

WIU Energy Summit 2008

**Sustainability as a Magnet**

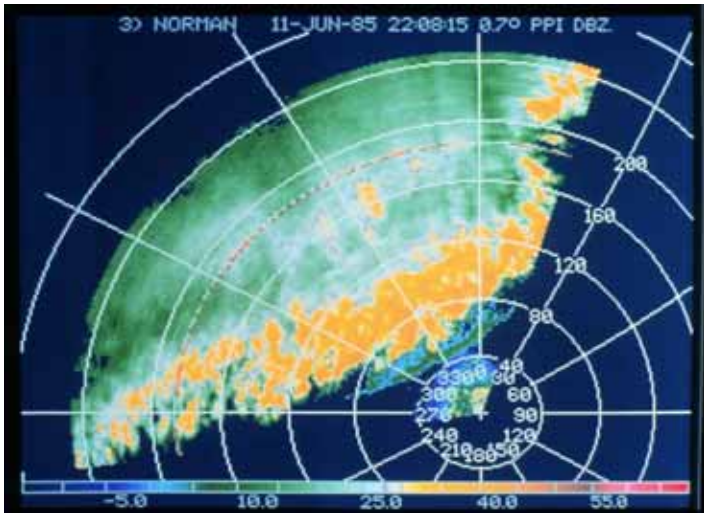
Stephen Hamstra, P.E., LEED AP, CGD

GMB Architects-Engineers

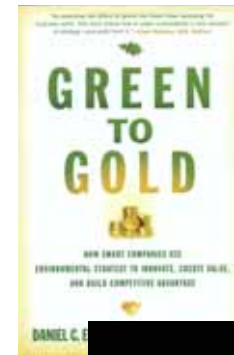
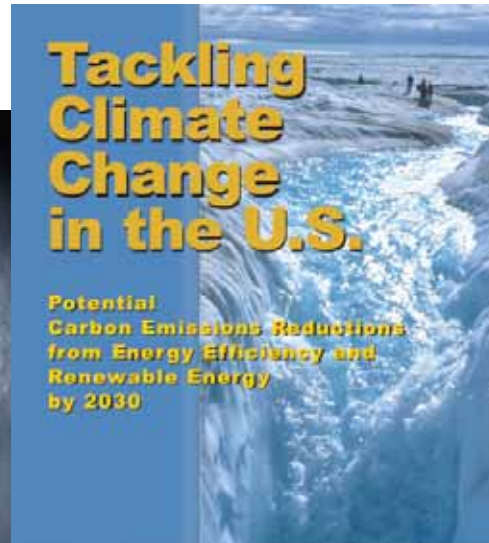
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Consider the messages that each of us  
are bombarded with each day...

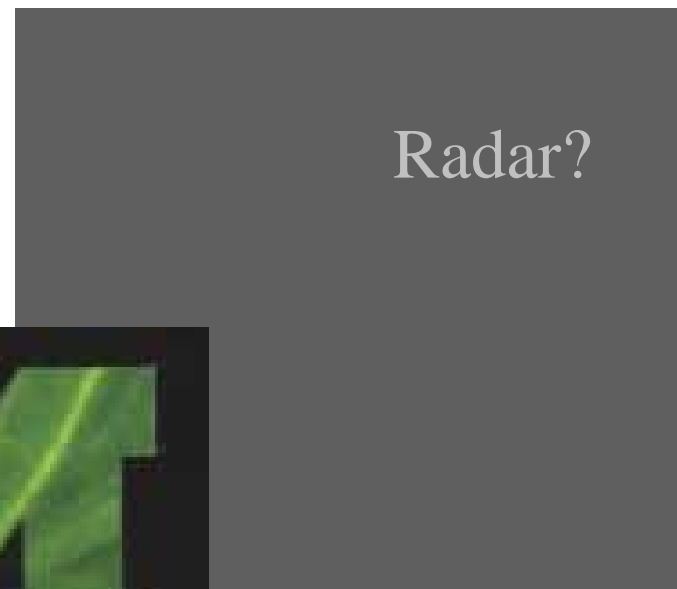


Radar?



