

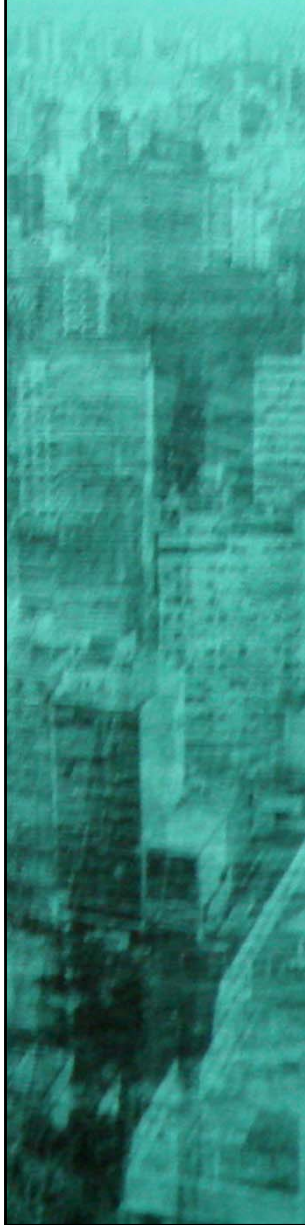
An aerial photograph of a city, likely New York City, showing a dense grid of buildings and streets. The entire image is overlaid with a semi-transparent teal color. Centered on this background is the main title of the presentation in a large, bold, black font.

# **Global Warming and GridWise or Getting to Sustainable Sustainability**

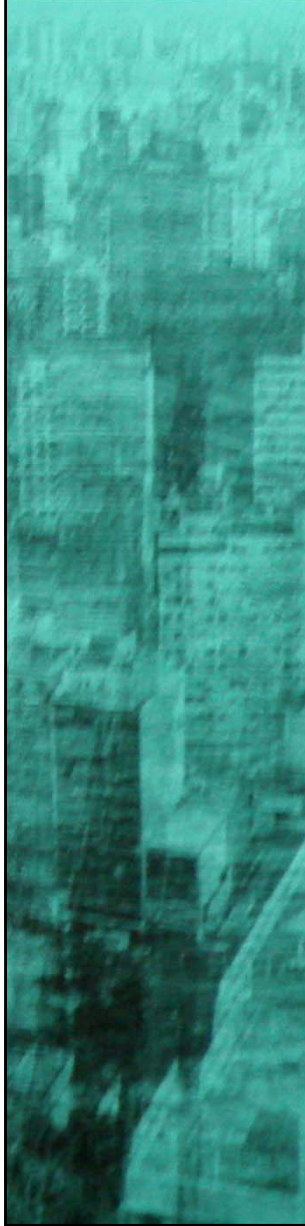
Toby Considine  
Co-Chair, oBIX  
Facilities Systems Specialist, UNC



# Current challenges demand long term solutions

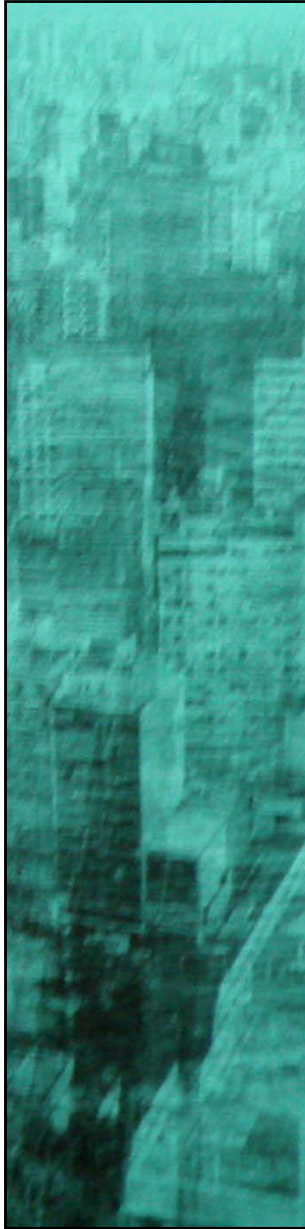


Co-Chair of oBIX,  
Fellow Traveler with GridWise  
Architectural Council  
Fan of buildingSmart

