



Cornell University

Climate Action Plan and the Advancing Sustainability Action Plan

Dean Koyanagi
Campus Planning Committee
October 17, 2008

AGENDA

- Context: Advancing Sustainability Action Plan
- Cornell's Carbon Emissions
- The Wedge Diagram: A Framework
- The CAP Process

"...the challenges facing our world are great. The time to address and ameliorate them is short. The opportunity for action is now. And the agent of positive change – perhaps more than ever before in our history – can be Cornell."



President David J. Skorton 19 Oct. 2007

“Integrate Sustainability into all major operations”

CUFA Leadership Priorities 2008



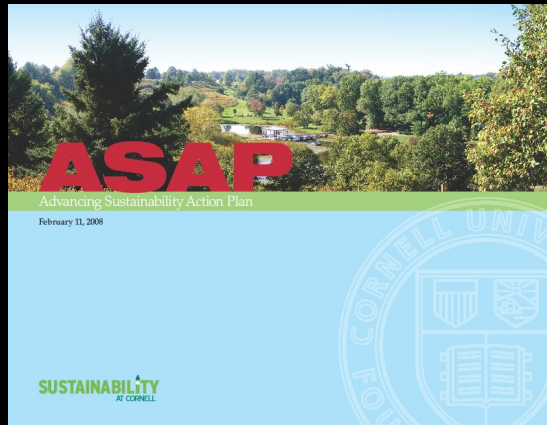
ASAP

Advancing Sustainability Action Plan™ FY 2009

August 2008

SUSTAINABILITY
AT CORNELL





ASAP Priorities:

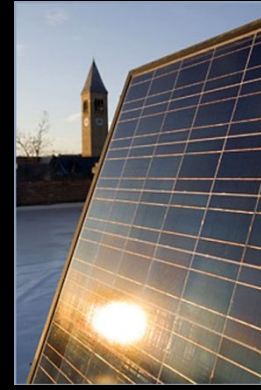
- **Reduce Cornell's use of fossil fuels and other natural resources to be more competitive and fiscally strong in the coming age of premium energy costs and resource scarcity.**
- **Reduce Cornell's environmental footprint on the planet and enhance our positive contributions to the communities we impact.**
- **Support the academic mission by creating a "learning laboratory" on campus where teaching and research can find real world situations to study.**
- **Enhance Cornell's leadership reputation by creating a model campus.**