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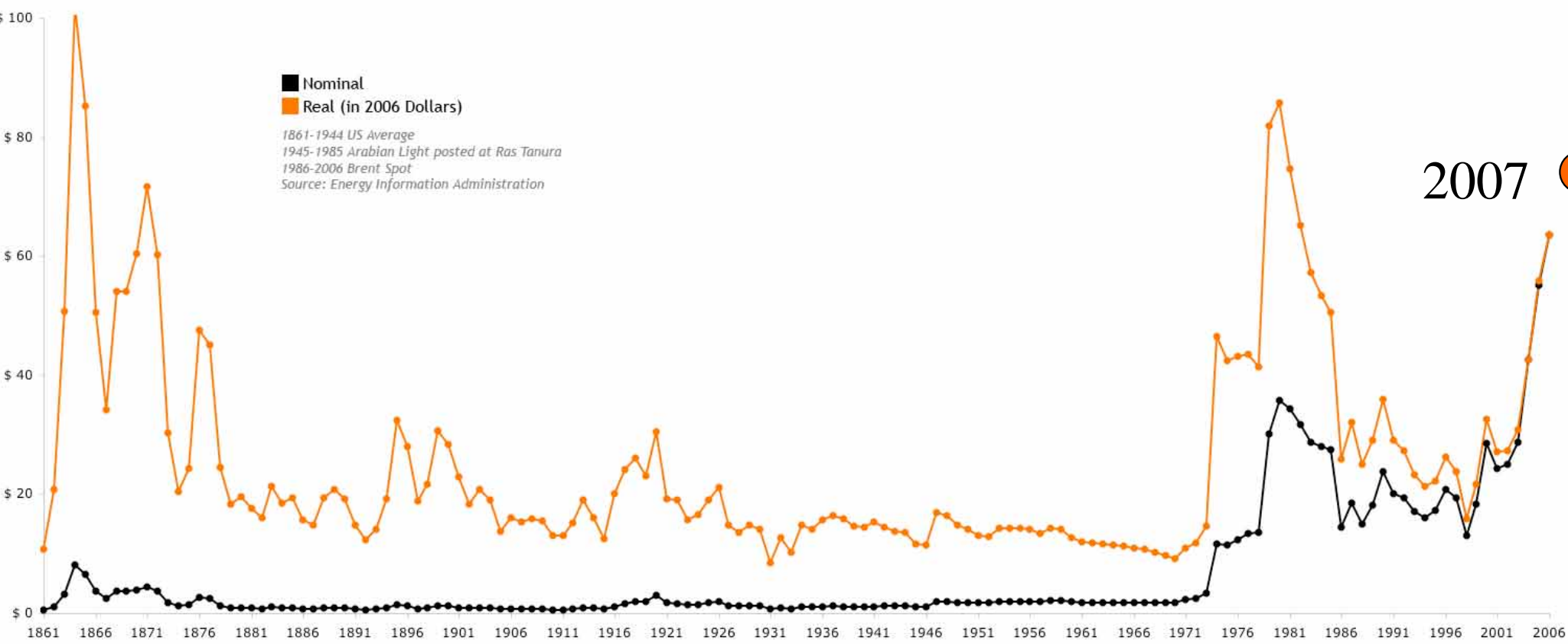
Sustainability as a Magnet for  
Students, Staff & Donors



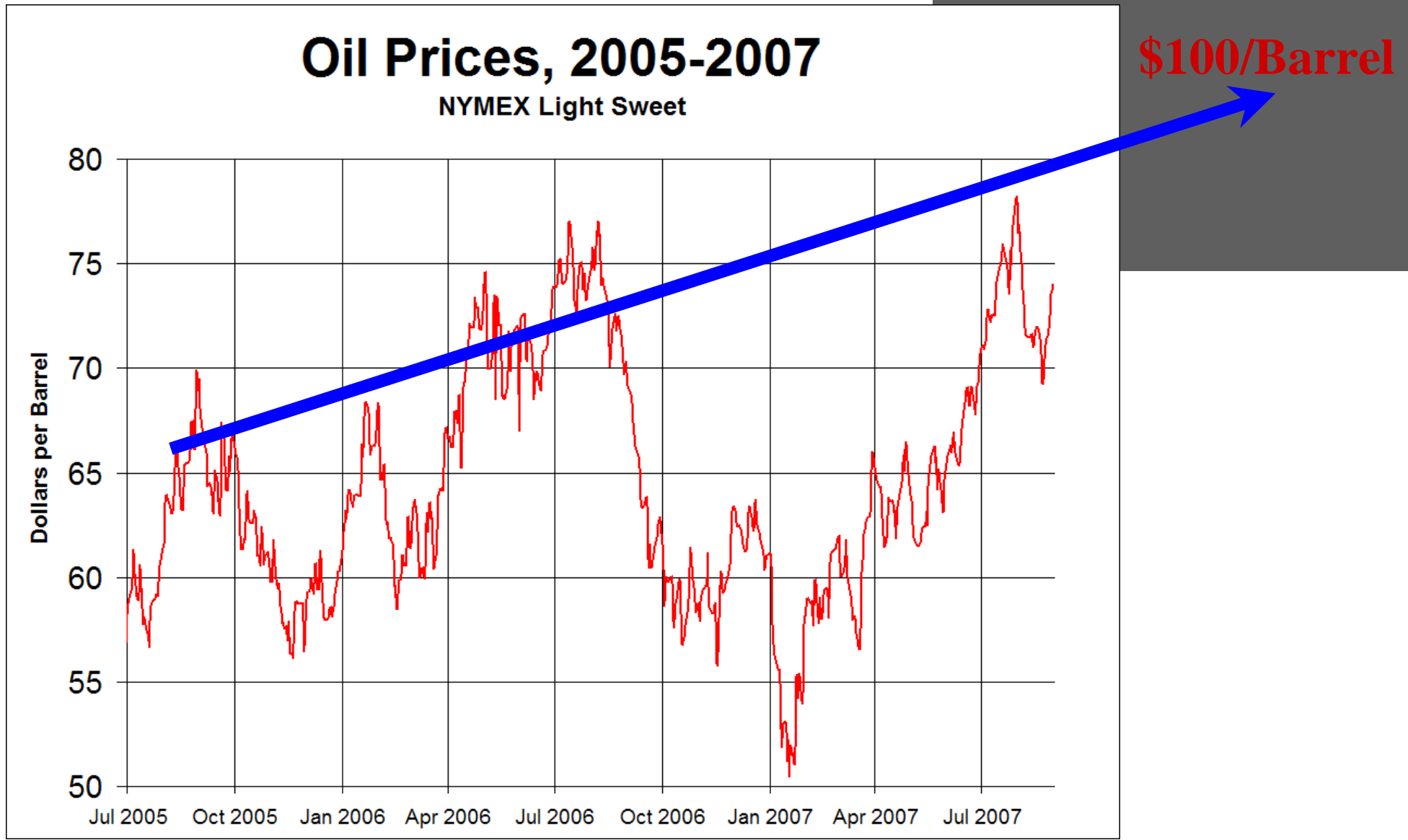
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# Oil Cost Trends



