# The Community Carbon Reduction (CRed) Program and Carolina North

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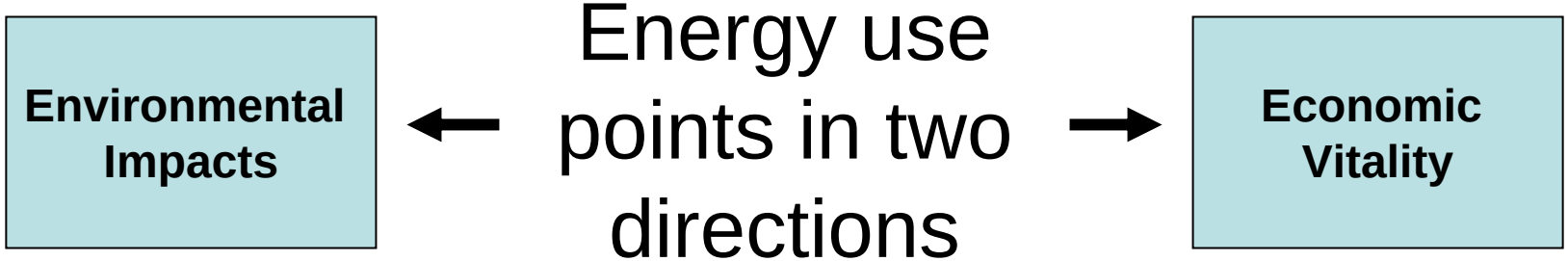
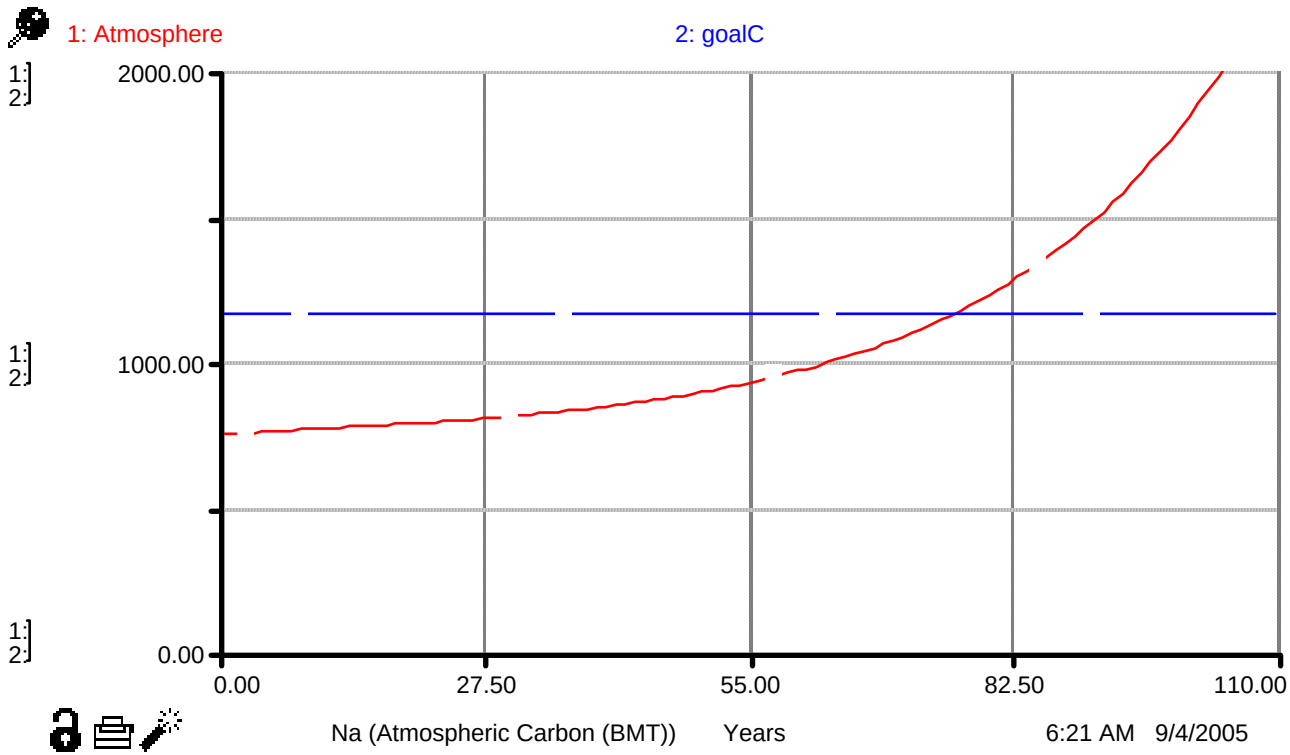
# Background


