

# CEST Energy and Water Working Group Meeting

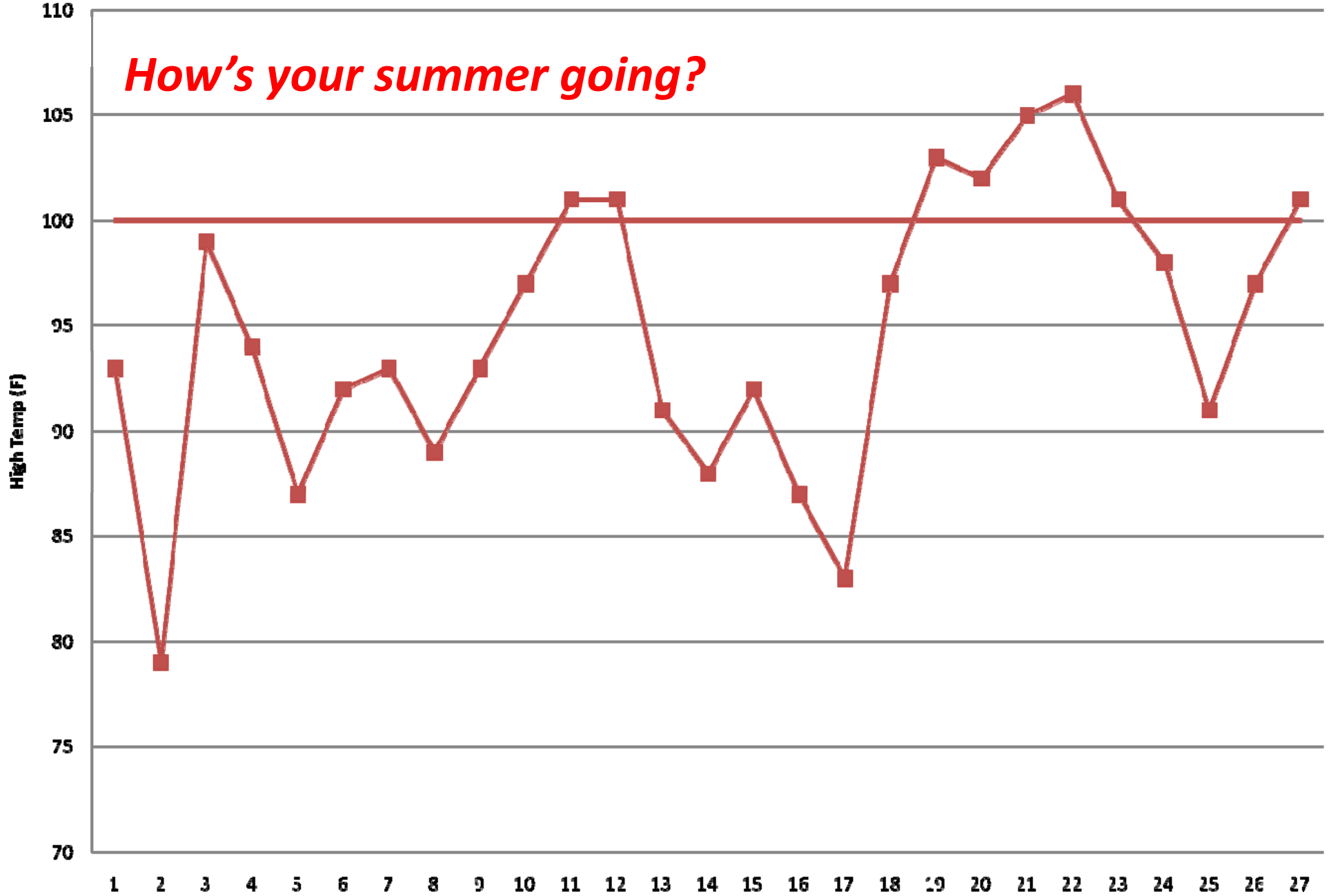
July 29, 2011

NAME/ORGANIZATION

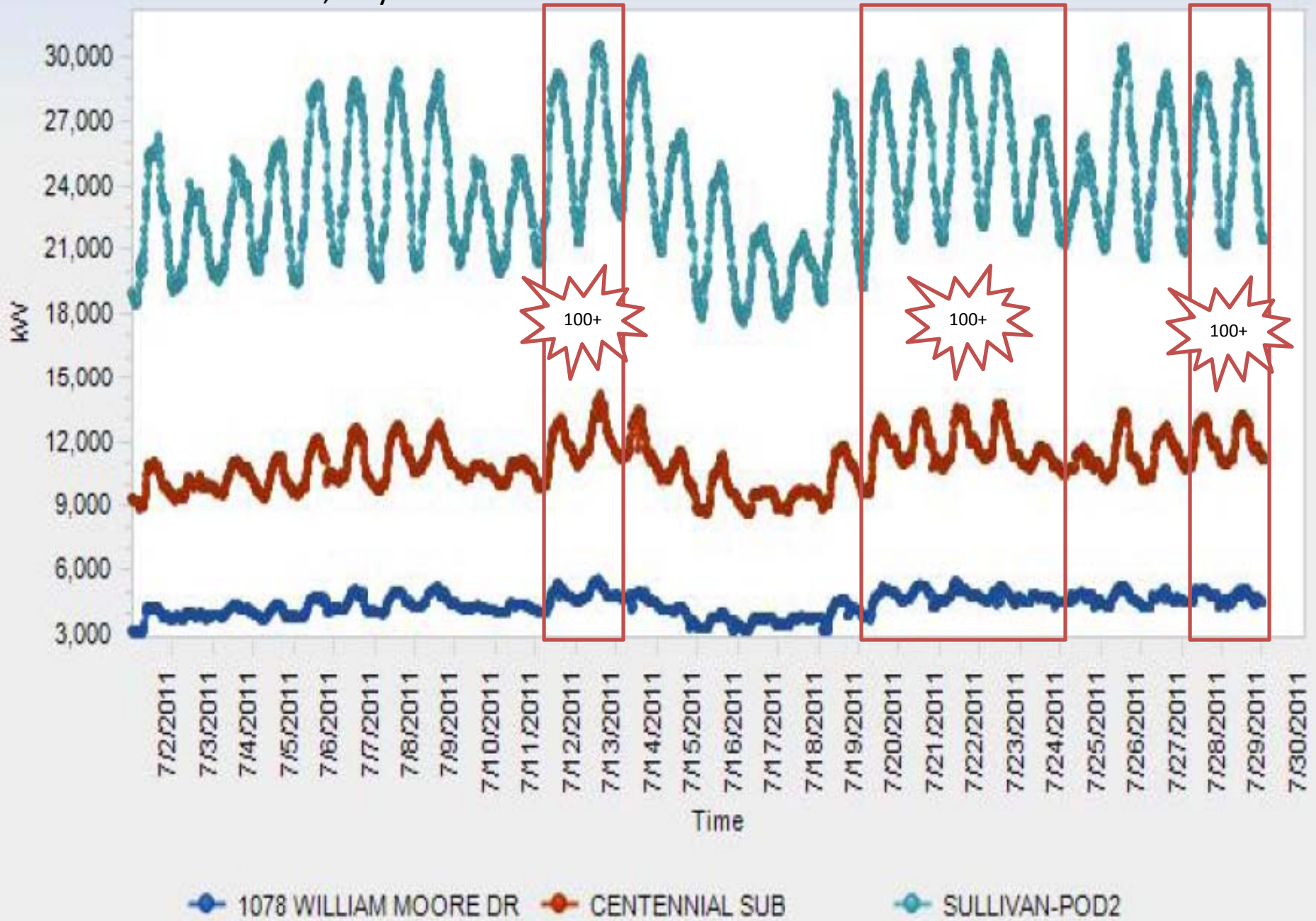
E-MAIL

|                     |                       |                             |
|---------------------|-----------------------|-----------------------------|
| PAUL MCCONNELL      | ENERGY                | paul-mcconnell@ncsu.edu     |
| BILL DAVIS          | ENERGY                | BU-DAVIS@NCSSU.EDU          |
| Roxanne Ryan        | Energy                | Roxanne_Ryan@ncsu.edu       |