Cornell University – Sustainability Elements

Endowment Investments



Land Use



Climate Commitment and Energy

Operations



Food and Water



Built Environment



Materials

Waste and Pollution



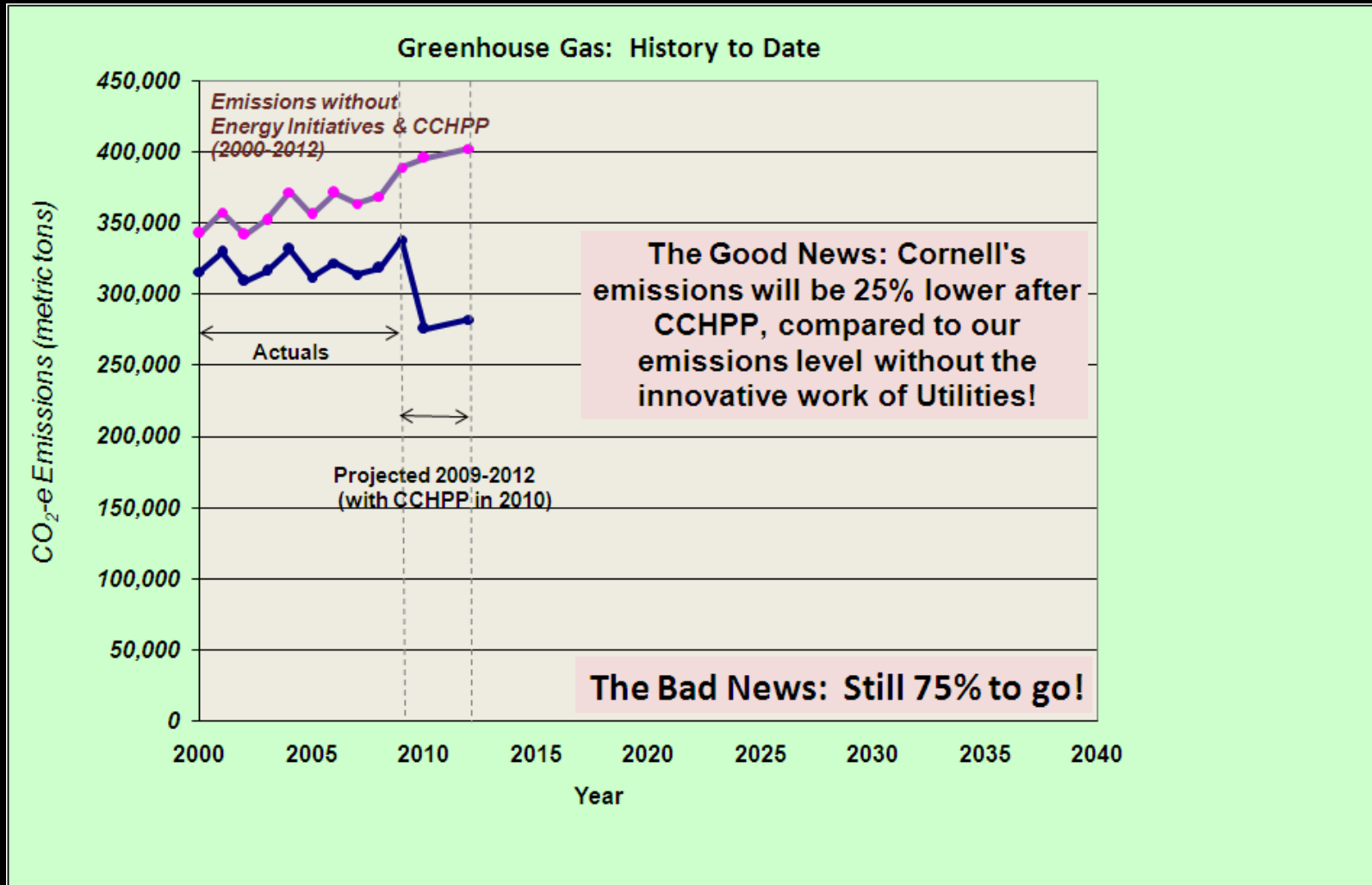
Transportation

Ithaca Campus Carbon Footprint

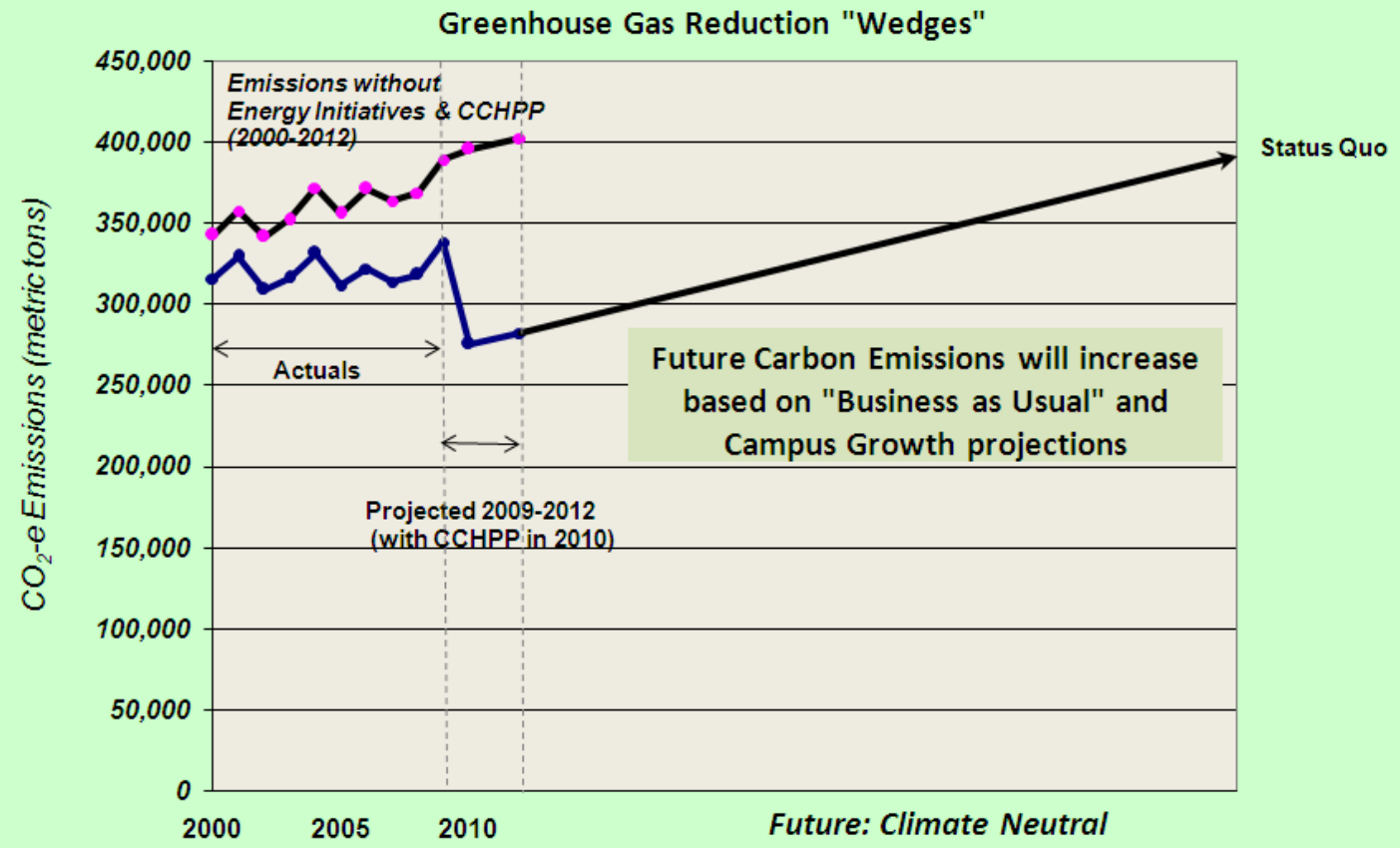
- Total 2007 Emissions: ~319,000 metric tons
- Over 80% related to Building Energy Use!
 - 176,000 tons from On-Site Combustion (55%)
 - 87,000 tons from Purchase Electricity (27%)
 - 29,000 tons from Commuting (9%)
 - 27,000 tons from Air Travel (8%)



