



## 2011 Climate Leadership Summit: Working Session 2 *Academics, Adaptation, and International Collaboration*

### *Adaptation*

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#### **Key Ideas:**

1. **Physical Plant:**
  - a. Seeing impacts (e.g. more/less water) and reacting (e.g. rain gardens, green roofs); but not much in the way of explicit "adaptation" efforts.
  - b. Presidents and Governing Boards will be facing serious risks and costs, and will need to make difficult decisions; need to be preparing now.
  - c. Impacts are creating new costs for operating physical plants (e.g. HVAC, back-up generators, storm damage).
2. **Research:**
  - a. In general, not much focus on adaptation at this point; but some research is taking place around water, agriculture.
  - b. Senior administration must be a leader in saying they want to see innovation.
  - c. Campuses can serve as models and provide research on how communities can transition.
3. **Education:**
  - a. In general, not much focus on adaptation at this point, though there are some examples, and students are pushing for it.
  - b. Presidents must provide constant reinforcement, though some felt their efforts should be focused on educating Governing Boards about these issues.
  - c. Demonstration projects on campus can provide experiential learning opportunities.
4. **Community Engagement:**
  - a. There is not enough awareness of the need to adapt, higher education has a responsibility to educate those in their local communities.
  - b. Like reaching climate neutrality, adaptation will require action from parties outside of the president's or the institution's direct control – need to collaborate and influence.
  - c. Campuses should serve as models and resources for the community; and can also benefit from collaborating on projects and building positive relationships.
5. **Committee's Work:**
  - a. Provide examples of best practices around adaptation in higher education.
  - b. Build strategic, cross-sector alliances
  - c. Provide guidance on a consistent message platform for adaptation issues, and on how to make the financial case

#### **Action Items:**

- Develop white paper on higher education's role in adapting to climate disruption.
- Develop recommendations for the ACUPCC Steering Committee on what (if anything) the ACUPCC should do next regarding adaptation.





## 1. What climate change related impacts are campuses experiencing, and what physical plant adaptation efforts are underway at colleges and universities?

- Changing ecology driven by precipitation changes; installing rain gardens and swales
- More water - drainage strategies
- Impact of rain: summer constant storm water runoff -- parking lot changes due to flood plain changes
- Rochester low-lying, a lot more water; forced to deal with drainage issues
- Less water - strategies needed
- Atlanta drought, trees now coming down; less water, then more water.
- Native plant, arboretum, seeing changes; looking at types of plants that can adapt; lawn reductions; UMD native plant issues, whole campus trying to position plants to manage extra water; Green Mountain - plants can't deal with hot then wet weather, rapid changes, sourcing wood for co-gen plant becomes a question.
- Pest migration to the north; disease in human population; degradation of trees and other plants -- new policy on student health
- Recalculating HVAC costs going forward
- Adding AC in the Northeast; Rochester never had to have AC before - huge retrofit costs; need AC to compete for students
- Behavior change, for example you can live without AC
- Local sourcing; procurement policy to consider transportation cost
- Adapting to the extremes which happen more often -- addition of numerous generators to deal with power outages
- Need for new approach to risk assessment
- In general, not much focus on adaptation at this point
- Presidents must prepare Governing Boards for tough decisions that will have to be made on how to adapt
- American U: roof collapse; hundreds of thousands of dollars to remove snow from roofs; building green roofs and water retention tanks
- Spelman: seeing temperature changes, higher energy bills for cooling; shut downs = costs of closing
- Flooding: everything seems to be coming in extremes
- Many not certain enough to tie extreme weather events to climate change
- Sea level rise: UC Santa Barbara will be under water in 50 years – no one looking out that far.
- Planning for new threats (e.g. tornadoes in CT – Eastern CT State U)

## 2. With regard to research on adaption, what efforts are underway, and how can senior administrators support and/or remove barriers to new and existing efforts?