| PETER SQUIRE        | Energy                | Peter_Squire@ncsu.edu       |
| Maurice York        |                       | maurice-york@ncsu.edu       |
| Chadwick Seagraves  | 21b<br>IT             | chadwick_seagraves@ncsu.edu |
| Mahomet Accilien    | Energy                | mahomet-Accilien@ncsu.edu   |
| Jeff Hightower      | Fac. Ops              | jeff-hightower@ncsu.edu     |
| Lindsay Batchelor   | Sustainability        | lindsay-batchelor@ncsu.edu  |
| EDWARD SEKMISTRZ    | ENERGY Mgmt           | edward-sekmistrz@ncsu.edu   |
| Rona Bradley        | OIT                   | ronabradley@ncsu.edu        |
| for: Allan Galloway |                       |                             |
| SCOTT CORNER        | Dining Sustainability | SCOTT-CORNER@NCSSU.EDU      |
| Liz Bowen           | Sustainability        | liz-bowen@ncsu.edu          |
| George Smith        | BM+D                  | gismitth@gw.ncsu.edu        |

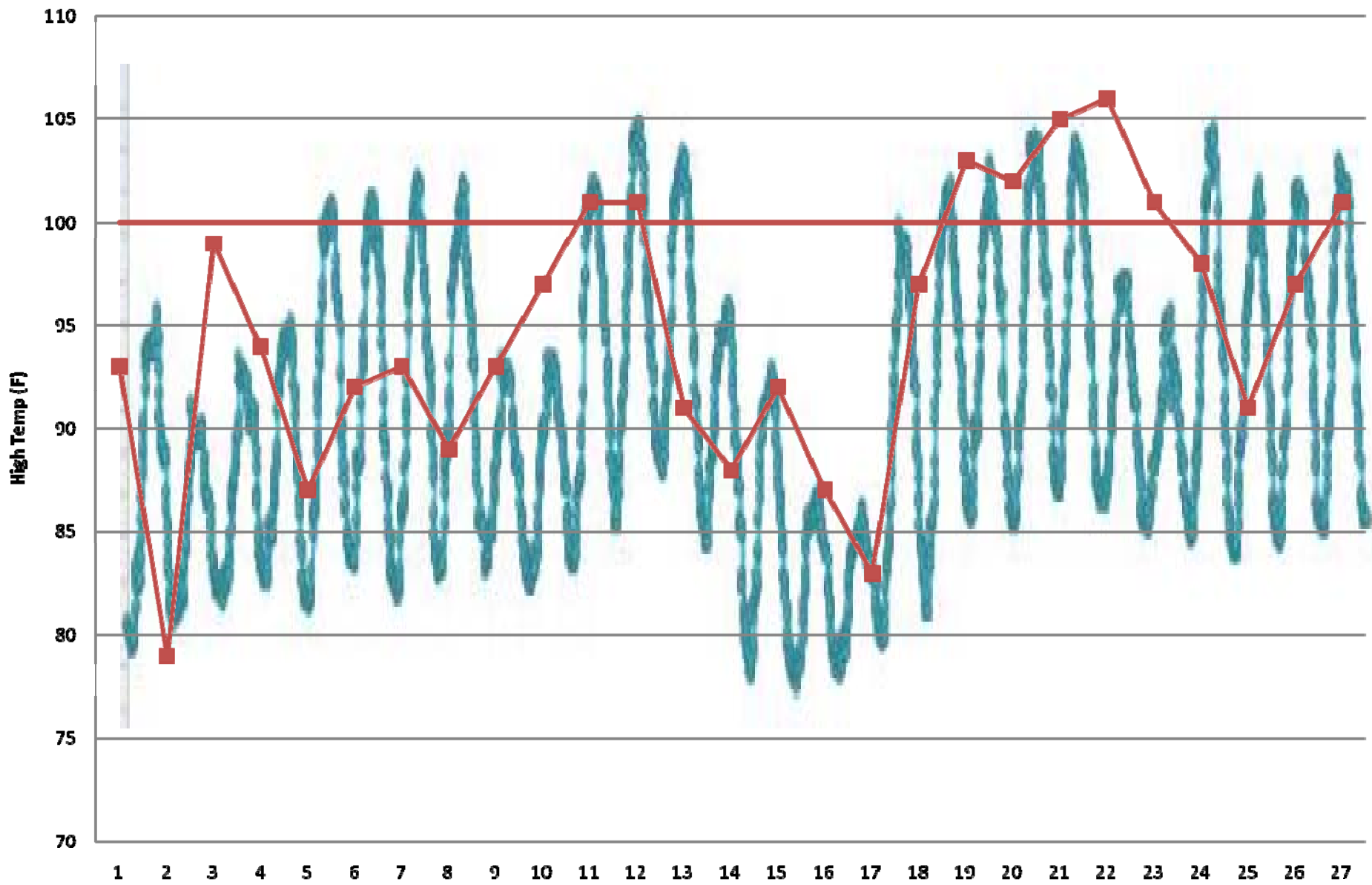
## Raleigh, NC - Daily High Temp (degrees F)



