Presidents Climate Commitment Implementation Committee

Presidents Climate Commitment and the Climate Action Plan

Faculty Senate

May 13, 2009

Facilities Services

Presidents Climate Commitment

“ develop and implement a plan with specific targets and timelines to achieve climate neutrality at a pace and in a manner that maximizes the opportunities for the university”

- From American College and University Presidents Climate Commitment 2007 Annual Report

Deadline: September 15, 2009

The Climate Action Plan: A Framework

1. Inventory emissions and create Base Case (accounting for future campus growth)
2. Gather ideas – over 700 in database
3. Create the Decision Tool
4. Develop the Options
   - Short , Intermediate and Long-Term
   - Demand & Supply Side
   - Technology & Behavior
5. Select endorsed alternatives and create portfolio

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GHG Inventory Summary

4 required Inventory Components for the PCC

On-site Fossil Fuels

Heating over 14 million Gross Square Feet
176,000 metric tons (55%)

Purchased Electricity

Over 230 million kwh
87,000 metric tons (27%)

Commuting

Over 3 million gallons of gasoline
29,000 metric tons (9%)

Air Travel

Over 40 million miles
27,000 metric tons (8%)

Total Footprint: 319,000 metric tons CO_2

SUSTAINABILITY AT CORNELL

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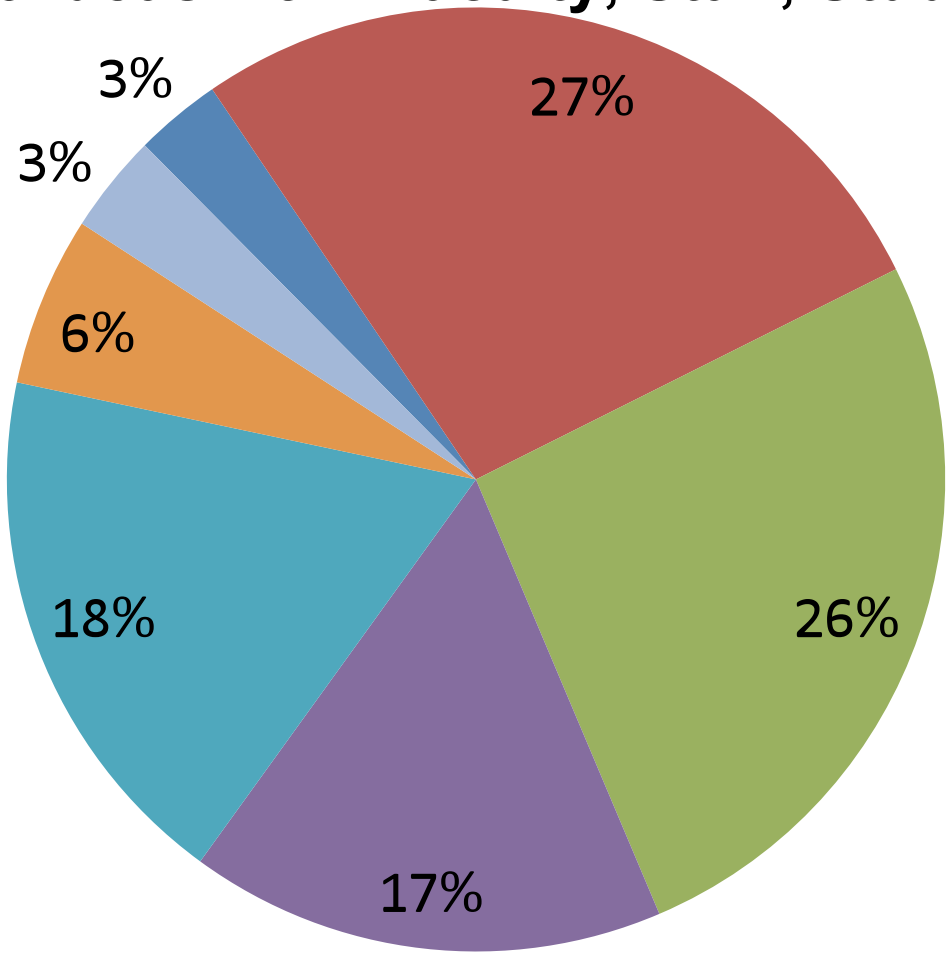
Involvement