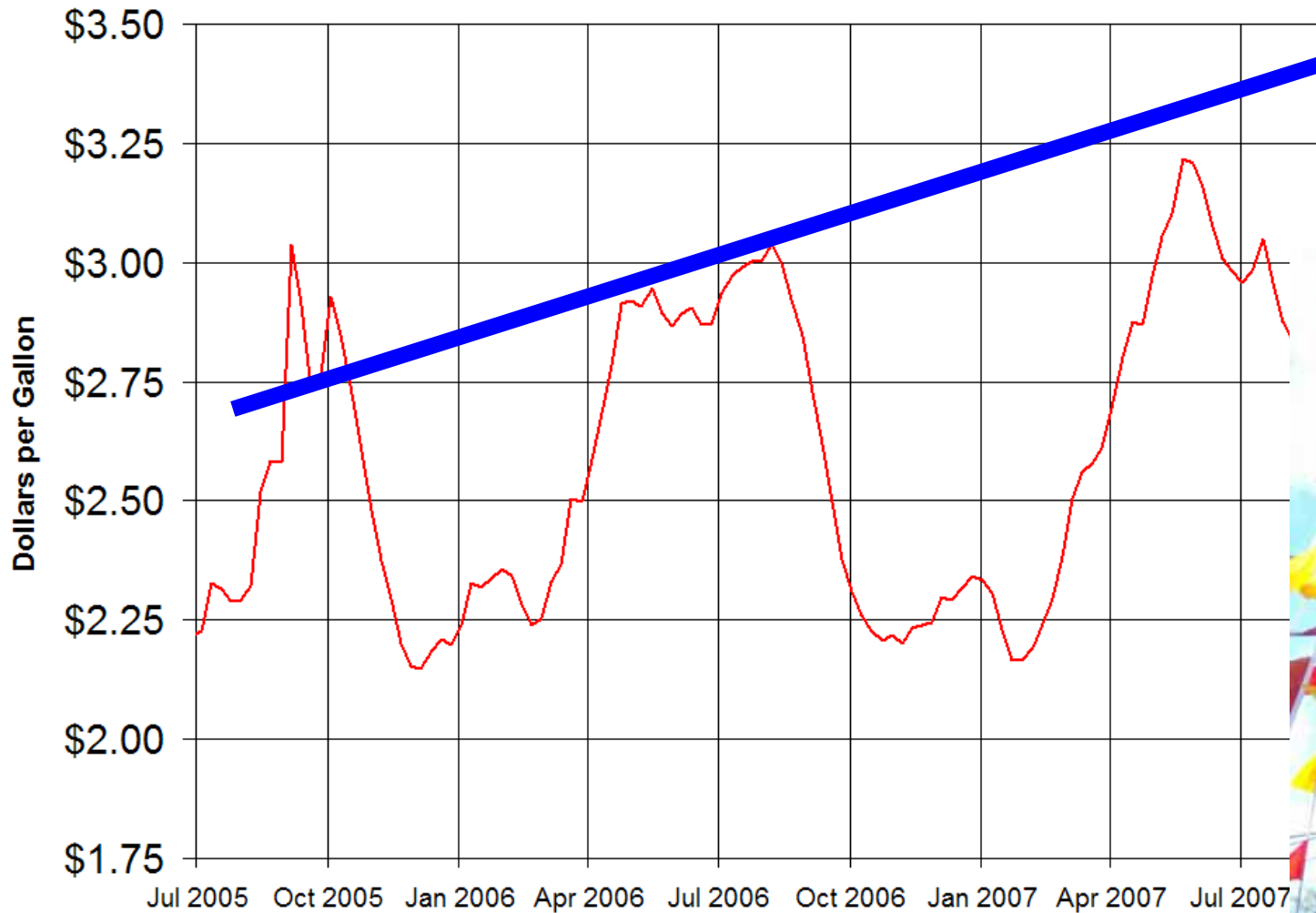
## Oil Cost Trends

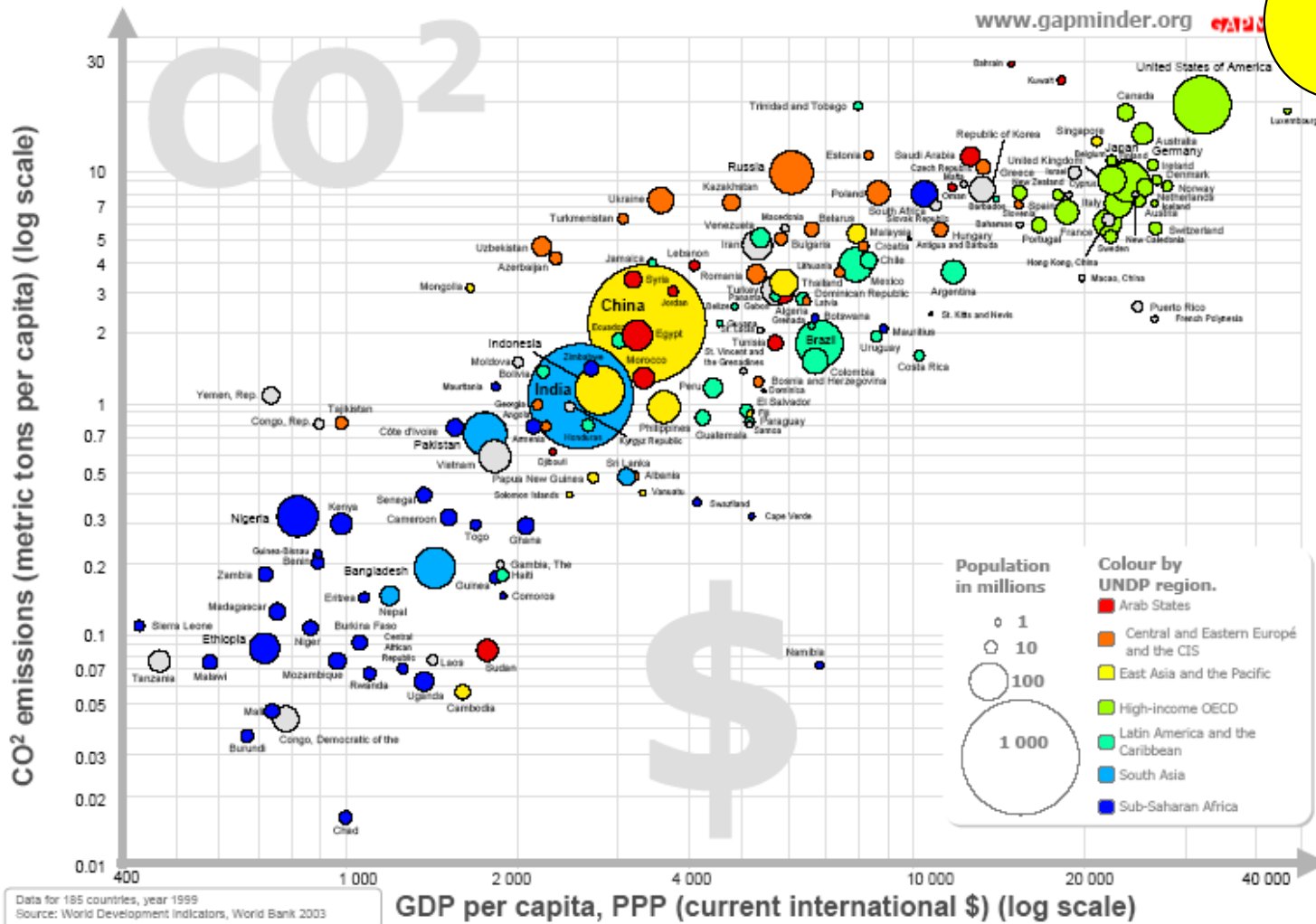