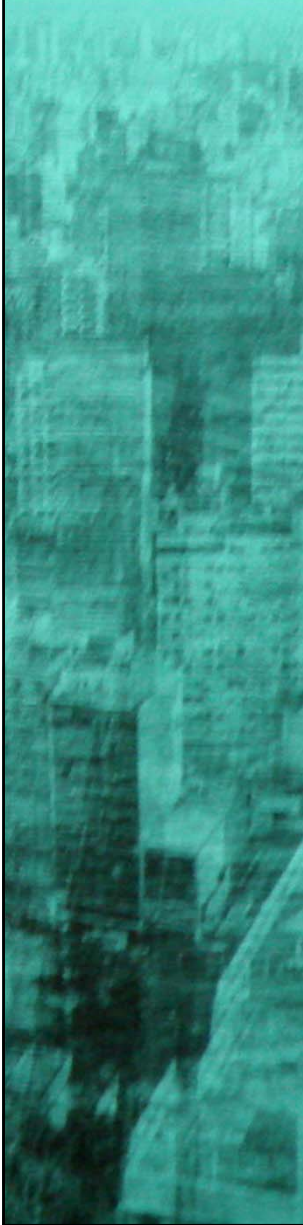


People will not embrace long-term discomfort





# Global Warming challenges to produce long-term energy management solutions



Provide energy solutions that  
enhance daily life for sustained  
acceptance

Most solutions are designed for  
only short-term acceptance



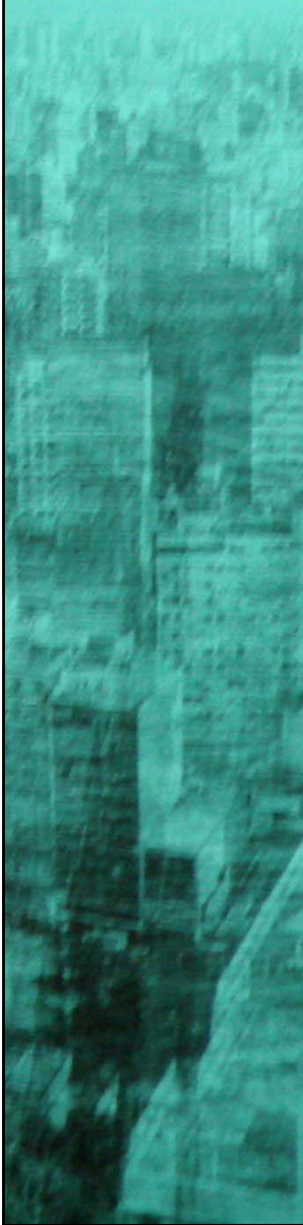
# Carbon credits are already losing credibility



