carpooling
- Regulating Parking Permits
  - Reduced rate for fuel efficient vehicles
- Limited spaces for freshmen students
- Work with CATS & City on mass transit, bike lanes, pedestrian connectivity to campus
- Fee for conferences on campus to offset their travel emissions


# Case Study – Elon University: Ridesharing

The Zimride logo features the word "zimride" in a bold, lowercase, sans-serif font. The letter "i" is green and the letter "d" is blue. Above the letters "i" and "d" is a dotted arc of grey dots, with a solid green dot above the "i" and a solid blue dot above the "d".

zimride

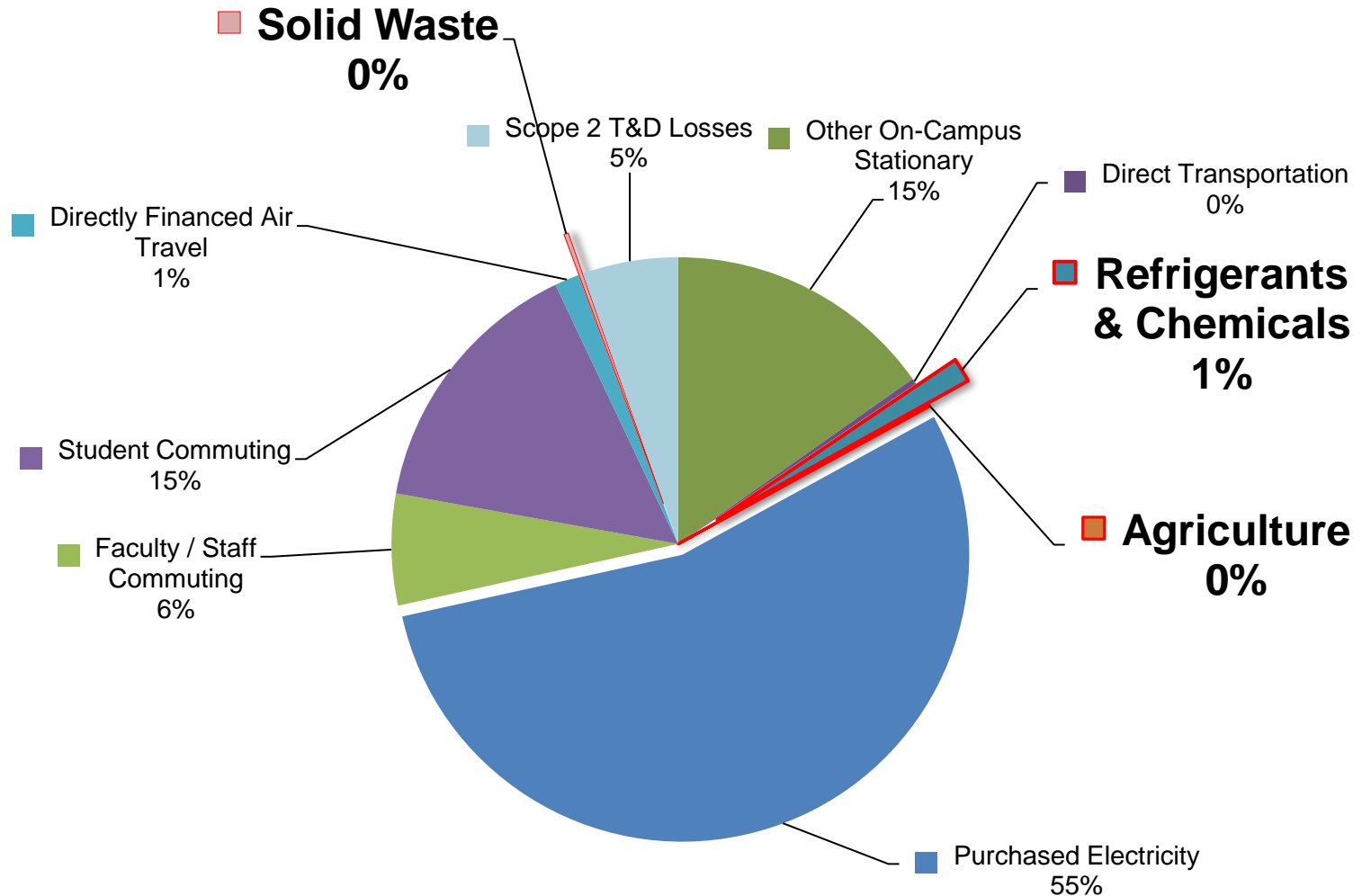
The Zipcar logo consists of the word "zipcar" in a bold, lowercase, sans-serif font. Above the letter "i" is a green circle containing a white stylized "Z" with a horizontal line and a small black dot below it. To the right of the word "zipcar" is the tagline "wheels when you want them" in a smaller, lowercase, sans-serif font.