Environmental Impacts
Energy use points in two directions
Economic Vitality

# Background: Communities must meet legitimate needs of citizens

# But in meetings these needs, carbon dioxide is released



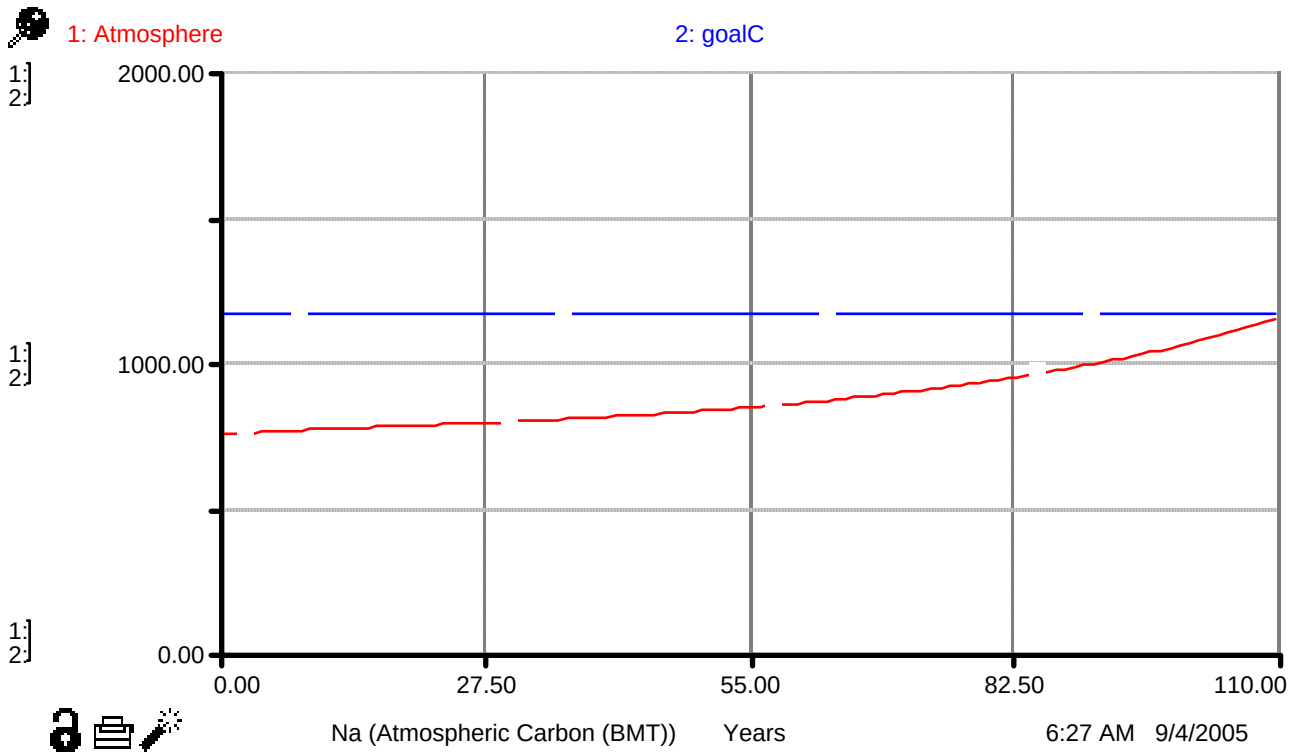
# Chapel Hill today

Approximately 22 metric tons per person per year

# Cambridge today

Approximately 11 metric tons per person per year

