

# Research Agendas of University Sustainability Centers

Nancy Cantor  
Chancellor and President  
Syracuse University

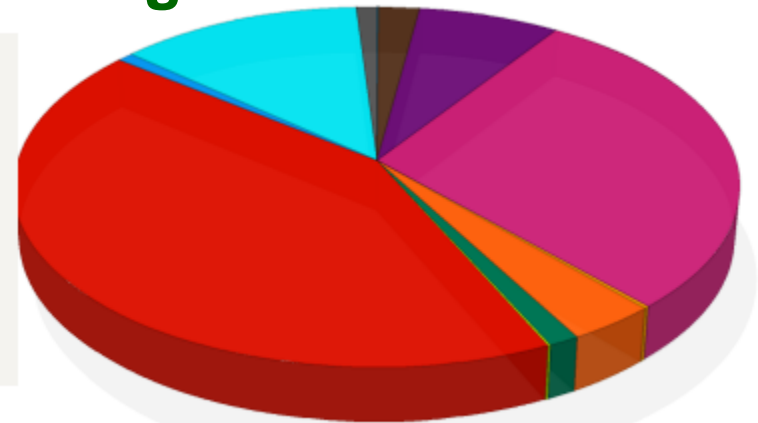
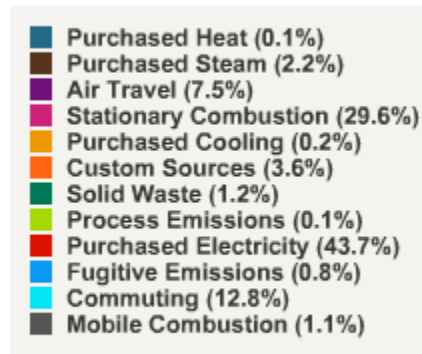
National Academies Roundtable on  
Science and Technology for  
Sustainability  
October 27, 2010

# "Greening" our Campuses

## American College and University Presidents Climate Commitment

"...We believe colleges and universities must exercise leadership in their communities and throughout society by modeling ways to minimize global warming emissions, and by providing the knowledge and the educated graduates to achieve climate neutrality..."