# Gas Cost Trends

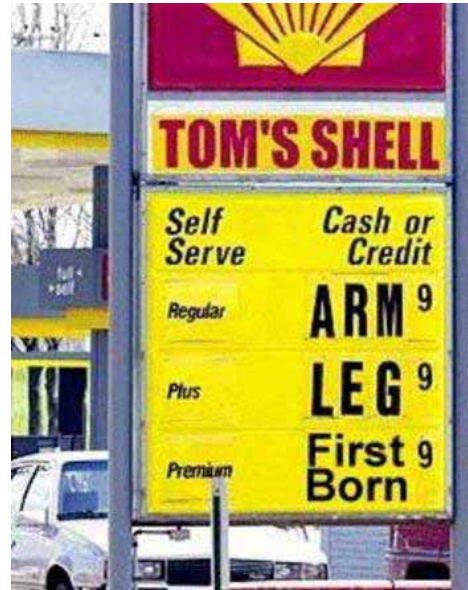
## U.S. Retail Gasoline Prices, 2005- 2007

Regular Unleaded, Nationwide Average

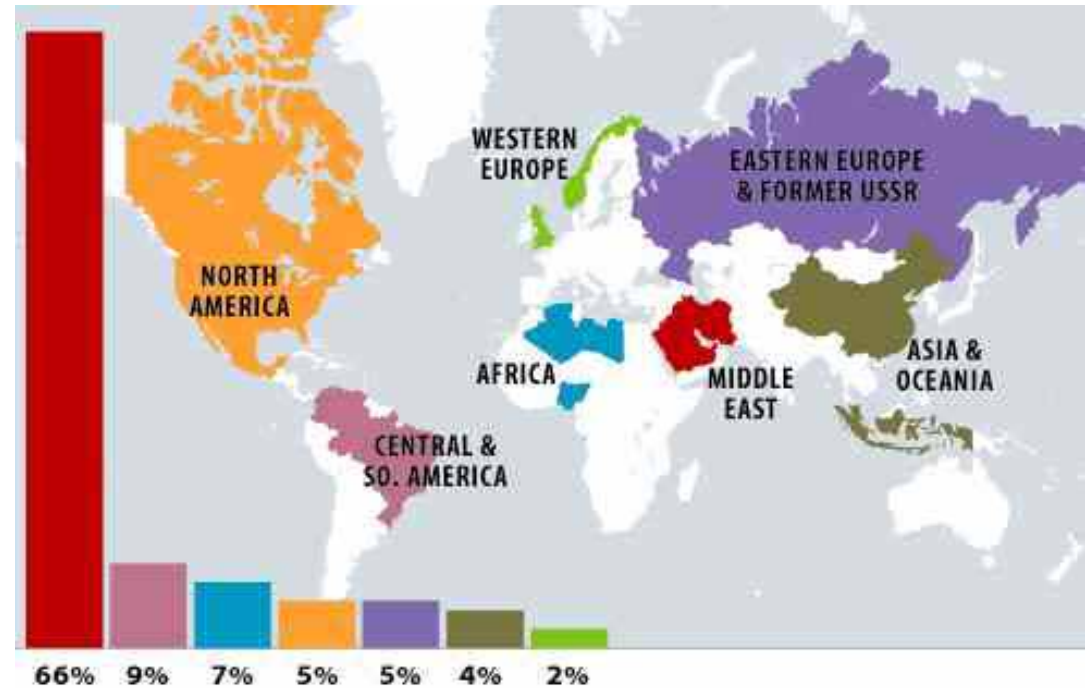
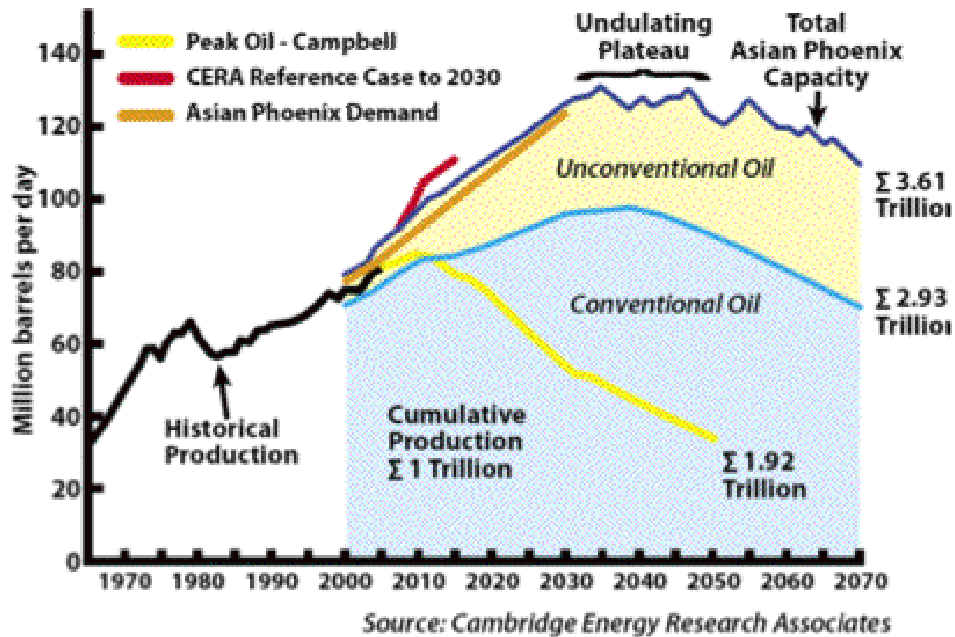