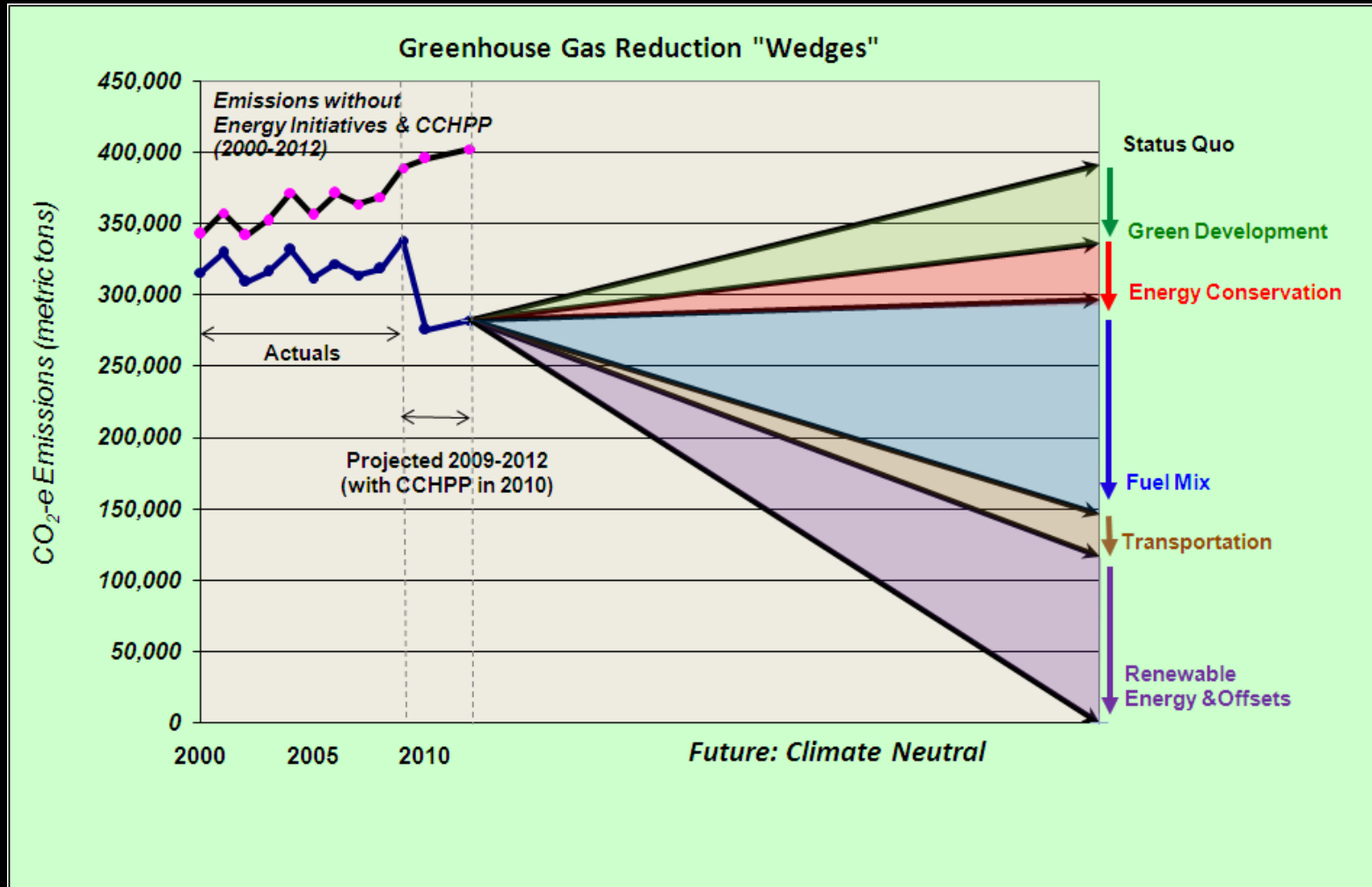
Effect of Work to Date



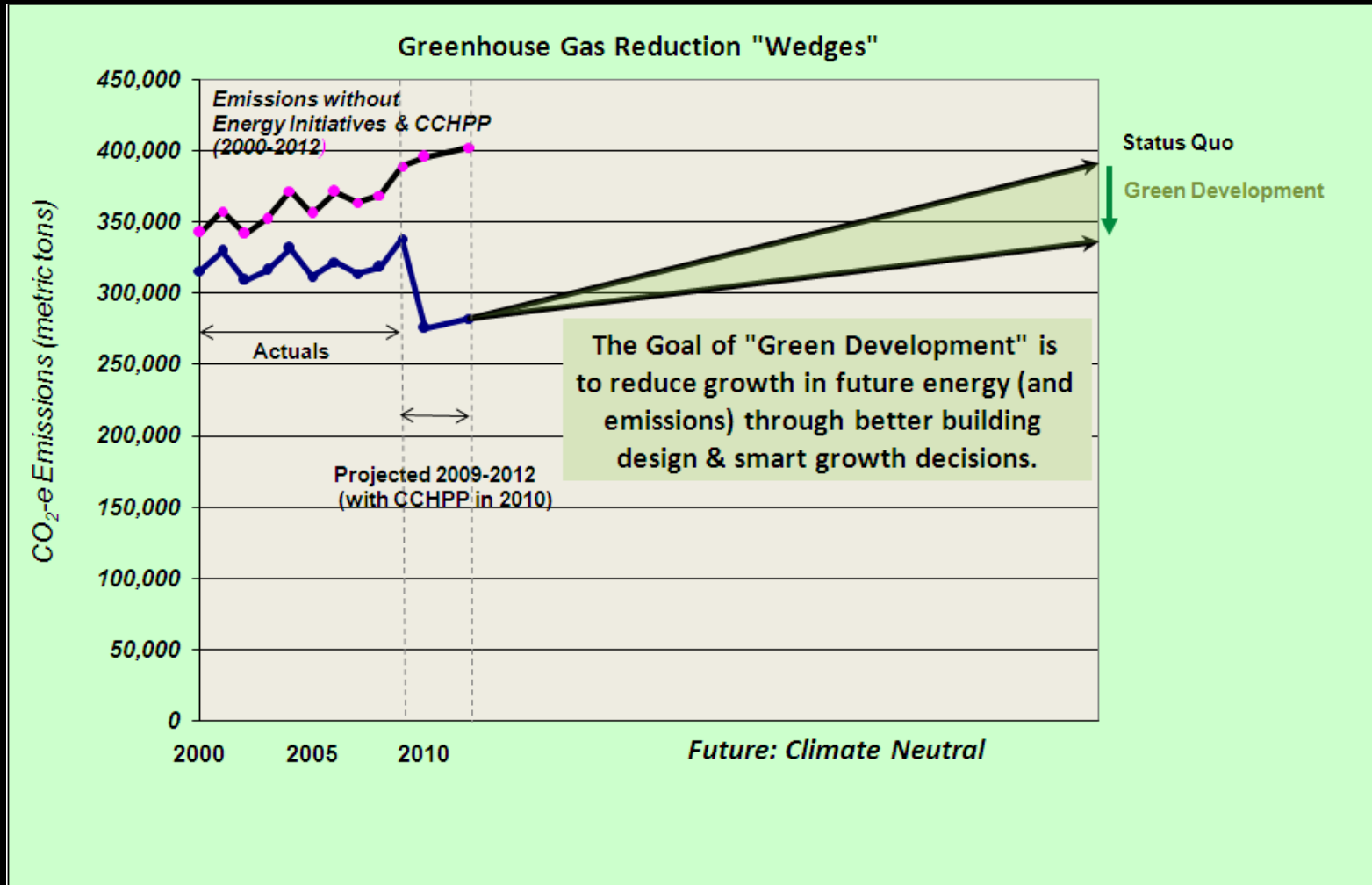
Future Carbon Emissions



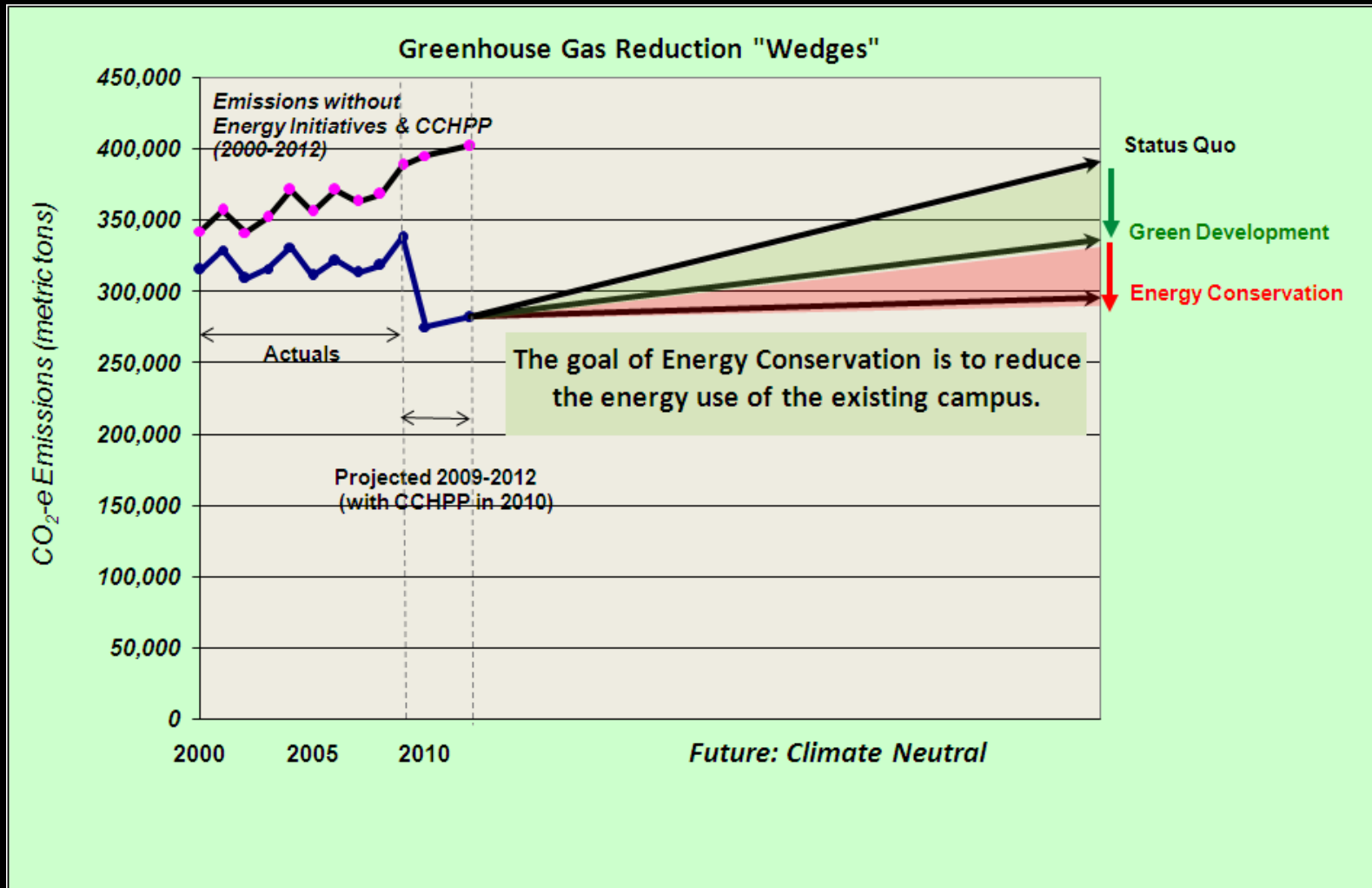
Divide and Conquer: The GHG Wedges



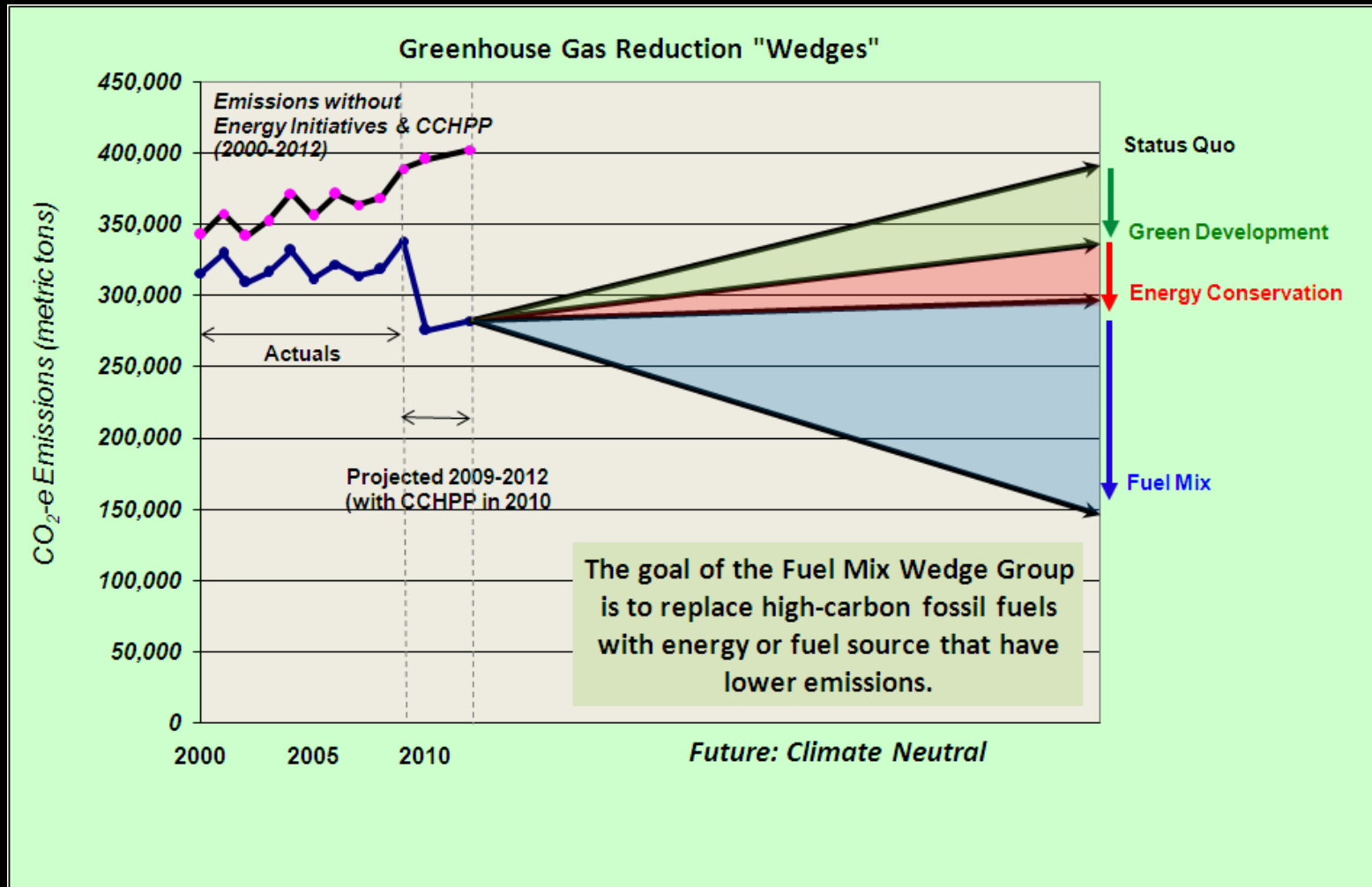
Green Development Wedge