# NC State Electric Use, July 2011



# Raleigh, NC - Daily High Temp (degrees F)



## *Meeting Agenda*

Meeting Purpose

Review Tactics; Validate or Modify

Next Steps

“We should assess what has been done and what strategies are currently in place to see what needs to be tackled and how to **lay out the tactics**. We could have either 1 year tactics or multi-year tactics, for example. We should not get caught up in having all of the answers now, but make what progress we can and adjust each year. Use working group discussion to **capture ideas** and then sort them out as far as **what’s the most important**. Somewhere, it is someone’s job at the university to implement these tactics and we need to figure out where each falls. The biggest success will come when we **mesh what the staff is doing** with what is coming out of the working groups. We should have some flexibility with implementation but get things **roughed out by the end of the semester** to know what needs to be picked up in the fall. Some tactics get involved in all kinds of metrics, and we should **establish some basic metric guidelines** and decide what we want to use and capture. As we are doing the tactical activities next year, it should feed right into the annual sustainability reporting process.”

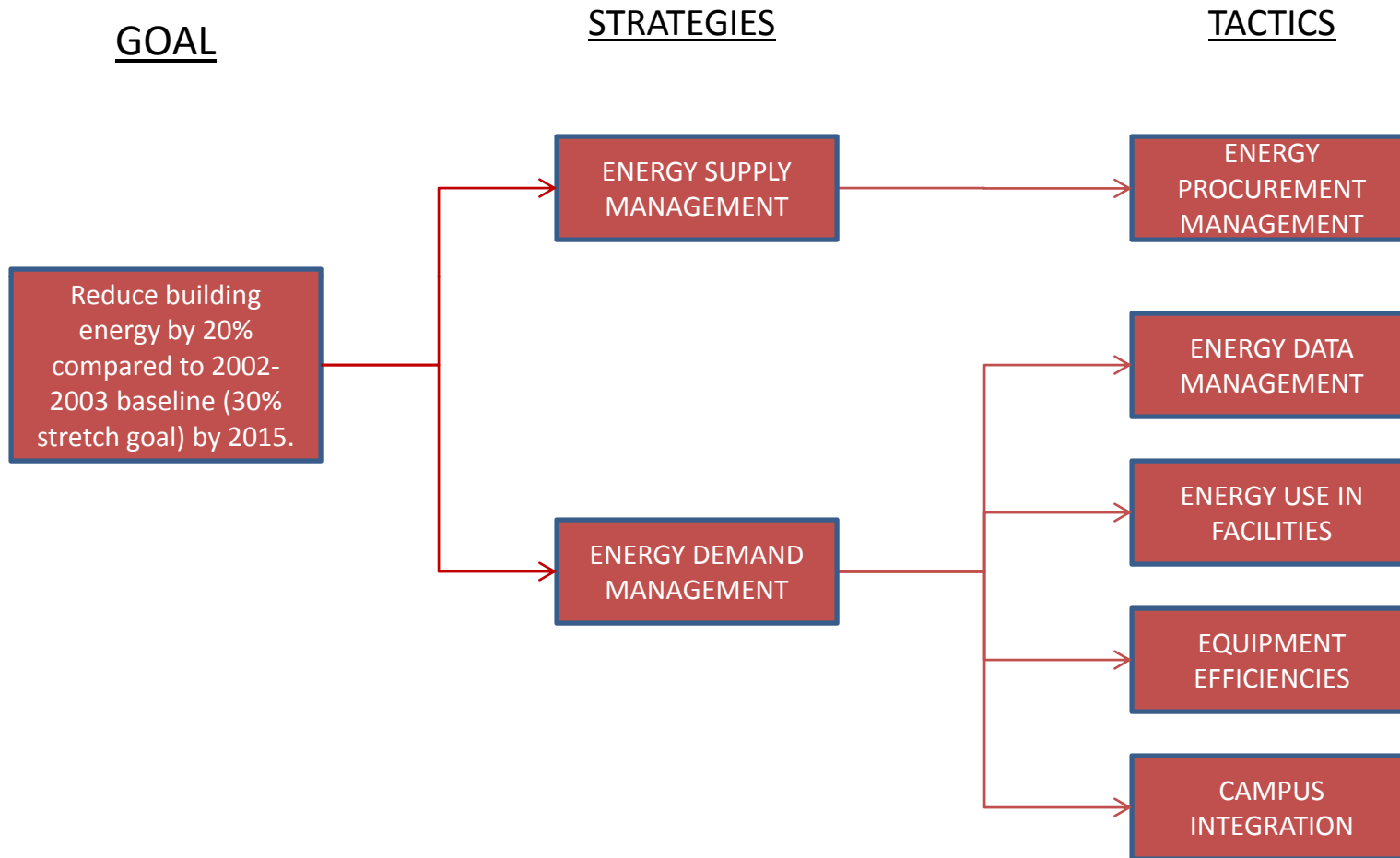
1. Review Energy and Water Strategies
2. Identify what's most important and integrate with current program
3. Establish Basic Metrics, not all the metrics