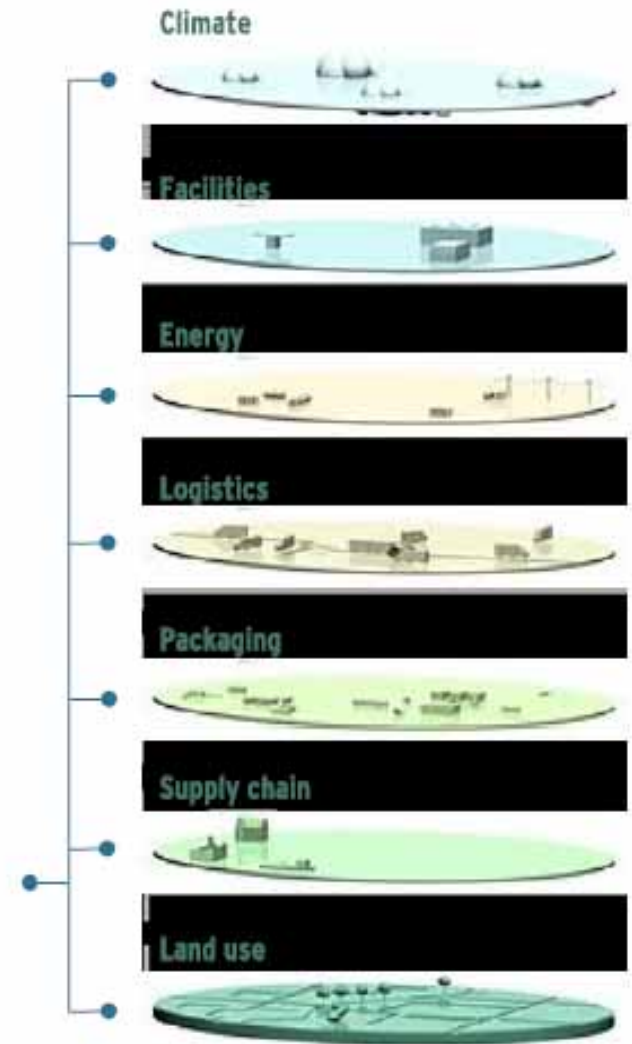
- China
- Cartels
- US Costs



Future?



To see how we plan to reach this goal, imagine our world as a set of interrelated layers, each of which offers unique opportunities to develop and implement sustainable practices.



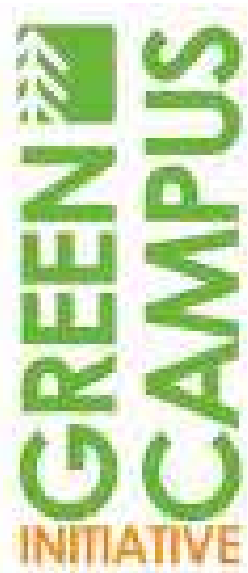


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## Cultural Sensitivity

How do our students,  
staff and donors view  
themselves in a world  
picture?