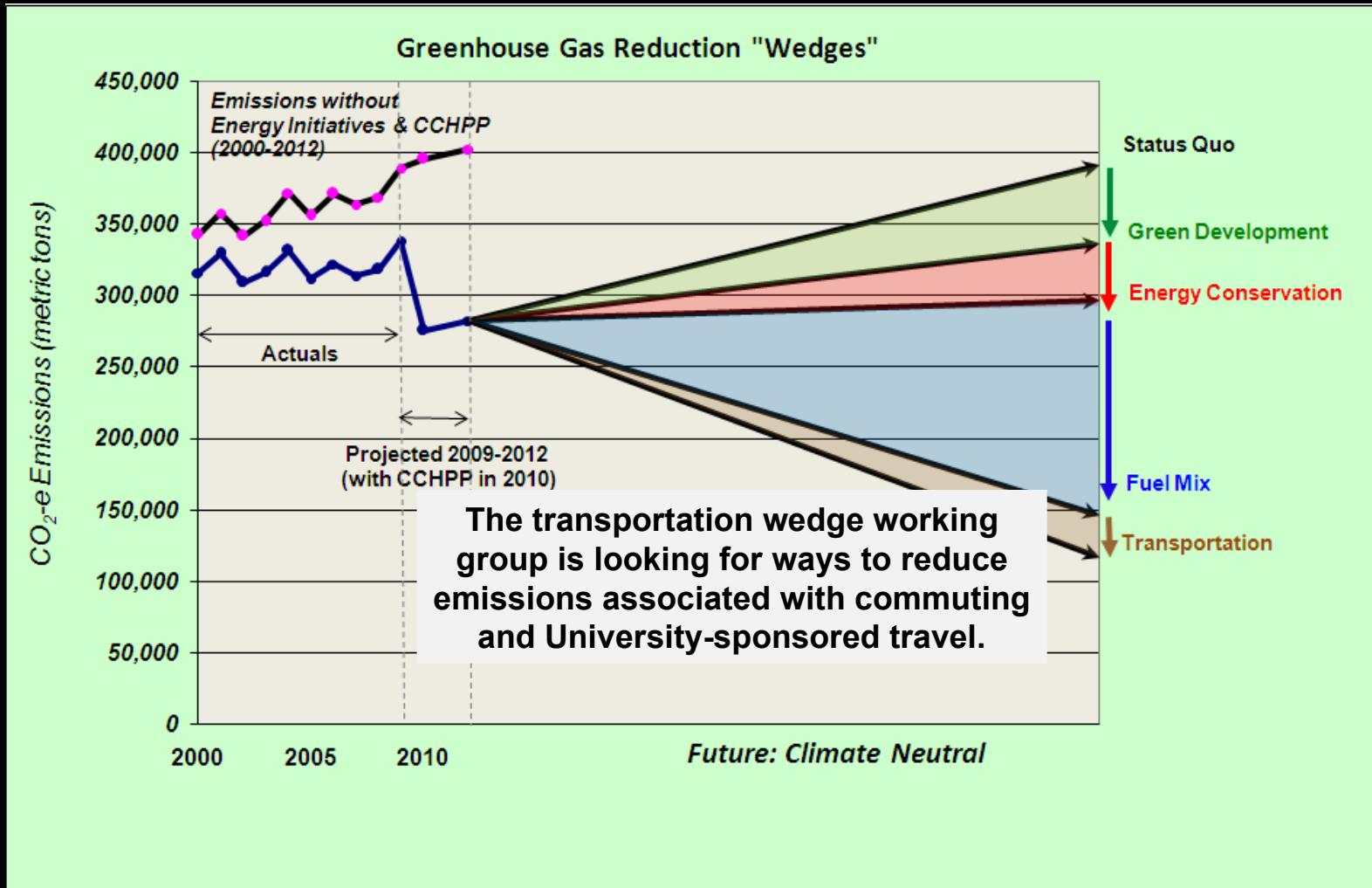
Energy Conservation Wedge



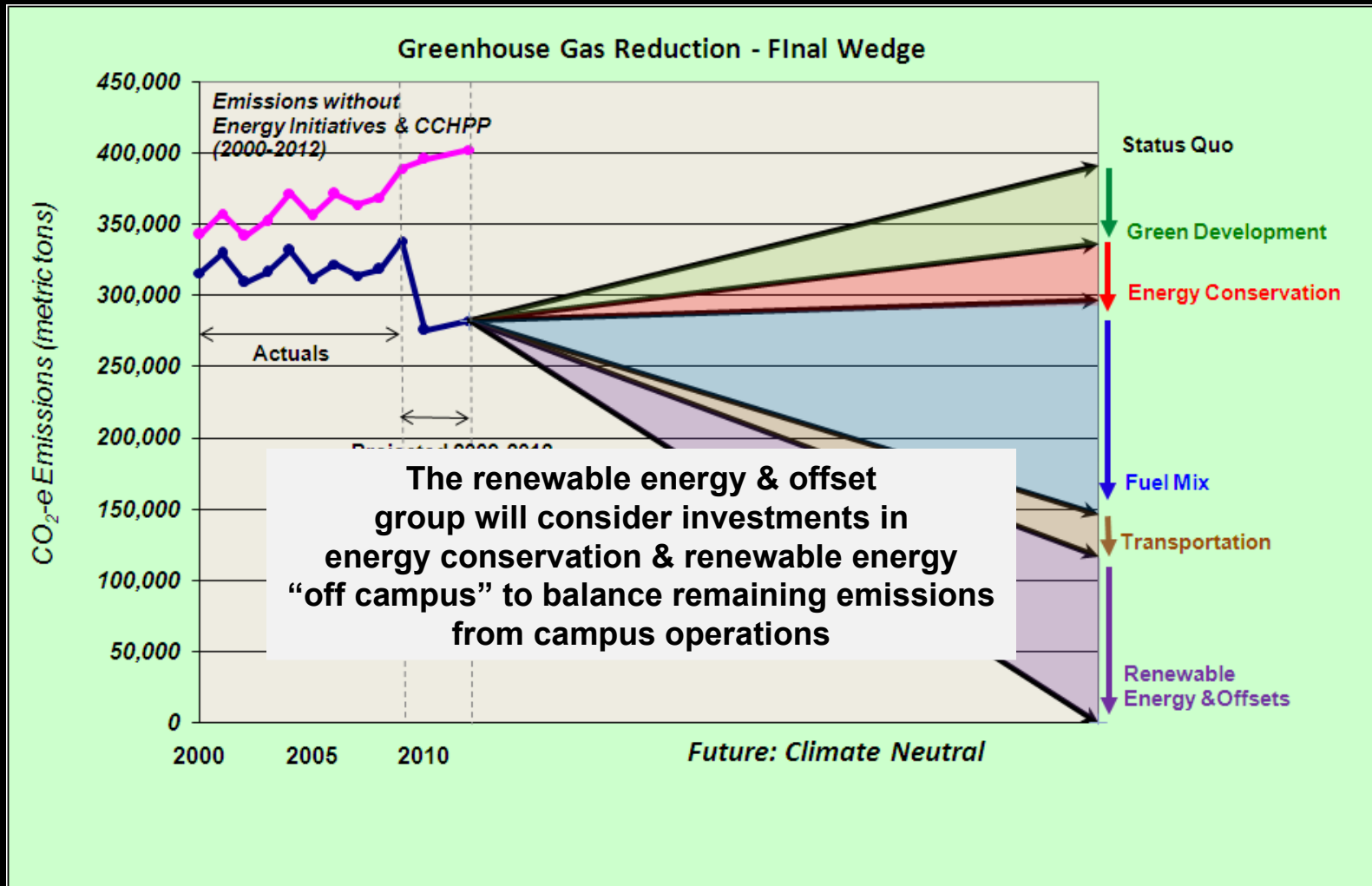
The Fuel Mix Wedge



CAP Transportation Wedge



Final Wedge: Renewables & Offsets



Focus on Fuels: Carbon Footprint after CHP