# At least one government has agreed to a policy of 60% reduction



# The solution?

# Dividing up the causes and solutions


Political regions

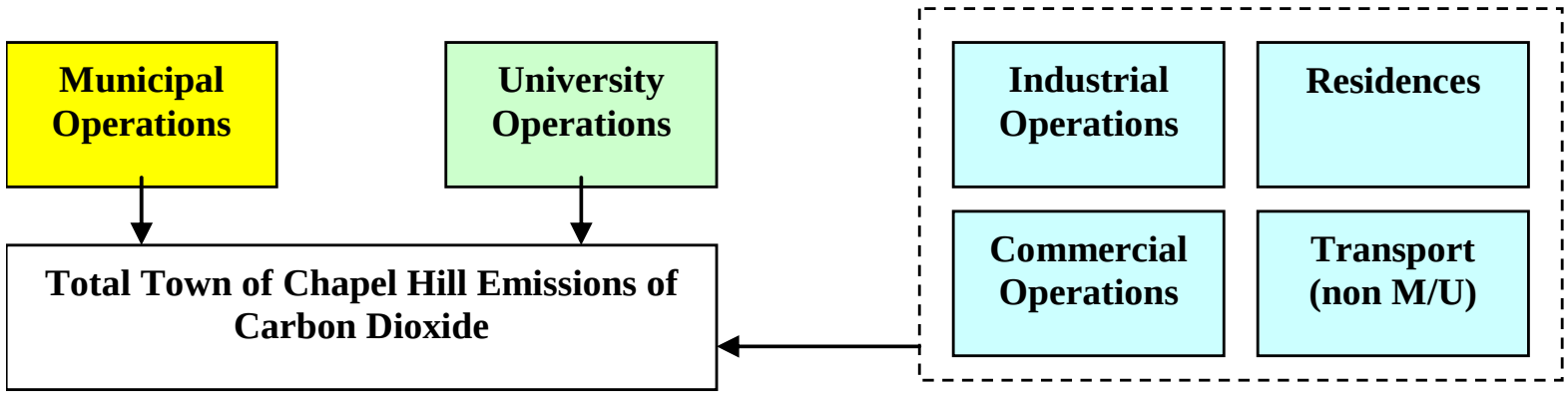
Municipalities

Energy sectors

Institutions

Individuals

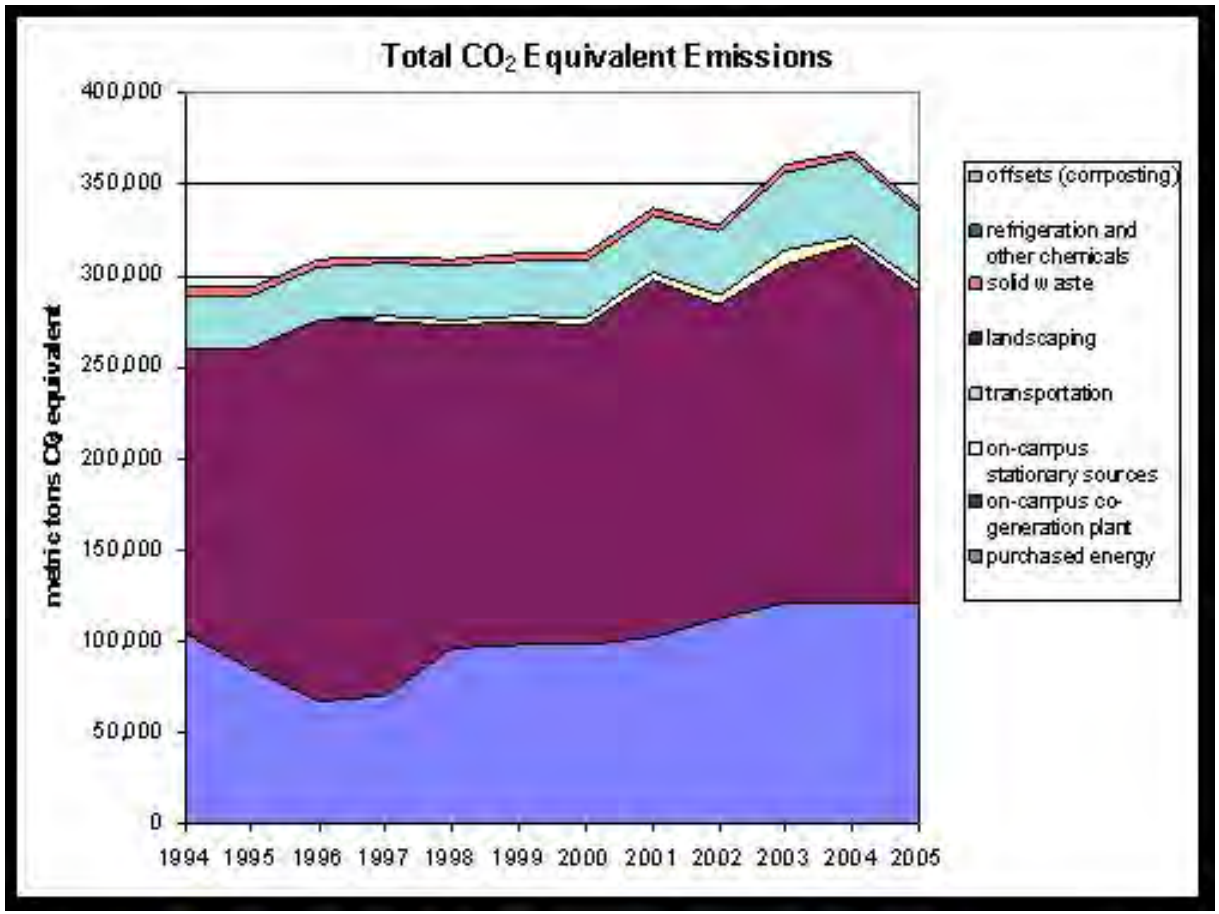
# This is a Joint Commitment by UNC-Chapel Hill and the Town Offices