### 5.3. Energy and Water Conservation

- Achieve a **30%** reduction in building energy consumption by 2015 against the 2003 baseline.
- Achieve a **50%** reduction in building water consumption by 2015 against the 2002 baseline.
- Improve energy data management capability and make data-driven decisions utilizing enhanced energy data.
- Train and educate staff and building end-users to properly operate and maintain building systems in an energy efficient manner.
- Ensure a cost-effective and reliable energy supply by developing business scenarios and strategies for diversifying fuel sources.
- Evaluate utility financial structures that create incentives for saving energy.
- Implement green standards and practices for information technology and computing.

From: Foundation for Advancing Sustainability: A Strategic Plan for NC State University; February 21, 2011



1. Energy Conservation Measures Identification
2. Update Campus Automation Master Plan
3. Revamp Energy Procurement Program

## *Energy Conservation Measures Identification*

1. clearly identify the types and costs of energy use;
2. understand how that energy is being used, and possibly wasted;
3. identify and analyze alternatives such as improved operational techniques and/or new equipment that could sustainably reduce energy costs; and
4. perform an economic analysis on those alternatives and determine which ones are cost-effective.

*Objective: complete 50 building energy audits and compile results in a searchable data base by March 2012.*

## *Update Campus Automation Master Plan*

1. Develop a manageable building alarm notification and response system (e.g., real time exception reporting);
2. Create a marriage of building system functions to utility plant functions (e.g., regulate plant operations to more closely meet building energy needs);
3. Peak demand limiting (e.g., lowering demand charges by shifting loads to lower cost periods); and
4. Load shaving strategies (e.g., using emergency generators to limit reliance on the local electric utility during peak demand periods).

*Objective: review the 2006 Campus Automation Master Plan, validate and/or modify the technological recommendations, and issue an updated plan by May 2012.*

## *Revamp Energy Procurement Program*

1. Solicit bids and select a qualified energy risk management consultant to design a natural gas and fuel oil procurement program.
2. Review existing energy contracts and engage Division of Purchasing and Contracts to ensure compliance with state requirements.
3. Develop a hedge strategy based on utility budgets, then issue RFPs to qualified energy suppliers to meet demand.
4. Develop metric based reporting and tracking reporting tools.

*Objective: select energy consultant Sept 2011, bid natural gas Nov 2011, select energy supplier Feb 2012, and transition to new supplier Mar-Apr 2012.*

Go to Tactics Worksheet!