## Average Gross Emissions by Source Doctorate-Granting Universities\*

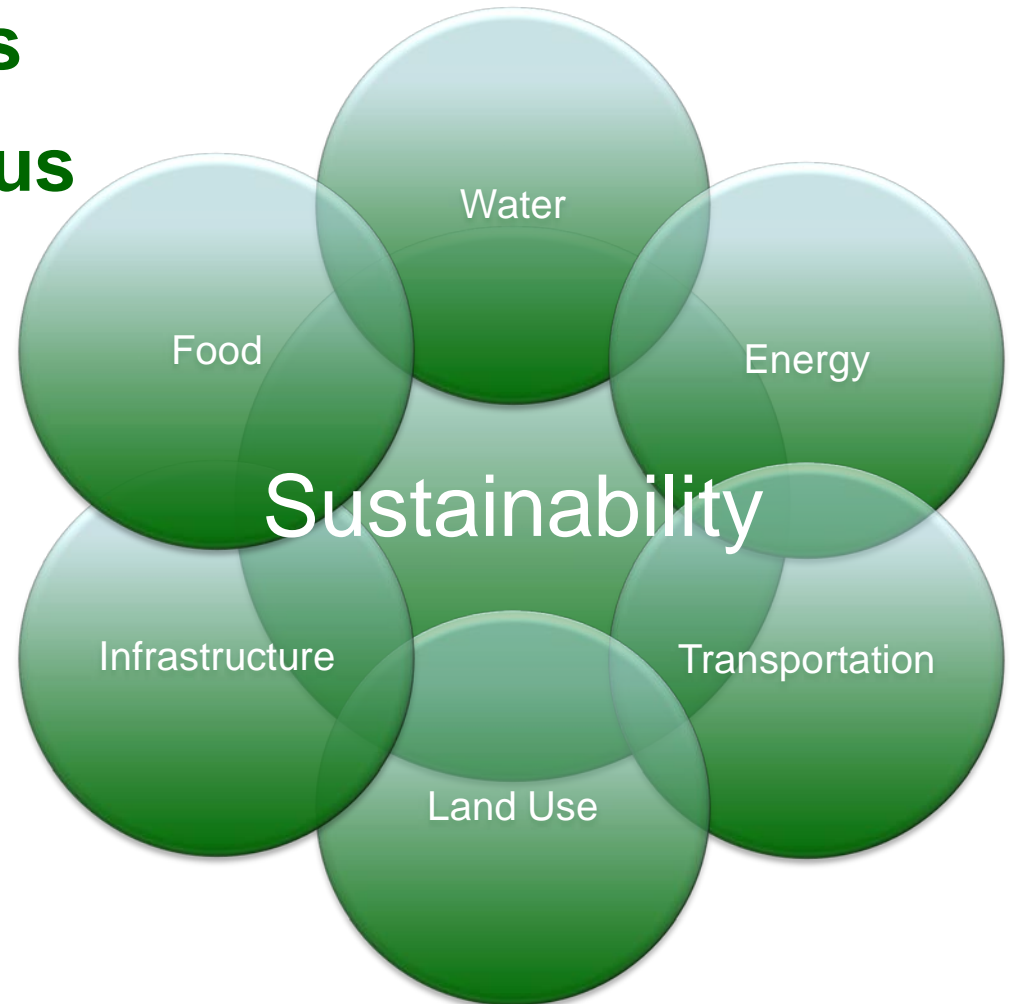


\* Source: American College and University Presidents Climate Commitment website, <http://acupcc.aashe.org/stats/ghg-source-stats/>, accessed 10/20/10.

# Sustainability Centers

## Multi-Faceted

- **Cross many disciplines**
- **Sustainability linkages**
- **Engage beyond campus**
- **Cross-sector collaborations**
- **Anchor institutions**



# Sustainability Center Challenges

- **How are research priorities set for and by these centers?**
- **How do they break down the silos across disciplines and among and within the public, private, and nonprofit sectors?**
- **Where does their funding come from and what are the prospects for future funding?**
- **To what degree do these centers see themselves as anchor institutions in their communities that address local/regional sustainability challenges?**
- **How do these locally embedded efforts get global traction, and vice versa?**

# Public/Private Collaboration

- **As government and industry set their sustainability-focused R&D priorities and evaluate funding proposals and prospective university partners, are university-based sustainability centers seen as significant assets?**
- **Are there particular characteristics that they look for in such centers?**
- **Are there particular strengths and weaknesses that they find are common in the ways that universities approach sustainability research?**

# Roundtable Panelists

## ➤ **Rick Shangraw**

Arizona State University; Senior Vice President, Office of Knowledge Enterprise Development; Director, Global Institute of Sustainability

## ➤ **Thomas Lyon**

University of Michigan; Director, Erb Institute for Global Sustainable Enterprise; Dow Chair of Sustainable Science, Technology and Commerce

## ➤ **Nancy Grimm**

National Science Foundation; Program Director, Division of Environmental Biology, Ecosystem Science Cluster