706 Ideas from Faculty, Staff, Students, and Community



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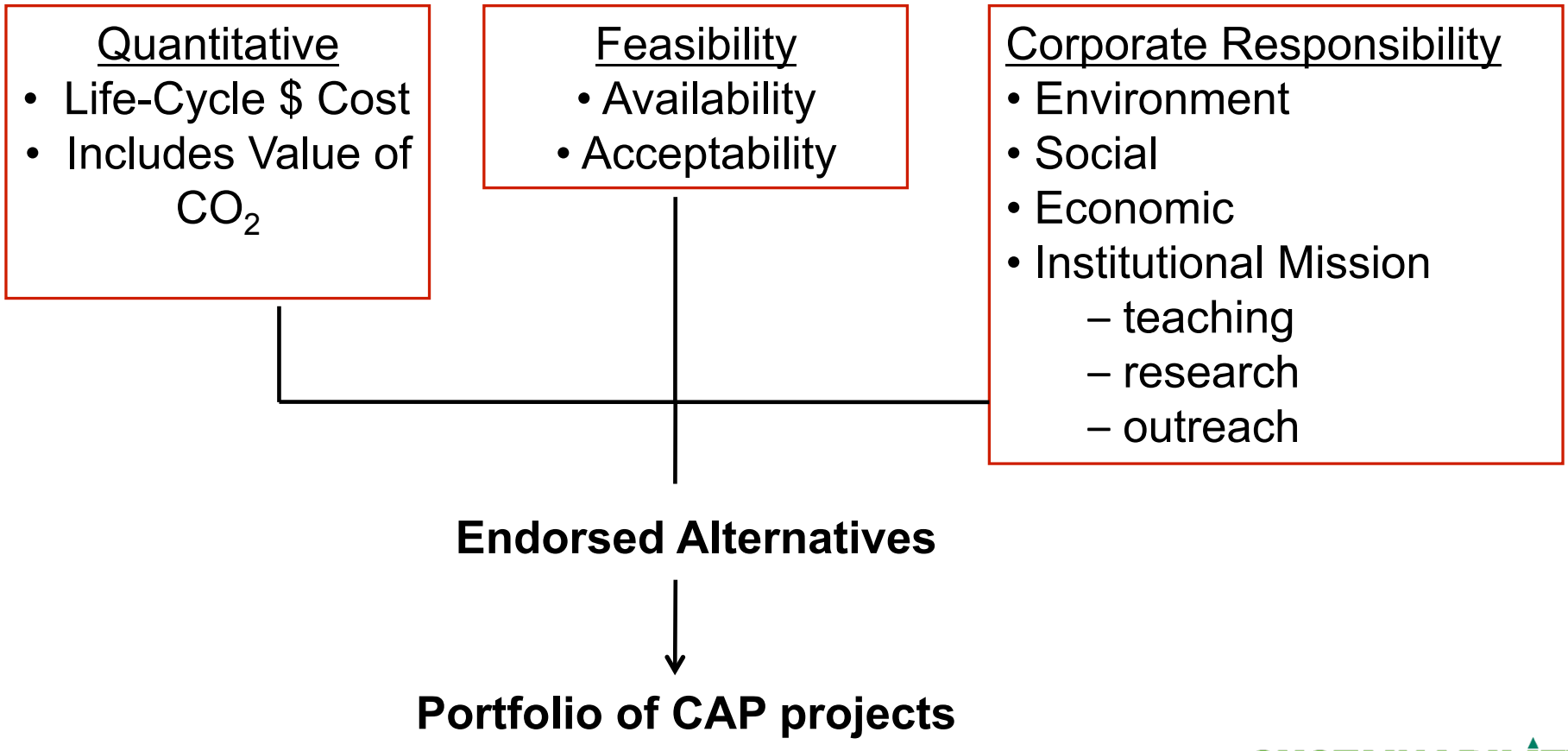
Sustainable Decision Analysis For Climate Action Alternatives