- Senior administration must be a leader in saying they want to see innovation
- Industrial sustainability program / research; advise 100 companies
- Ecosystem integration studies in anticipation of change
- Transition communities re: climate change; how will things move locally?
- Create models of adaptation on campus
- Food system / agriculture impacts





- In general, not much focus on adaptation at this point
- UC Irvine: CA economy built around water infrastructure – based on how fast snow melts – faster melt looks like *more* water until there is no water, similar dynamics in China; researchers looking at this.

### **3. With regard to education on adaptation, what efforts are underway, and how can senior administrators support and/or remove barriers to new and existing efforts?**

- Demonstration projects - show the efforts and outcomes, and involve students in the engineering and design aspect of retrofits
- Challenge to get diverse interests, such as technology and environment to discuss together
- Environmental and Engineering faculty don't like each other - environmentalists think engineers caused the problem - academic barrier
- Hire for champions
- Recruit students as champions
- President must provide constant reinforcement
- UC Irvine: waste of time for presidents to focus on areas where they don't have direct power, should focus on Governing Boards, help them understand big risks and costs facing the institution related to adapting.
- Student learning outcome in sustainability competencies
- How to get information into K-12 education?
- In general, not much focus on adaptation at this point
- Northland: new project across the curriculum; capstone project on adaptation, sociology, fisheries
- RIT: students are the champions pushing this; presidents need to reinforce students otherwise students will go elsewhere
- American U: starting to measure ed offerings through STARS; none specifically on adaptation that they know of
- Educating building professionals – steep curve in green building – need to include building for resiliency

### **4. How can colleges and universities act as economic drivers for the local community and engage with local governments and organizations to lead adaptation efforts?**

- Sustainability issues have helped relationships
- RIT: Work with business; help companies improve profitability
- Workforce development, weatherization training, work with local gov't, private/public grants, ARRA funds in NC, VT, NY
- Be models of practice, provide training, help agencies develop strategies, model projects of transition, leverage grants, educate the community, non-profit support
- RIT: responsibility to educate community, clear up misunderstandings, communicate urgency
- Look at TCCPI model (Ithaca, NY) and Oberlin (OH)
- Use revolving loan funds for adaptation projects
- Work together in regions like the 48 community colleges in the Illinois Green Economy Network; real potential for regional interest in the Northeast
- Change in STARS to integrate community adaptation



- Use locally grown, sustainable food
- Moving adaptation planning to the level of campus / community engagement; service learning opportunities
- In general, not much focus on adaptation at this point
- Vulnerability at the local level – where employees live, local gov't activities, etc. – impacts the college directly
- American U: responsibility to help community, but also mutual benefit; need community support to undertake much of this work
- Like reaching climate neutrality, adaptation will require action from parties outside of the president's or the institution's direct control – need to collaborate and influence
- Collective leadership in a sector can create movement in other sectors; CEOs can sponsor conferences to get early ideas going, which can lead to policy changes – presidents can create that space / forum
- Not nearly enough consciousness / awareness about what needs to happen – major change
- Vested interest in terms of many Americans' lifestyles to *ignore* climate change and put off adapting; reinforcing the logic that sustainable lifestyles are better lifestyles can help drive change

## 5. What should the Adaptation Committee's work in 2011 aim to accomplish?

- Vehicles to build strategic alliances
- Build strategic alliances
- Make the case for non-signatories (marketing)
- Outreach - grants, resources
- Best practices sharing - repository
- Best practices; examples
- Collect information and best practices around adaptation activity in higher education
- Need to address adaptation now - pressing issue
- Credibility - what is the message? Need to be consistent, one voice; be careful to create consistent messaging so not to lose credibility like with confusion between "global warming" vs. "climate change"
- Engagement with policy makers at all levels
- ACUPCC and Mayor's climate commitment around adaptation
- Cross sector collaboration needed - momentum in higher education can push action in other sectors
- Make case financially - Adaptation messaging, marketing to bring people to the table who wouldn't otherwise be there