

# Meeting the Presidential Climate Commitment at Bunker Hill Community College



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# What is the Commitment?



- Created by 12 presidents
- Pledge to reduce and eliminate greenhouse gases over time
- Membership of over 550 colleges & university's
- 152 charter members
- Coordinated by AASHE, ecoAmerica, and Second Nature



# Elements of the Commitment

1. Establish an institutional structure within two months of implementation start date.
2. Select two or more tangible actions within two months of implementation date.
3. Complete a greenhouse gas emission inventory within one year of implementation start date and report annually on inventory.
4. Develop a climate action plan within two years of implementation date.
5. Make all aspects of the commitment progress public.





# Institutional Structure



- 22 member committee
- Appointed co-chair
- All areas of the college represented
- Four sub-committees
  - Waste Minimization
  - Energy Star Procurement
  - Green Building
  - Green Power Production/Purchasing
- Monthly meetings



# Tangible Actions

- Waste Minimization

- Participate in RecycleMania



- Choose a minimum of three associate measures (we chose four):



- Campus recycling program
    - Reduce vendor transportation packaging
    - Develop a waste management awareness program for faculty and staff
    - Promote the use of interoffice envelopes



INTERDEPARTMENTAL MAIL TO SPEED UP DELIVERY, ADDRESS ENVELOPE TO THE PERSON AND PO BOX! THANK YOU!		
To _____	To _____	To _____
PO Box _____	PO Box _____	PO Box _____
To _____	To _____	To _____
PO Box _____	PO Box _____	PO Box _____
To _____	To _____	To _____
PO Box _____	PO Box _____	PO Box _____
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# Tangible Actions cont.



- Waste Minimization

- Other colleges & university's

- Dartmouth College's waste free dining pilot project
  - students buy a \$20 kit with reusable mugs, napkins, etc.
  - expected to save about \$1.17 in disposable food-related items per day
- University of Northern Colorado established a pay-to-print program
  - charge students \$0.05 per printed sheet
- Penn State received a grant to improve its wind-powered composting equipment
  - begin curb side collection of residential organic waste in addition to dining facility scraps
- University of Calgary initiated a "bulb eater" program
  - separate out mercury from spent fluorescent tubes

UNIVERSITY of  
NORTHERN COLORADO



# Tangible Actions cont.

- Energy Star Procurement

- For product categories that have ENERGY STAR<sup>®</sup> rated products available, the college will focus its procurement efforts only on products with an ENERGY STAR<sup>®</sup> rating, consistent with the needs of the college community

- Appliances
- Computers
- Vending Machines





# Tangible Actions cont.

- Energy Star Procurement



- Other colleges & university's

- Cornell University's facilities services computer & network support office
  - reduce energy consumption
  - dispose of computers and other electronics in a responsible manner
  - purchase more efficient computers with fewer hazardous components



- The State University of New York at Buffalo
  - replaced older vending machines with more efficient ENERGY STAR<sup>®</sup> models
    - » cut energy consumption in half
    - » Save \$21,000 annually





# Tangible Actions cont.

- Green Building

- BHCC will adopt LEED silver certification that exceeds the LEED MA+ mandated by the Commonwealth of Massachusetts as the mechanism to guide the design and construction of all new building projects
- The US Green Building Council's Leadership in Energy Efficient Design
  - a building rating system that awards points in various design categories and rates buildings based on the number of points attained



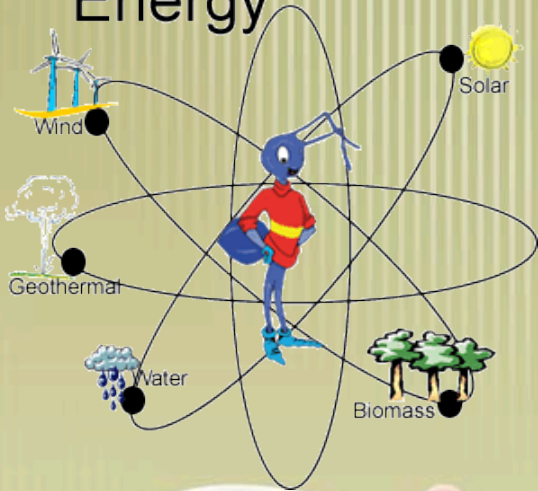
# BHCC Health & Wellness Center LEED Silver Certified

- recycled steel
- fly ash (from coal) in the concrete mix
- light color roofing material
- water efficient toilet fixtures
- high efficient lighting fixtures with occupancy sensors
- gypsum wall board with recycled material
- wall & floor tiles with recycled materials
- low admitting adhesives
- bike racks



# Tangible Actions cont.

## Renewable Energy



- Green Power Production/Purchasing
  - Install and operate one or more renewable electricity generating devices on campus
    - Wind
    - Solar
    - Geothermal
    - Biomass
  - Purchase renewable electricity produced off-site but directly connected to campus
  - Purchase renewable energy credits (RECs, also known as Green Tags)
    - Must be Green-e certified