SUSTAINABILITY AT CORNELL

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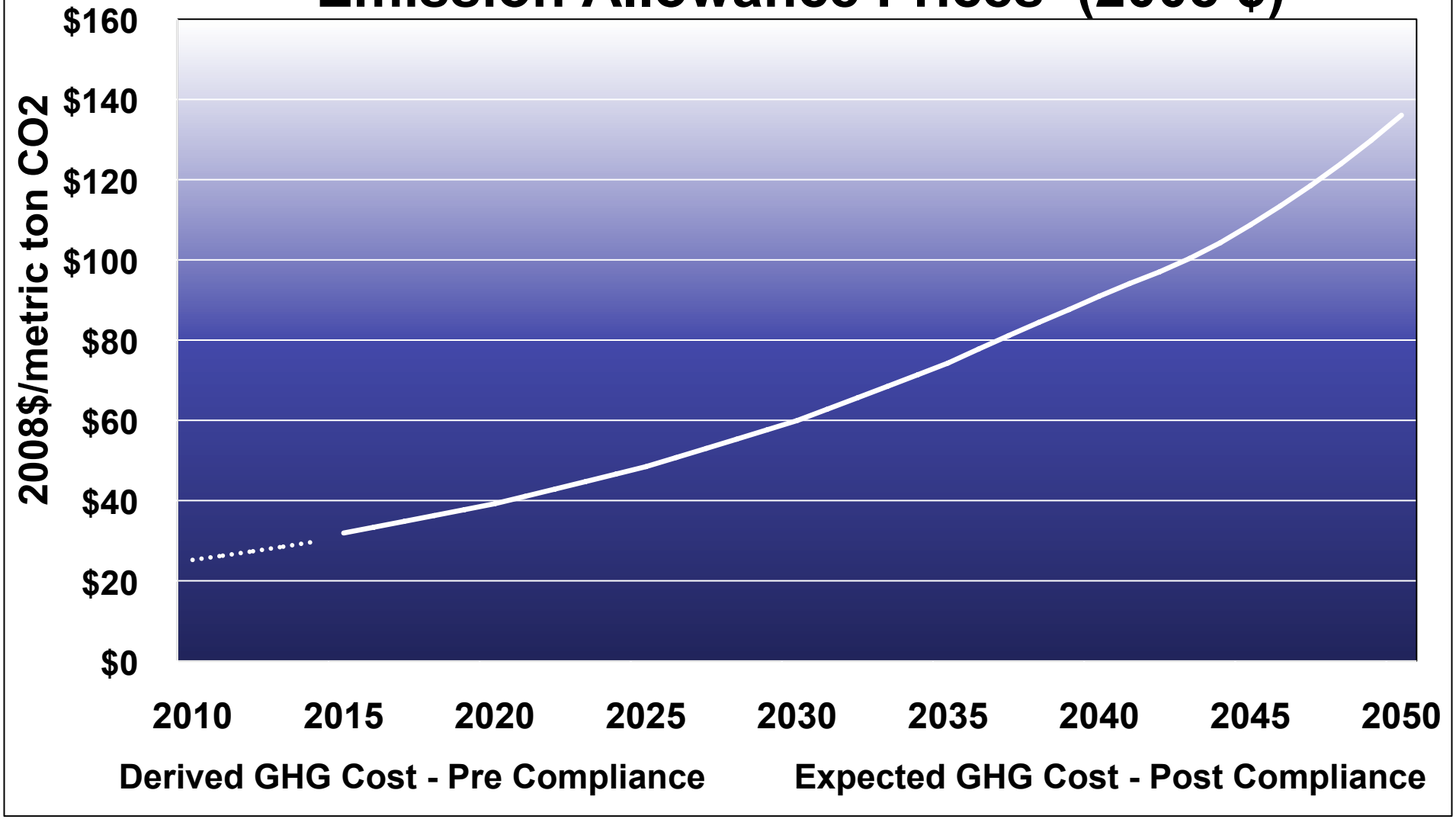
Expected Forecast of Greenhouse Gas Emission Allowance Prices (2008 $)



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What will be in the Recommended Portfolio?

- Actions that support essential **Teaching and Research Priorities**
- Actions that support our **Outreach Mission**
- Actions that show leadership **compatible with existing priorities** (campus greening, TIMS, Master Plan)
- Actions that **save $$ and reduce risk** associated with future energy prices and carbon taxes