2007 Carbon Footprint: 319,000 tons

- **Coal: 154,000 tons (48%)**
- **Purchased Electricity: 87,000 tons (27%)**
- **Commuting and Air Travel: 56,000 tons (17%)**
- **Natural Gas: 19,000 tons (6%)**
- **Gasoline, Diesel, Oil: 4,000 tons (<2%)**

2010 Estimate (After Combined Heat & Power): 267,000 tons

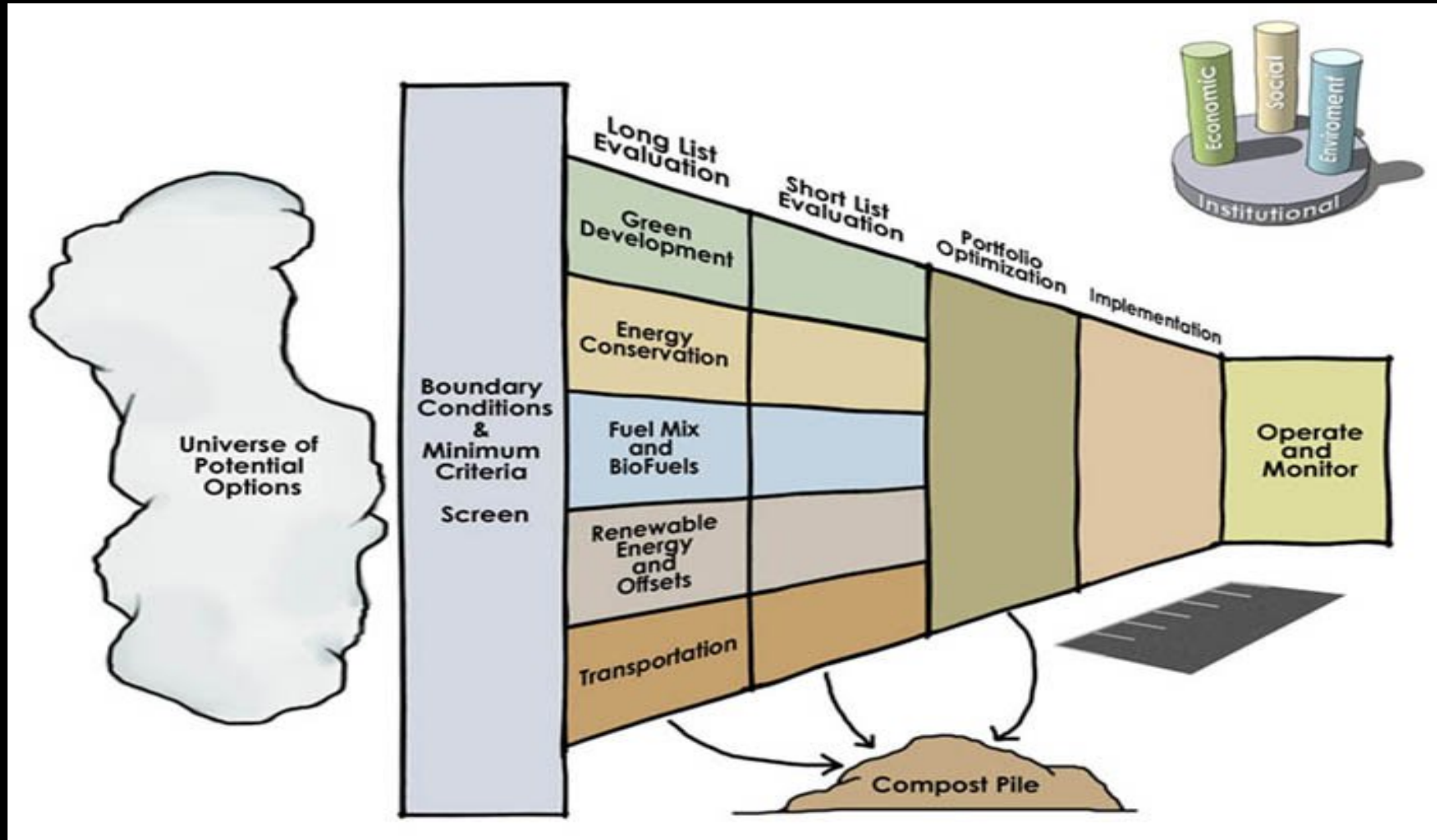
- **Coal: 75,000 tons (28%)**
- **Purchased Electricity: 15,000 tons (6%)**
- **Commuting & Air Travel: 56,000 tons (21%)**
- **Natural Gas: 117,000 tons (42%)**
- **Gasoline, Diesel, Oil: 4,000 tons (<2%)**