Sustainability as a Magnet for  
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Student Led  
Initiatives



[www.esf.edu/greencampus](http://www.esf.edu/greencampus)



## A Call for Climate Leadership

Progress and Opportunities in Addressing  
the Defining Challenge of our Time

## Climate Change Initiatives

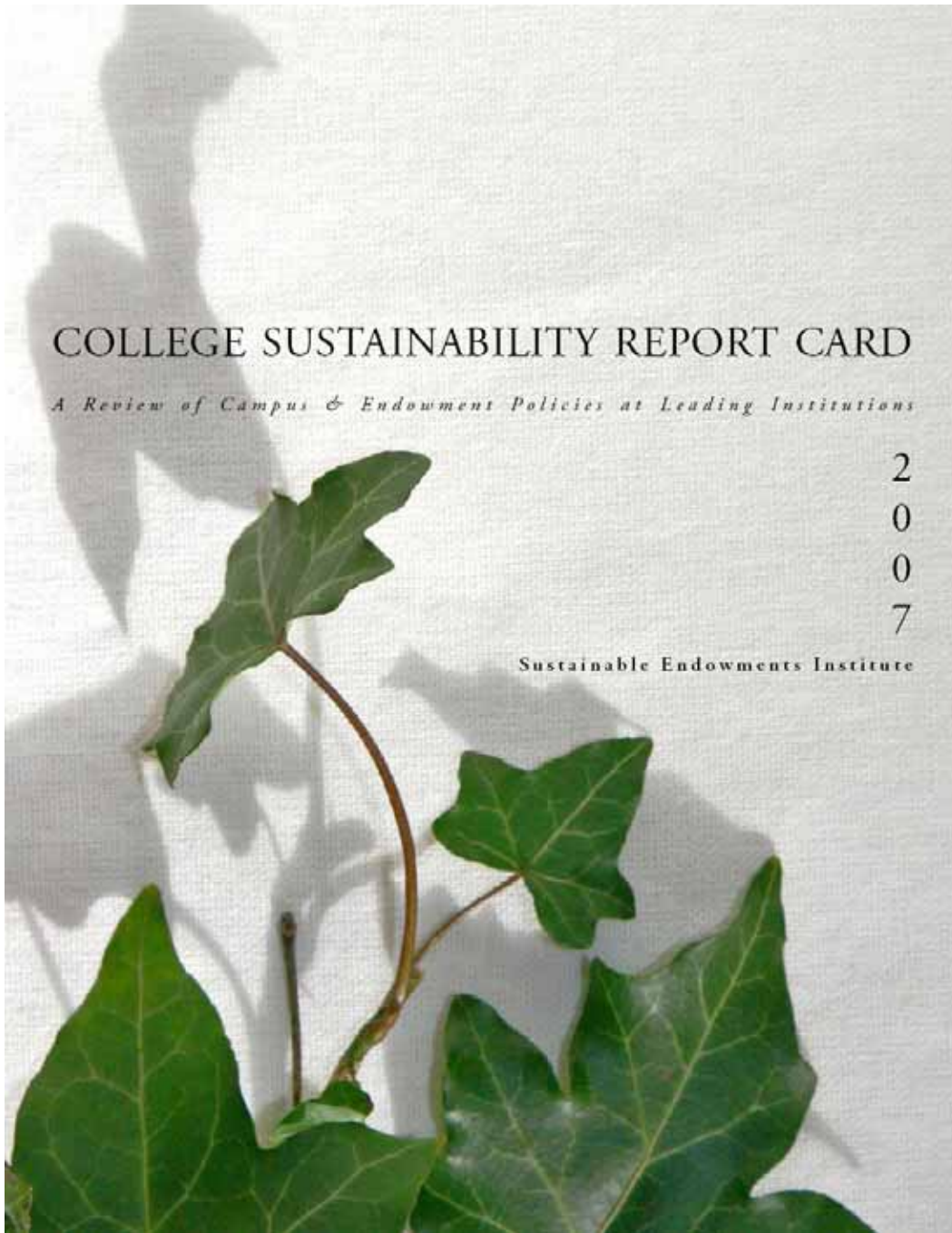
514 institutions to date

If higher education is not relevant to  
solving the crisis of global warming, it is  
not relevant, period.