## ➤ **Lance Haworth**

National Science Foundation; Director, Office of Integrative Activities

## ➤ **Steven Koonin**

Department of Energy; Undersecretary for Science

## ➤ **Neil Hawkins**

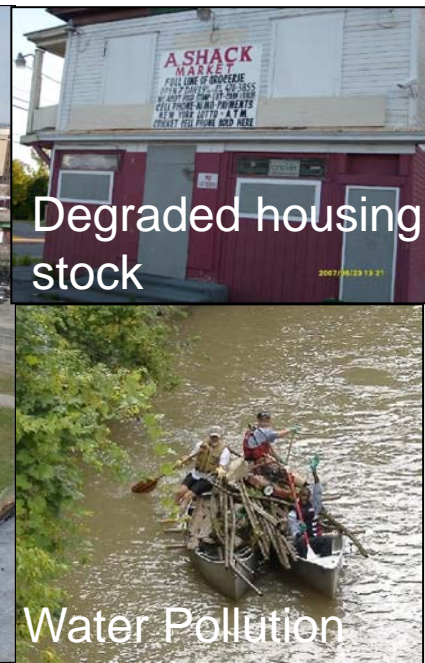
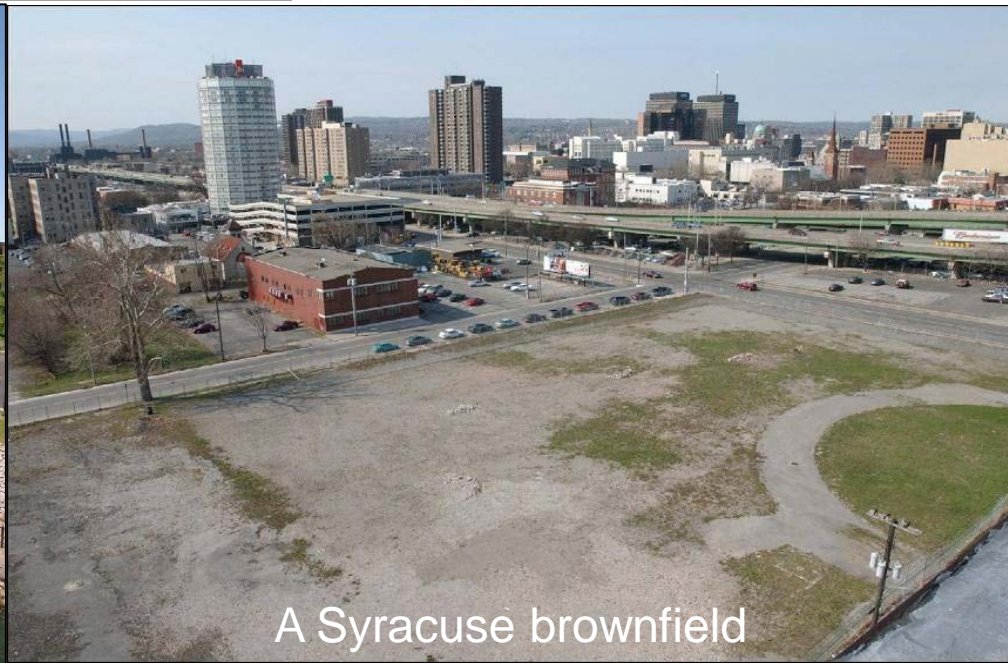
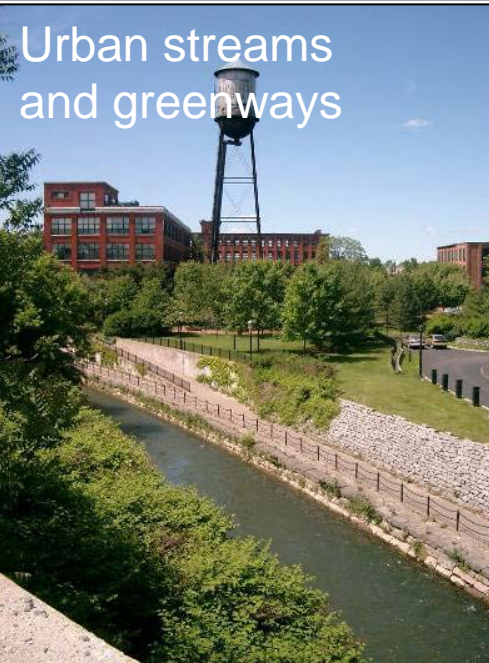
The Dow Chemical Company; Vice President, Sustainability



# Syracuse Center of Excellence in Environmental and Energy Systems



- **Water resources**
- **Clean & renewable energy**
- **Indoor environmental quality**





# Cross-Sector Partners



- Universities
- Research institutes
- Corporations
- Government agencies
- Nonprofits



# Complementary Research Strengths



**Cornell  
Syracuse  
Upstate Freshwater  
Institute**



**Clarkson  
SUNY-ESF**



**Clarkson  
Rochester  
RPI  
SUNY-Upstate  
Medical University  
Syracuse**

**Water Resources**

**Clean & Renewable  
Energy**

**Indoor  
Environmental Quality**

# Complementary Corporate Partners



**Honeywell**  
**OrthoSystems**



**Catalyst**  
**Renewables**  
**Double A Willow**  
**Northern Biodiesel**  
**Toyota**



**Carrier**  
**IBM**  
**Otis**  
**Siemens**

**Water Resources**

**Clean & Renewable**  
**Energy**

**Indoor**  
**Environmental Quality**

# Federal , State, Local Priorities

## Case Study: Smart Management for Small Communities

- EPA, NYS, and County interests intersect
- CoE-Based Environmental Finance Center sponsors technical and policy workshops in rural communities
  - EPA water quality specialists
  - NYS civil engineers & community developers
  - Regional planners