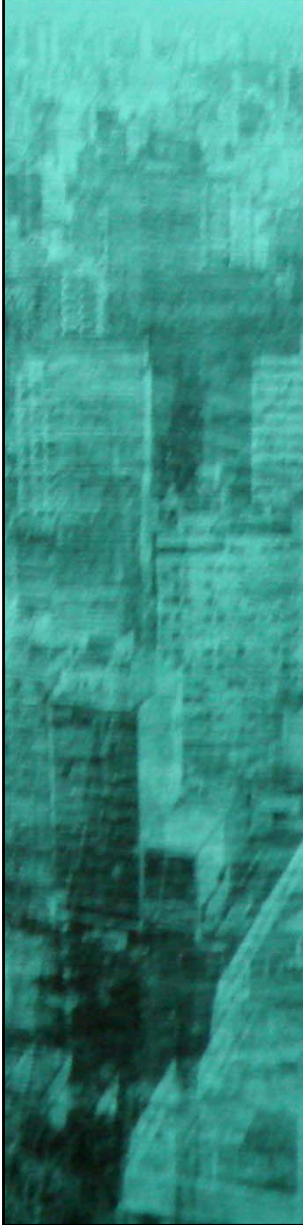




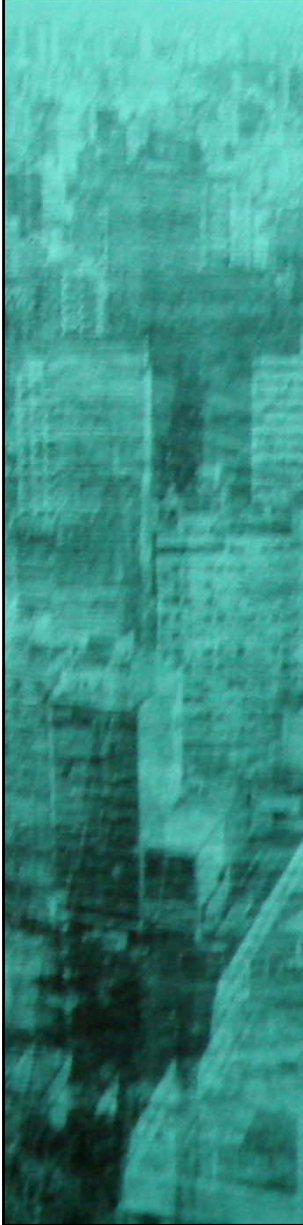
We embrace virtue only when it  
is convenient