# Tangible Actions cont.

- Green Power Production/Purchasing
  - WindStreet Energy



- 3 year contract to purchase 100% “green” power with Renewable Energy Credits (REC’s)

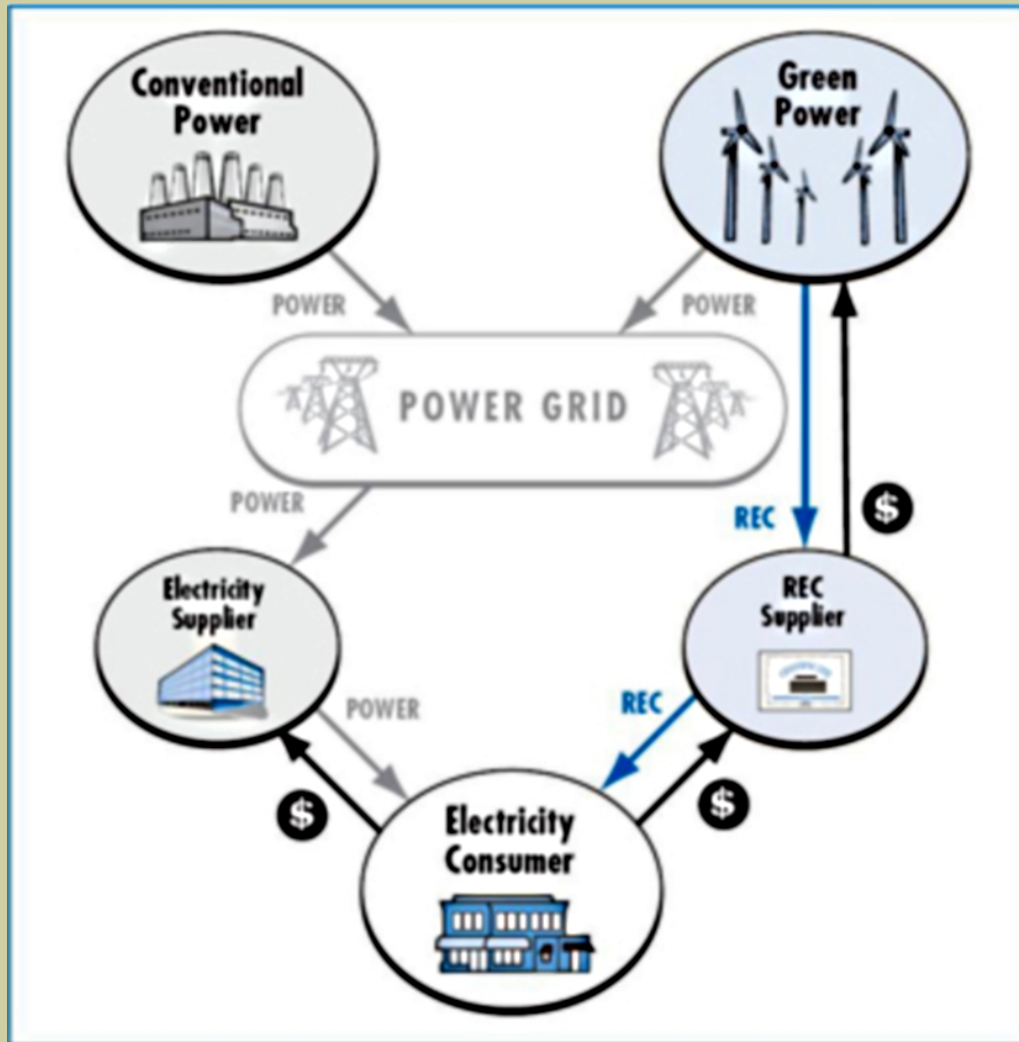
- certificates issued by clean power producers that can be certified by independent auditing bodies such as the Center for Resource Solution’s in their Green-e program, among many others, and sold through brokers to end users

- Offset “brown” power

- Gold Partner of ACUPCC



# Renewable Energy Credits

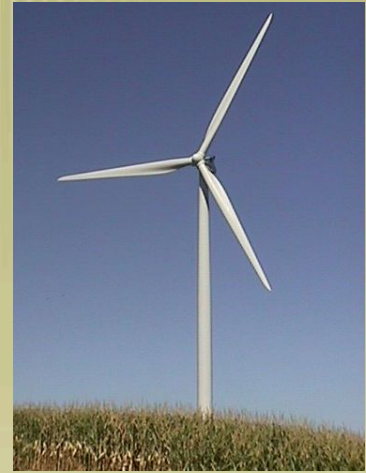


# Tangible Actions cont.

- Green Power Production/  
Purchasing

- Other college & university examples

- Massachusetts College of Liberal Arts
  - solar photovoltaic panels for its Venable Hall
  - resource for students studying renewable energy
- Massachusetts Maritime Academy
  - large utility grade wind turbine
- Mt. Wachusett Community College
  - converted its electric heating system to a biomass hydronic district heating system
- University of Massachusetts at Lowell
  - solar thermal system to heat the water in its pool complex (evaluation stage)