The Climate Action Plan: A Framework

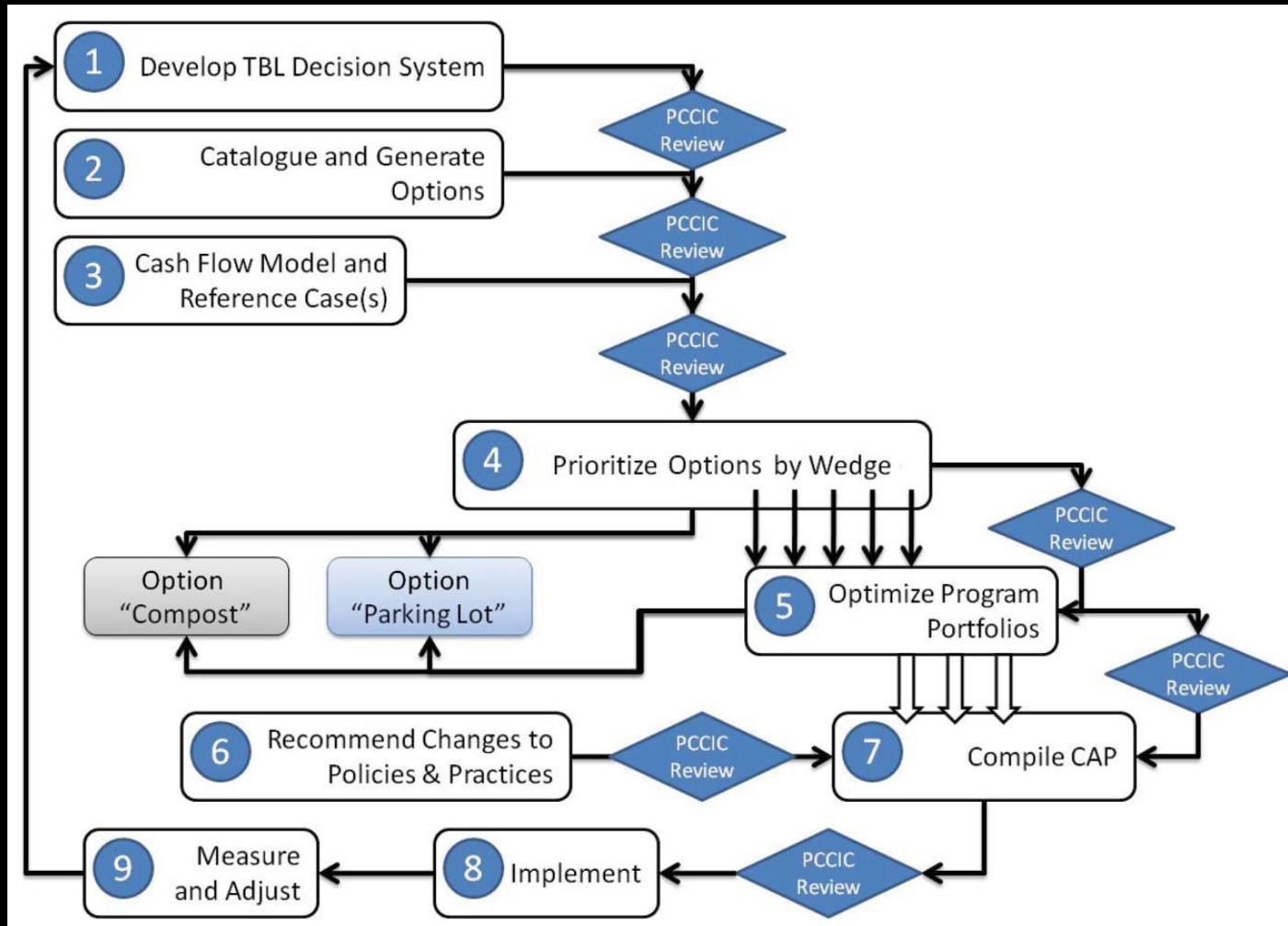
Cornell's Climate Action Plan

1. Develop the Options
 - Use “Wedges” to Focus
 - Short and Long Term Solutions
 - Demand & Supply Side; Technology & Behavior
2. Create the Decision Tool
 - Cornell-specific “Triple Bottom Line”
 - Consider Mission: Education, Research, Outreach
 - Get Trustee Approval before Applying Tool
3. Use Tool to Select Priorities
4. Create Actionable Targets & Timetables

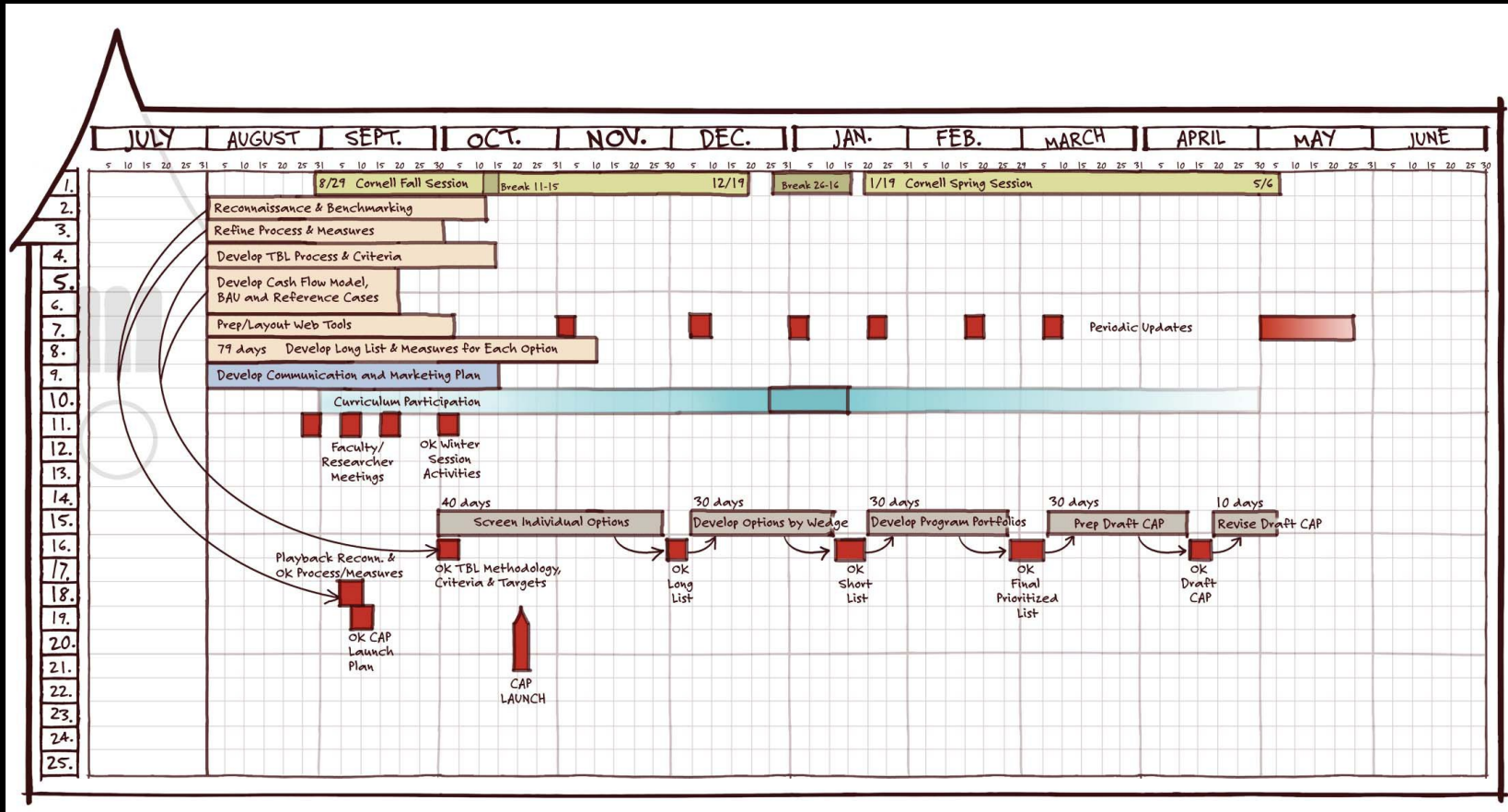
The Process



Deciding and Prioritizing



Timetable: CAP Due by Sept '09



Climate Action Plan: Goals

- Advance the University's Missions
- Serve as a Model for other Institutions
- Net Zero Carbon Emissions



CAP Community Engagement

- First event:
Campus Sustainability Day- Oct 22nd
Weill Hall 10-2
- Online survey tool at:



<http://www.cornell.edu/sustainability>



Cornell University

Questions?