Control-based solutions do not  
offer great enough benefits

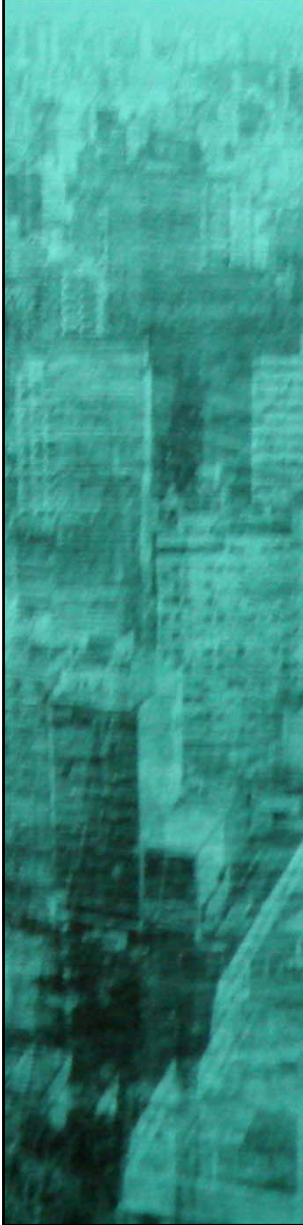


Negotiate with the building  
agent, not the building systems

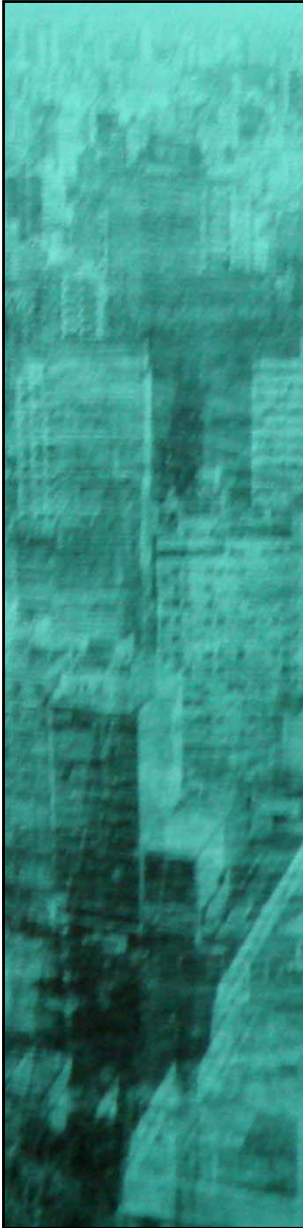


Embedded agents provide  
enhanced service to occupants

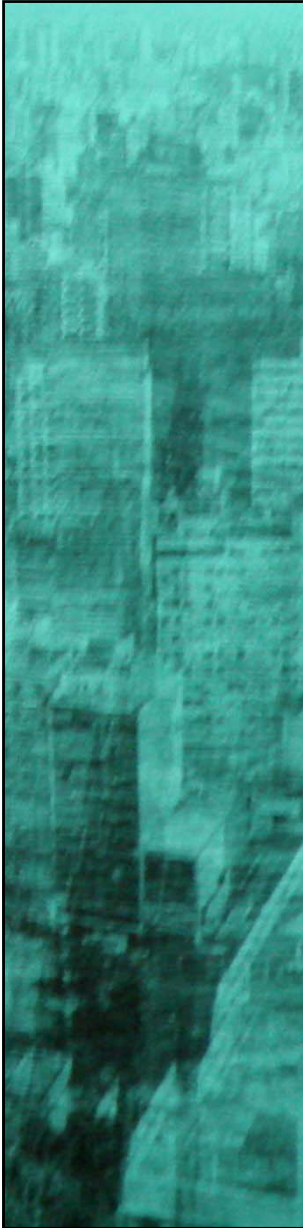




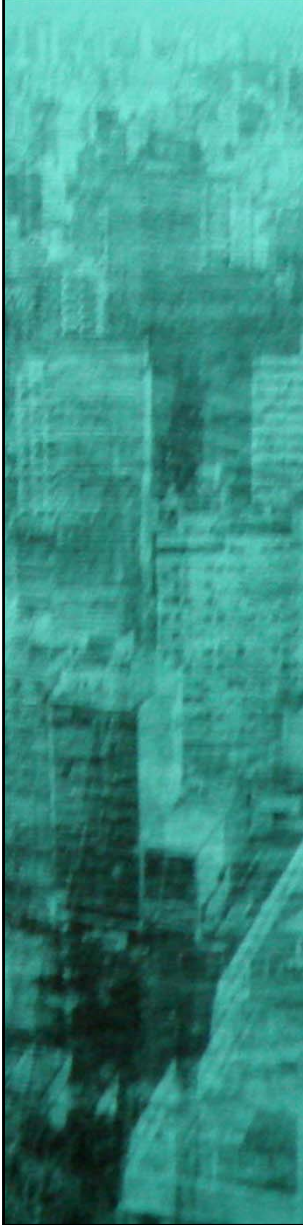
Building agents work for the  
occupant to negotiate with grid