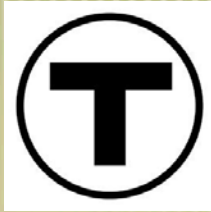




# Other Tangible actions



- Air travel offsetting
  - purchase carbon offsets for campus air travel



- Provision of public transportation
  - provide free or heavily subsidized (50% or more below retail price) public transportation passes to students, faculty and staff
- Climate friendly investing
  - policy guidelines that instruct the endowment to vote in favor of shareholder resolutions that support action to reduce GHG emissions



# Greenhouse Gas Emissions (GHG) Inventory



- Track and report emissions of the six greenhouse gases covered under the Kyoto Protocol.
  - Agreement ratified by over 180 countries that set targets and timetables for cutting the greenhouse gas emissions of industrialized countries.
  - carbon dioxide (CO<sub>2</sub>)
  - methane (CH<sub>4</sub>)
  - nitrous oxide (N<sub>2</sub>O)
  - hydrofluorocarbons (HFCs)
  - perfluorocarbons (PFCs)
  - sulphur hexafluoride (SF<sub>6</sub>)
- Carbon emissions spreadsheet
- Carbon footprint calculator

# Climate Action Plan



- Development of an institutional action plan for becoming climate neutral (6 Components)
  1. Introduction – why is the institution taking on this initiative?
  2. Campus emissions – what are the current emissions and when will the campus be climate neutral?
  3. Mitigation strategies – how will climate neutrality be achieved?
  4. Education, research, community outreach efforts – how will climate neutrality become part of the curriculum and how will the community be involved?
  5. Financing – how will aspects of the plan be financed
  6. Tracking progress – how will the plans progress be tracked?





# Climate Action Plan cont.



- Students every semester, in conjunction with the campus recycling program collect bottles and cans
  - Money used for Toys for Tots, etc...
  - recycling presentation end of semester
- Students calculate their CO<sub>2</sub> emissions and then do a survey so they can calculate their friends and family's emissions
- Students are educating themselves about the companies that manufacture wind turbines
- Involve students, faculty, staff, and the community by offering 100 percent green power to them through our new vendor
- Website for the public to view
- College magazine

# Climate Action Plan cont.



- Other colleges & university' s
  - Northern Arizona University and Emory University
    - faculty development programs
    - revise 300 courses in virtually every discipline to make sustainability the context or the content of learning
  - University of Georgia has made coursework in environmental literacy a requirement for all graduates
  - Cape Cod Community College
    - developing renewable energy education and training
      - technical high schools, education and non-profits



# Climate Action Plan cont.



- Arizona State University
  - established the first School of Sustainability
- Other colleges with sustainability programs in place
  - Northern Arizona University
  - Slippery Rock University
  - Saint Mary of the Woods College
- Sustainability programs in development (minor)
  - University of Massachusetts at Dartmouth
  - University of Rhode Island





# Public Reporting



- Make the climate action plan, inventory, and progress reports publicly available by providing them to AASHE for posting and dissemination
- Three types of Info
  - Contextual
    - size, community type
  - Emissions
    - by source
  - Climate Action Plan Implementation
    - progress



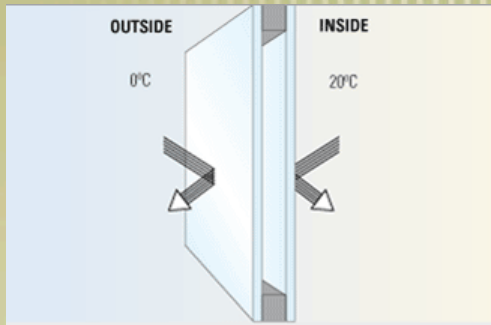
# Other BHCC Actions to Achieve Climate Neutrality



- Replacement of an older vehicle with a new hybrid version
- Replacement of existing urinals that use 4 gallons per flush with low flow urinals that use less than one gallon per flush
- Installation of 165 recessed parabolic ceiling fixtures
- Installation of wall mounted occupancy sensors (motion activated wall switches)
- Replacement of all exit signs with LED fixtures



# Other BHCC Actions to Achieve Climate Neutrality



- Replacement of all incandescent lamps with compact fluorescent lamps
- Variable frequency drives (VFD's) on all large motors
- Energy management system (EMS)
- Three small gas fired boilers for domestic hot water
- Double pane low E glass
- Use gas instead of oil during the winter months