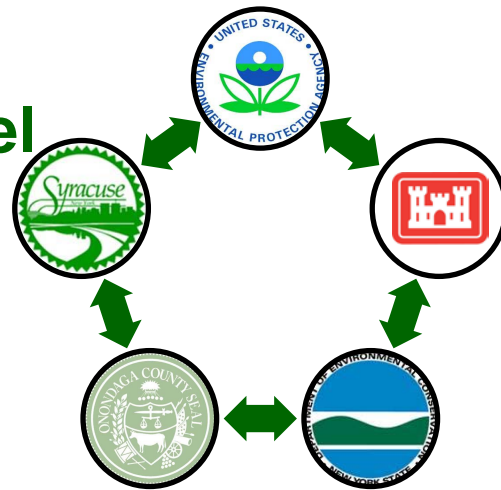




# Local Agenda

## Onondaga Lake Remediation

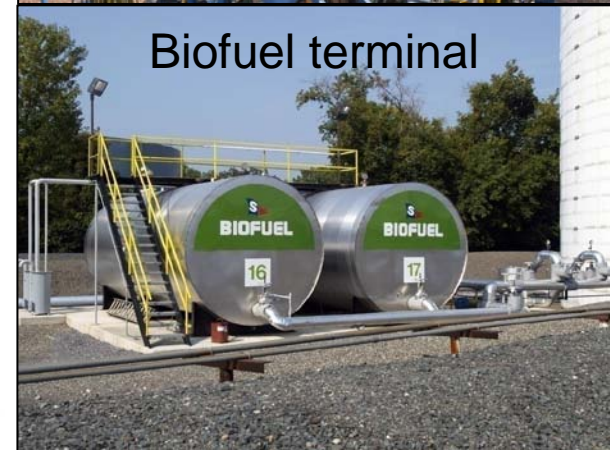
- Sacred site for millenia for Haudenosaunee people
- Superfund site from decades of industrial pollution and combined wastewater overflow
- Lake clean-up and community wastewater management program under way with supervision by multi-level government team



# Regional Agenda

## Biofuels

- Regional economic development analyses identified potential for biofuel industry development
- SUNY-ESF spearheads basic and commercialization research regionally in biofuel production, especially from shrub willow
- NYSERDA partners with industry to develop biorefinery capacity



# National Agenda

## Energy-Efficient Building Systems

- Longstanding “Regional Innovation Cluster” Upstate
- Visionary policies: PlaNYC and statewide to spur reductions in energy consumption

### Selected NYE-RIC Assets

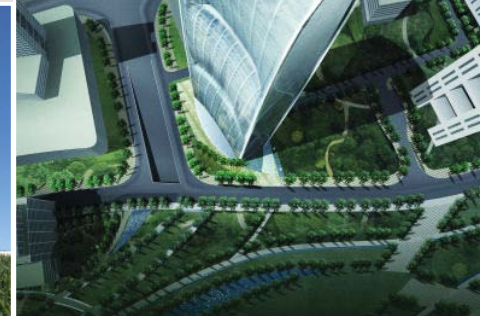
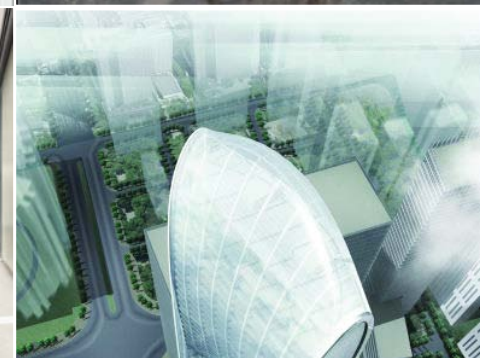




# National Agenda

## Energy-Efficient Building Systems

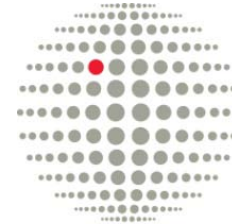
- Research across building platforms and scales
  - Residential
  - Commercial
  - Data Centers
  - Districts