Agent-responsive systems  
simplify integration and enable  
diversity

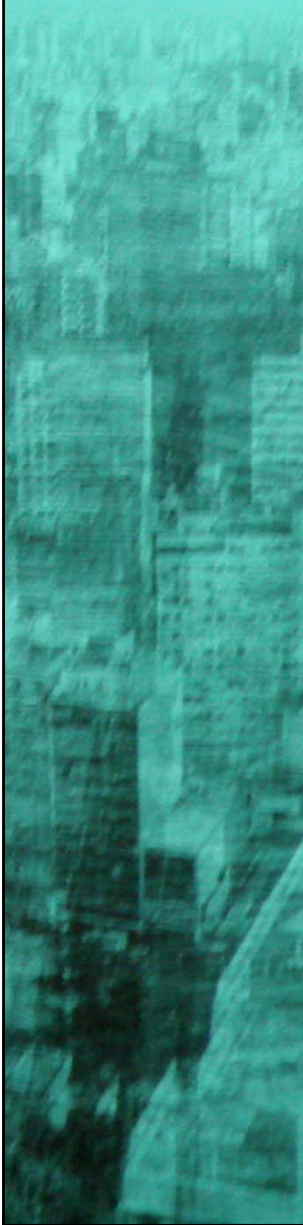


Agent-based grid / building  
interactions free up more than  
energy

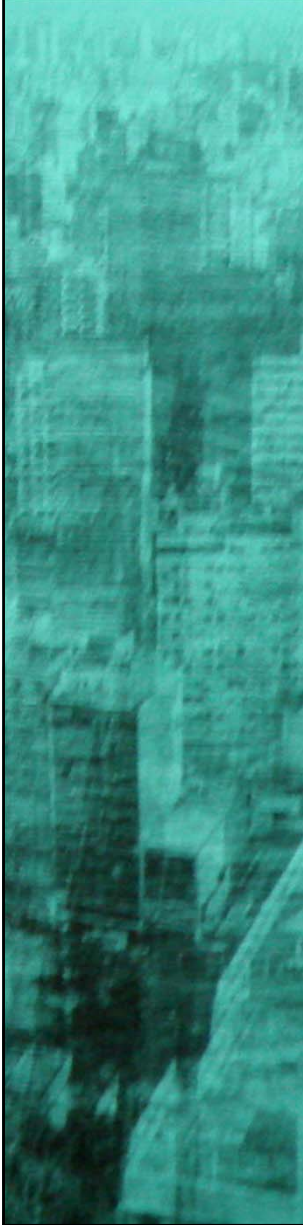


Use abstract requests for grid to  
building agent negotiations

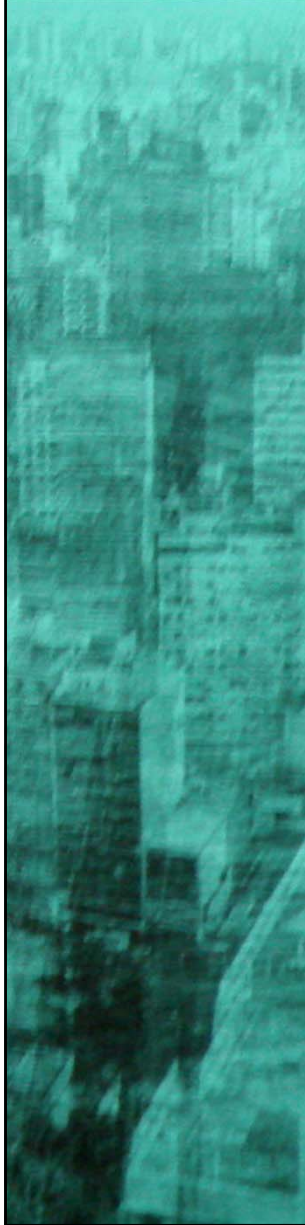




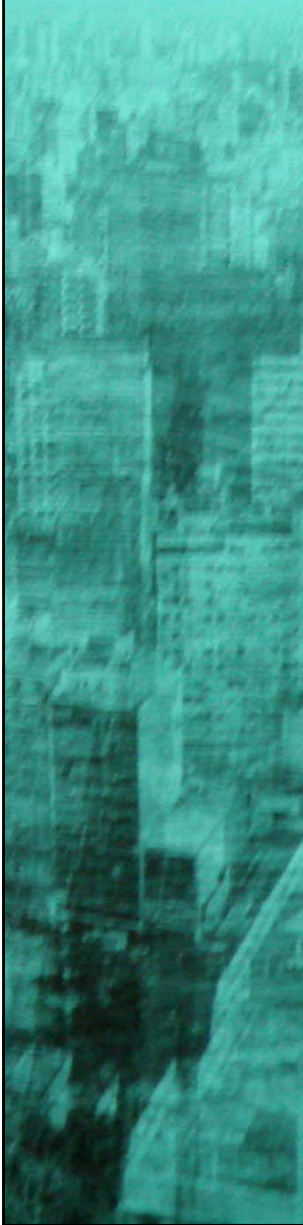
# Negotiations with occupant-centered agent opens new strategies