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**Extra information as backup
follows**

Land Use

- **Goal:** Protect and enhance our open green spaces, agricultural lands, and forests.
- **Strategies**
 - **Comprehensive Master Plan**
 - *Team Lead: Mina Amundsen*
 - **Naturalization**
 - *Team Lead: Phil Cox*



Climate Commitment and Energy

- **Goal:** Dramatically reduce our fossil fuel use and greenhouse gas emissions.
- **Strategies**
 - **Climate Action Plan**
 - *Team Lead: Kyu Whang*
 - **Exceptional Energy Efficient Buildings**
 - *Team Lead: Randy Lacey*
 - **Laboratory Energy Use**
 - *Team Lead: Christine Stallmann*
 - **Supply Side Energy Options**
 - *Team Lead: Jim Adams*
 - **Greenhouse Gas Inventory**
 - *Team Lead: David FrostClapp*
 - **CU Renewable Bioenergy Initiative**
 - *Team Lead: Mike Hoffmann*
 - **Faculty Ad Hoc Working Group on Climate Neutrality**
 - *Team Lead: David Weinstein*



Built Environment

- **Goal:** Plan, design, build, renovate, and maintain buildings in a manner that minimizes their environmental footprint and creates a productive place to live, work, and learn.
- **Strategies**
 - **AA&D & Operations Alliance**
 - *Team Lead: Joe Lyons*
 - **Green Building Oversight**
 - *Team Lead: John Kiefer*



Materials

- **Goal:** Reduce costs for individual green products by leveraging our purchasing dollars.
- **Strategies**
 - **Sustainable Materials Supply**
 - *Team Lead: Tom Romantic*
 - **Campus Store: Green Products/Services**
 - *Team Lead: Tom Romantic*



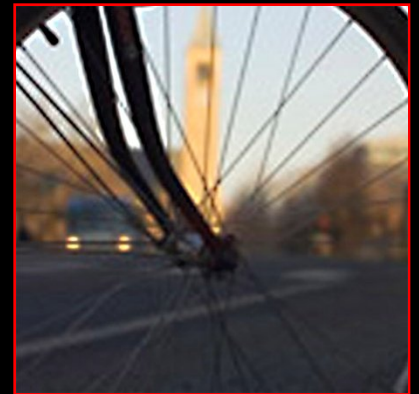
Ithaca Campus Buildings



- Land grant institution
- 14 million gross sq ft of campus buildings
- Research income > \$400 M /yr
- Broad mix of space types
- 6,000 beds
- Over 1000 acres

Transportation

- **Goal:** Reduce fossil fuel use and the impact of vehicles on the local community.
- **Strategy**
 - **Implement Transportation Mitigations**
 - *Team Lead: Bill Wendt*
 - **Cornell Fleet Energy and Emissions**
 - *Team Lead: Joe Lalley*



Waste and Pollution

- **Goal:** Reduce the generation of solid and hazardous waste, and minimize air and water pollution.
- **Strategies**
 - **Solid Waste Reduction**
 - *Team Lead: Phil COx*



Food and Water

- **Goal:** Reduce the environmental impacts of the foods we eat.
- **Strategies**
 - **Dining and Local Foods**
 - *Team Lead: Doug Lockwood*
 - **Sustainable Events**
 - *Team Lead: Dean Koyanagi*
 - **Drinking Water Conservation Plan**
 - *Team Lead: Chris Bordlemay*
 - **Watershed Protection Plan**
 - *Team Lead: Chris Bordlemay*



Endowment Investments

- **Goal:** Use endowed investments to promote sustainability.
- **Strategy**
 - Investment Policy (in consultation with the Board of Trustees)
 - *Team Lead: James Walsh*



Sustainability



Cornell's Office of Environmental Compliance and Sustainability and Center for a Sustainable Future leverage the strengths of an Ivy League university dedicated to a Land Grant Mission. We are determined to make the Big Red and Planet Earth, places where all generations can prosper.

Here, among New York's Finger Lakes, the Haudenosaunee (Iroquois) peoples, who cared for the region before Cornell, live by a similar principle: *In every decision we must consider the impact on the seventh generation.*



Events
 April 22, All Day
 Hungry Planet: What the World Eats
 April 22, 4:00 PM
 Saving Forests, Protecting People?
 Environmental Conservation in Central America
 More Sustainability Events >

News
 April 22, 2008
 "Planet doctor" warns that climate change will wipe out species
 April 22, 2008
 Roger Elie '79 volunteers in Russia for Farmer-to-Farmer
 More Sustainability News >

Earth Day 2008
 Come TODAY to hear President Skorton speak at Ithaca High School at 5:30pm. Don't forget to visit Ho Plaza from 11am - 2pm for live music, art, and demonstrations.
"Each of us has a part to play in sustainability at Cornell. What piece of the puzzle do you hold?"
 David J. Skorton, President, Cornell University

Learning



Explore Sustainability Education
 Why is sustainability a compelling subject for the next generation of scholars, artists, and leaders at Cornell?

- Center for Sustainable Global Enterprise
- Dilmun Hill Student Run Organic Farm
- Interdisciplinary Agricultural Sciences
- New Orleans Planning Initiative
- Service-Learning in Honduras
- Student Sustainability Hub

Research



Visit the Center for a Sustainable Future
 Who holds the keys to much-needed breakthroughs to our modern challenges?

- Climate Change
- Ecotecture
- Engineering Energy Studies
- Green Materials
- Integrated Pest Management
- Organic Agriculture

Stewardship



Discover Cornell's Sustainable Campus
 How has an institution of 30,000 people excelled in transforming "America's most beautiful college campus" into a learning laboratory for sustainability?

- Campus Life Green Team
- Commitment to Climate Neutrality
- Comprehensive Master Plan
- Green Building Oversight Committee
- Local Foods Advisory Council
- Treading Lightly on Campus

Outreach



Knowledge and Practice for Sustainability
 Where will business leaders, policy makers, and citizens get the research-based guidance to make crucial decisions?

- Biofuel Industry Development
- CRESP Center for Transformative Action
- Community and Rural Development Institute
- Farm to School Program
- Farmworker Program
- Home Energy Education
- Composting Leadership

www.cornell.edu/sustainability/ Sustainability "Bridge Page"