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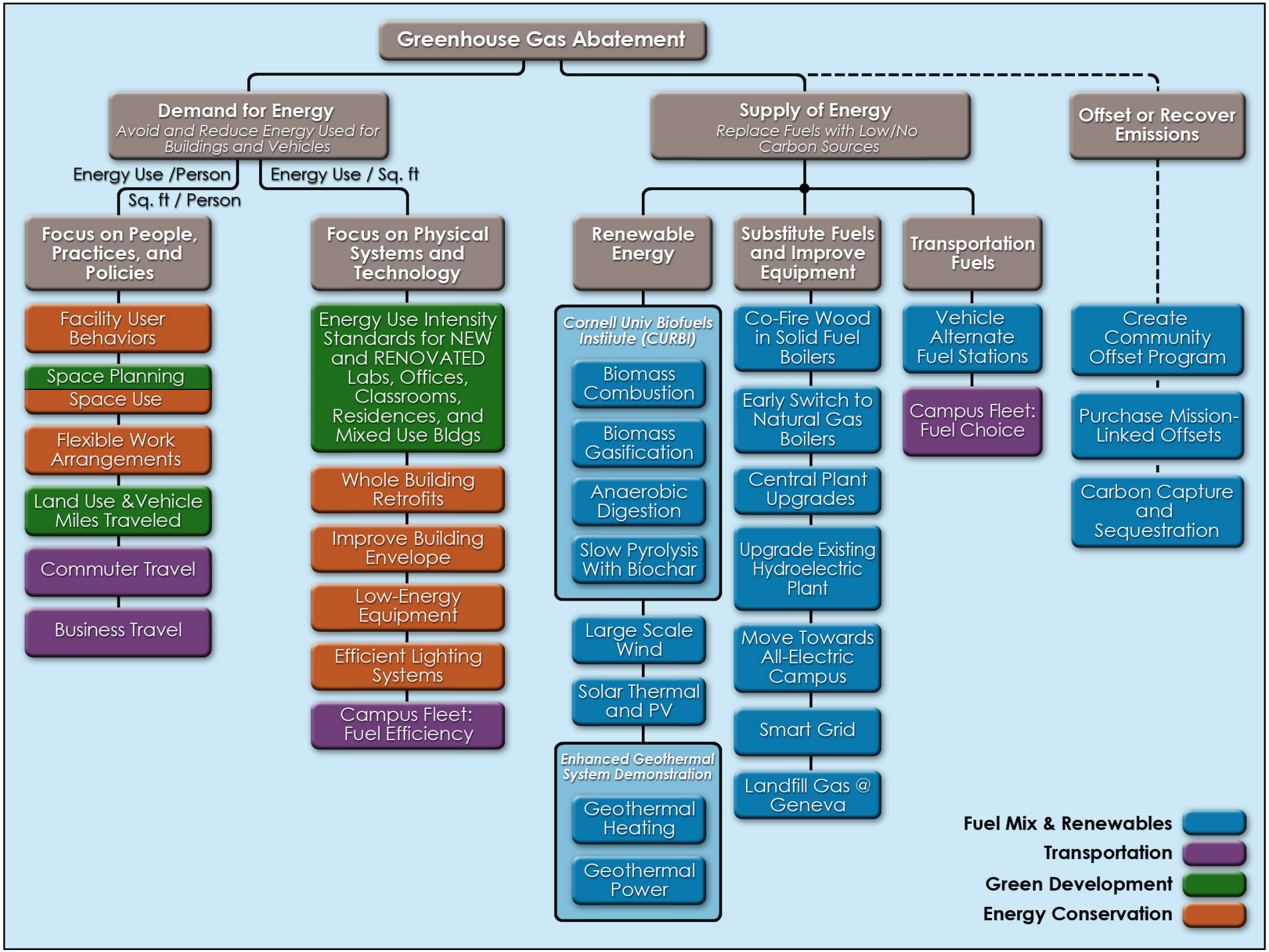
Presidents Climate Commitment: Education, Research and Outreach Opportunities

Make climate neutrality and sustainability a part of the curriculum and other educational experience for all students

Expand research or other efforts necessary to achieve climate neutrality


Greenhouse Gas Abatement
Demand for Energy
Avoid and Reduce Energy Used for Buildings and Vehicles
Supply of Energy
Replace Fuels with Low/No Carbon Sources
Offset or Recover Emissions
Energy Use /Person
Sq. ft / Person
Energy Use / Sq. ft
Focus on People, Practices, and Policies
Facility User Behaviors
Space Planning
Space Use
Flexible Work Arrangements
Land Use &Vehicle Miles Traveled
Commuter Travel
Business Travel
Focus on Physical Systems and Technology
Energy Use Intensity Standards for NEW and RENOVATED Labs, Offices, Classrooms, Residences, and Mixed Use Bldgs
Whole Building Retrofits
Improve Building Envelope
Low-Energy Equipment
Efficient Lighting Systems
Campus Fleet: Fuel Efficiency
Renewable Energy
Cornell Univ Biofuels Institute (CURBI)
Biomass Combustion
Biomass Gasification
Anaerobic Digestion
Slow Pyrolysis With Biochar
Large Scale Wind
Solar Thermal and PV
Enhanced Geothermal System Demonstration
Geothermal Heating
Geothermal Power
Substitute Fuels and Improve Equipment
Co-Fire Wood in Solid Fuel Boilers
Early Switch to Natural Gas Boilers
Central Plant Upgrades
Upgrade Existing Hydroelectric Plant
Move Towards All-Electric Campus
Smart Grid
Landfill Gas @ Geneva
Transportation Fuels
Vehicle Alternate Fuel Stations
Campus Fleet: Fuel Choice
Create Community Offset Program
Purchase Mission-Linked Offsets
Carbon Capture and Sequestration
Fuel Mix & Renewables
Transportation
Green Development
Energy Conservation