# National Agenda

## Energy-Efficient Building Systems

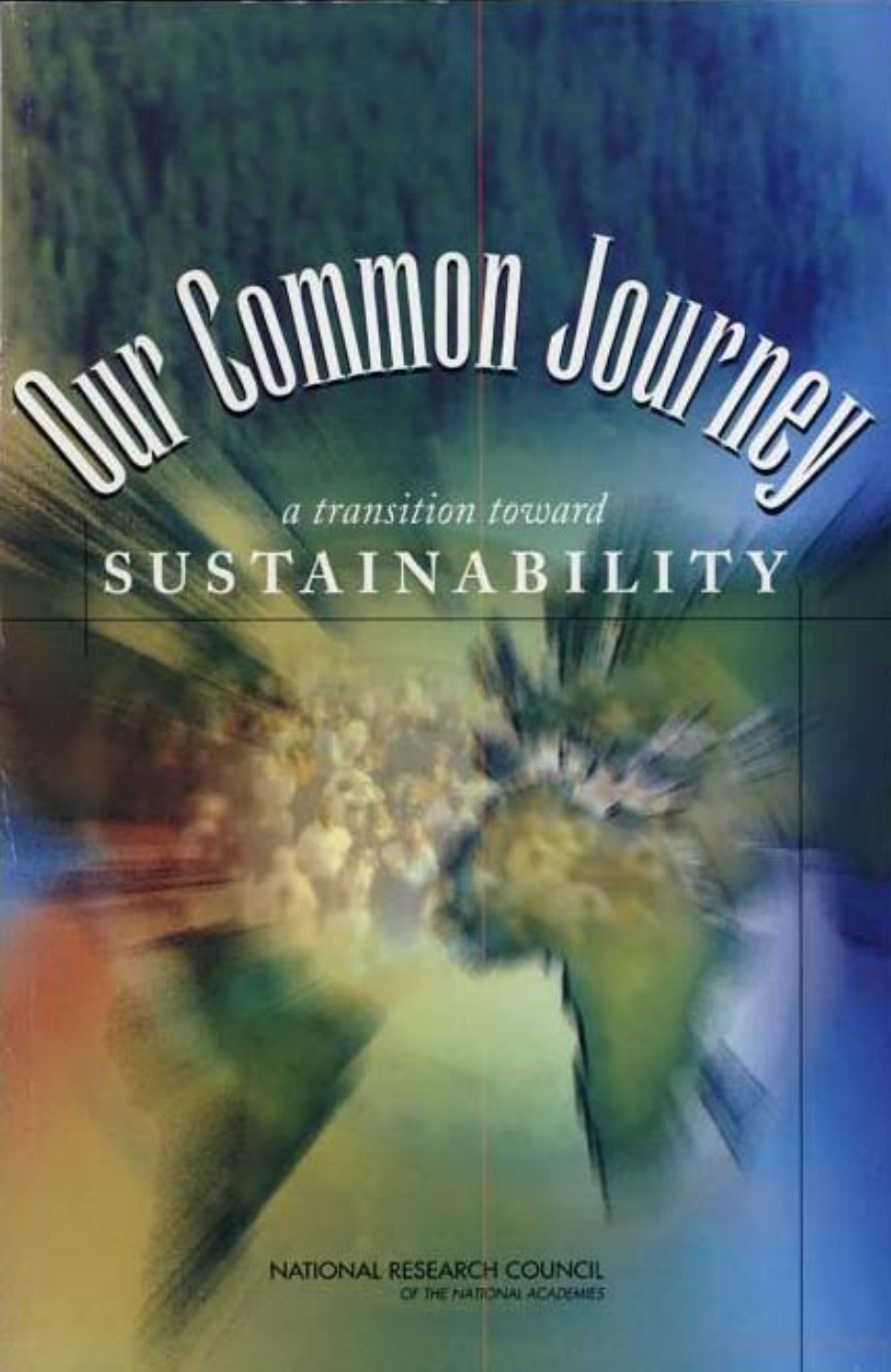
- Unparalleled testbed of diverse building stock in New York City
- Networks of connected industries



Partnership for New York City







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