# Step 1: Agree to become a CRed partner site

The Chancellor has done this

# Step 2: Create a carbon dioxide emissions inventory



# Creating boundaries of the system

External Energy

On-Site Energy

On-Site Fleet

Employee Commutes

Waste Generation

Embodied Carbon

Landscaping

Refrigerants

# Step 3: Using the inventory, identify the activities leading to the largest emissions

- 121334 metric tons per year from purchased electricity consumption (Duke Power);
- 170650 metric tons per year from on-campus co-gen operation;
- 4097 metric tons per year from on-campus stationary sources;
- 38579 metric tons per year from transportation (campus fleet, commuting);
- 88 metric tons per year from landscaping;
- 3465 metric tons per year from solid waste;
- 21.7 metric tons per year from refrigerants and other fugitive gases;
- 140.9 metric tons per year of offset from composting.

In even more detail to the extent possible

| Fuel | End Use | Percent of Total |
|---|---|---|
| ***Electricity*** | Space heating | 2.5% |
| | Space cooling | 10.6% |
| | Water heating | 3.2% |
| | Ventilation | 4.0% |
| | Cooking | 0.6% |
| | Lighting | 26.4% |
| | Refrigeration | 3.2% |
| | PCs | 1.6% |
| | non-PC equipment | 3.6% |
| | Other | 16.9% |
| ***Natural gas*** | Space heating | 8.2% |
| | Space cooling | 0.2% |
| | Water heating | 3.2% |
| | Cooking | 1.4% |
| | Other | 7.4% |
| ***Distillate oil*** | Space heating | 1.5% |
| | Water heating | 0.4% |
| | Other | 1.5% |
| ***Other fuels*** | Misc | 3.7% |
| **Total** | | 100.0% |

# Step 4: Identify short, medium and long-term strategies to reduce emissions, focused on these activities

- ***Short-term***: no initial cost
- ***Medium-term***: payback period of 3-5 years
- ***Long-term***: perhaps no payback; perhaps requires partnerships

# Questions to ask…

- Do I need the square foot of space?
- If I do, how energy efficient is it?
- Regardless of energy efficiency, how will I get the energy to the point of use?
- Regardless of how I get it there, what will be the fuel I use?
- Regardless of emissions from this fuel, what is the capacity of the site to re-absorb some of these?

# Step 5: Develop a pledge rooted in these strategies and submit that pledge on the CRed web site (www.cred-uk.org; www.cred-us.org)


Step 6:
Implement those strategies over whatever timeline you specify

# Step 7: Assess progress towards the goal each year or two

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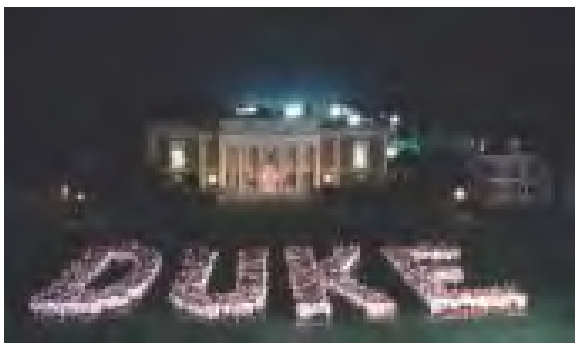
# Total emissions or per capita?




# Energy and Environment at Carolina North