zipcar® wheels when you want them

A low-angle photograph of a forest with a green semi-transparent banner overlaid. The banner contains the text "Task Force – Solid Waste, Purchasing, Food" in white, bold, sans-serif font. The background shows the intricate patterns of tree branches and leaves, with a large tree trunk in the foreground.

# **Task Force – Solid Waste, Purchasing, Food**

# Solid Waste, Purchasing, Food GHG Emissions







# Solid Waste, Purchasing, Food –Sub Groups

- Scope 1: Chemicals
  - Refrigerants & Chemicals
  - Fertilizers
- Scope 3: Solid Waste, Purchasing, Food
  - Landfill waste
  - Paper
  - Composting
  - Purchasing
  - Recycling



# Solid Waste, Purchasing, Food –Sub Groups

- Offsets
  - Impacts of future growth / master plan
  - REC offsets
  - Carbon Credits: landscape, forest
  - Community partnerships
  - Future regulation impacts
  - Future technologies
- Land Use & Grounds

# Case Study – USC Move Out “Give it Up” Program

- Residence hall garbage created during moveout
- Opportunity for re-use & recycling
- Donated to charities
- Save \$30,000 per year in disposal costs
- 36-49 tons of clothing, food, wood, carpet
- 1500 beds annually







# **Task Force – Curriculum & Research**





# Curriculum & Research

- Current Related undergraduate & graduate programs – how can they be expanded
- Research
  - IDEAS
  - SIBS
  - EPIC
  - Urban Institute
  - Community Partners
  - Industry Partners



# Curriculum & Research

- Utilize campus construction projects for research and curriculum
- Local Community College and K-12 School joint programs
- Community outreach and joint educational seminars

A low-angle photograph of a forest with a green semi-transparent banner overlaid. The banner contains the text "Task Force – Communications & GHG Inventory" in white, bold, sans-serif font. The background shows the trunks and branches of trees reaching upwards, with a bright sky visible through the canopy.

# **Task Force – Communications & GHG Inventory**





# Communications

- Interim communications during CAP process
  - [http://www.ncsu.edu/sustainability/climate\\_impact.php#](http://www.ncsu.edu/sustainability/climate_impact.php#)
- Internal & External
- Website & Logo for CAP
- Quarterly Updates
  - <http://www.climate.unc.edu/CAP/capquarterly/>





# Communications

- Building Dashboard
  - <http://www.buildingdashboard.net/elon/>



# GHG Inventory

- Yearly Update
- Analysis of initial gaps
- Formatted document and process
  - Easy for departments to fill out
  - Integrated for direct updates in calculator
  - Coordinated with purchasing



# Task Force Breakout Session



# Wrap Up.....What's Next

- UNC Charlotte Sustainability Webpage - <http://fmbld02.uncc.edu/Sustainability/default.htm>
- ACUPCC – [www.acupcc.org](http://www.acupcc.org)
- ACUPCC Reporting System - <http://acupcc.aashe.org/>
- UNC Charlotte Campus Master Plan - <http://masterplan.uncc.edu/>
- NCSU Website - <http://www.ncsu.edu/sustainability/cap.php>
- Best Practices - [http://www.presidentsclimatecommitment.org/files/documents/best\\_practices\\_cap.pdf](http://www.presidentsclimatecommitment.org/files/documents/best_practices_cap.pdf)
- Princeton Carbon Mitigation Initiative - <http://cmi.princeton.edu/>



# Questions & Discussion



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