Price negotiations smooth  
demand on grid resources

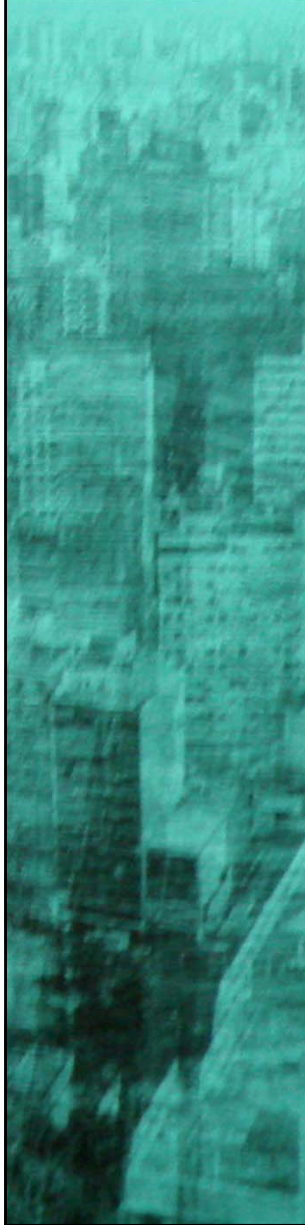


Sustainable solutions aren't  
sustainable if folks quit using  
them



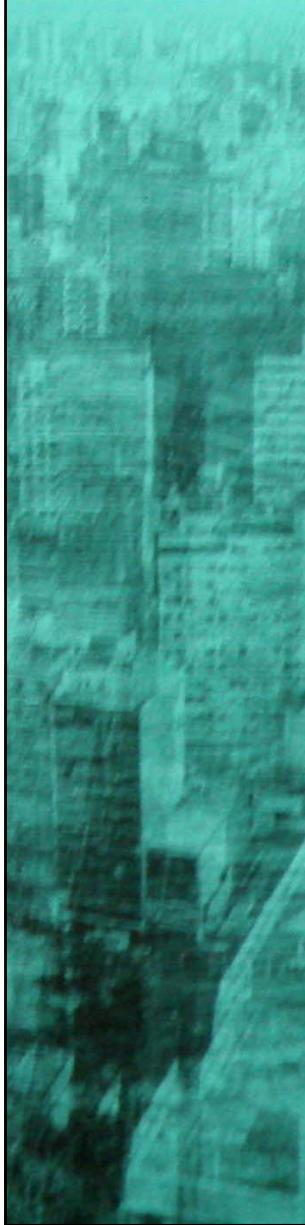
Solutions that provide users real  
value today will be used  
tomorrow





Control-Enterprise interfaces  
move solutions from “what  
buildings can do” to “what  
people want”





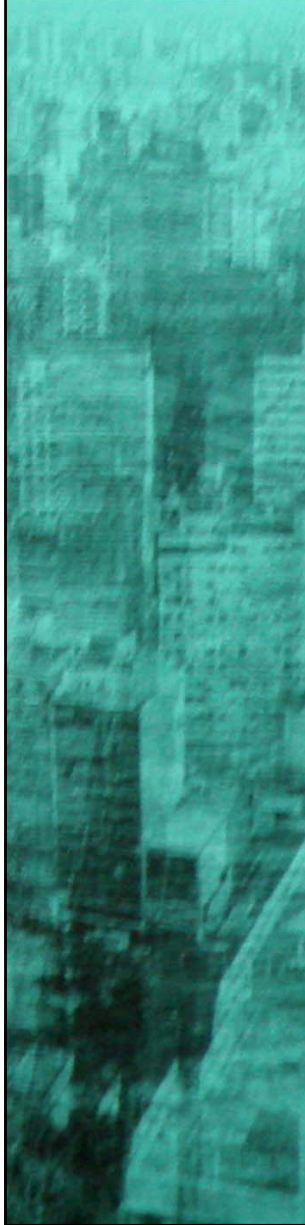
## National Building Information Model Standard (NBIMS)

- [www.facilityinformationcouncil.org/bim](http://www.facilityinformationcouncil.org/bim)
- [www.buildingsmartalliance.org](http://www.buildingsmartalliance.org)
- [www.opengeospatial.org](http://www.opengeospatial.org)



## Open Building Information Exchange (oBIX)

- [http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=obix](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=obix)
- <http://sourceforge.net/projects/obix/>
- <https://sourceforge.net/projects/obix-server/>
- <http://groups.google.com/group/obix-developers>



## GridWise Architectural Council

- <http://www.gridwiseac.org/>
- [http://www.gridwiseac.org/pdfs/interopframework\\_v1.pdf](http://www.gridwiseac.org/pdfs/interopframework_v1.pdf)
- <http://www.grid-interop.com/2007/agenda/default.asp>



# General

- [www.AutomatedBuildings.com](http://www.AutomatedBuildings.com)
- [http://en.wikipedia.org/wiki/Demand\\_response](http://en.wikipedia.org/wiki/Demand_response)
- <http://www.thegreengrid.org/home>