—David F. Hales, President  
College of the Atlantic



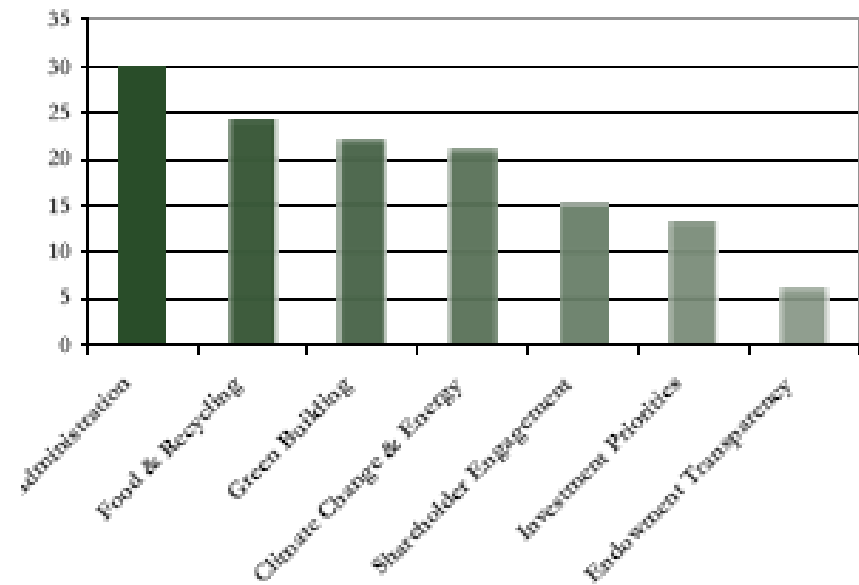
AMERICAN COLLEGE & UNIVERSITY  
PRESIDENTS CLIMATE COMMITMENT



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# Report Cards?

**"A" Grades by Category**



Sustainability as a Magnet for  
 Students, Staff & Donors

# MICHIGAN STATE UNIVERSITY

# C

\$1 billion

<b>ADMINISTRATION</b>	<b>A</b>	Michigan State University has shown institutional support for sustainability by creating an Office of Sustainability, hiring a coordinator to promote sustainability efforts on campus, and working through a larger University Committee for a Sustainable Campus. This has helped the University to carry out policies addressing LEED-designed buildings, renewable energies, local foods, and energy conservation. A campus sustainability report was released in 2003 and a monthly newsletter entitled "Footprints" details campus sustainability efforts.
<b>CLIMATE CHANGE &amp; ENERGY</b>	<b>B</b>	A broad campus sustainability report was released in 2003 that detailed the University's baseline operations. Since then, the University has taken steps to address energy use and environmental sustainability. Lighting retrofits, an energy conservation campaign, a cogeneration plant, and a 10 kilowatt solar array have all helped to reduce energy use.
<b>FOOD &amp; RECYCLING</b>	<b>B</b>	An agriculture and food subcommittee works to incorporate more local and organic foods in the dining halls, with sample meals to gauge student interest and encourage the development of a community foods program. Coordinating small, local farms to produce for a large university is one challenge that has been encountered during this effort. In response, the University is taking steps to network those local farmers, which is a strategy also used by some other schools. Fair trade products are also being introduced into dining halls. The Office of Recycling and Waste Management recycles wastes on campus and is advocating for a composting effort and recycling facility, as well.
<b>GREEN BUILDING</b>	<b>B</b>	As part of the University's Rebuild Michigan Project, major building or renovation projects are required to consider LEED standards. A chemistry building and university federal credit union, both currently under construction, are registered with the U.S. Green Building Council. Among other initiatives, a green roof was installed on the Plant and Soil Sciences building.
<b>ENDOWMENT TRANSPARENCY</b>	<b>F</b>	The University has no known policy of disclosure of endowment holdings or its shareholder voting record.
<b>INVESTMENT PRIORITIES</b>	<b>C</b>	The University prioritizes investing to maximize profit and has not made any public statements about investigating or investing in renewable energy funds or community development loan funds.
<b>SHAREHOLDER ENGAGEMENT</b>	<b>F</b>	The University has not made any public statements about active ownership or a proxy voting policy.

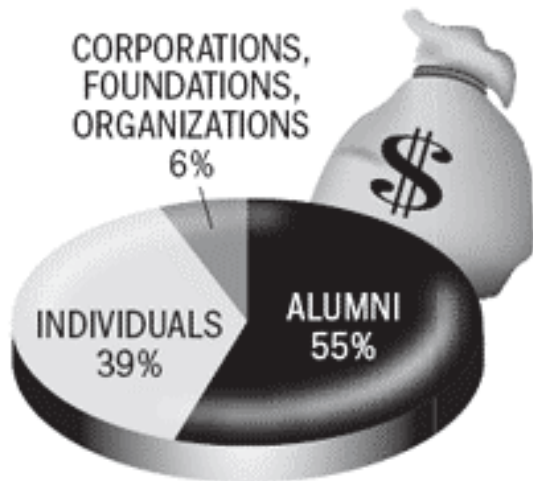
Data compiled from independent research as well as through a campus sustainability policy survey.



<b>SITY OF TULSA</b>		<b>D-</b>
		\$817 million
<b>F</b>	The University has made no known public attempts to focus on sustainability or related issues in its policies or planning efforts.	
<b>D</b>	The University has started a new program in which employees receive three paid "energy conservation" holidays in order to reduce campus energy use. The University is also a participating school in Challenge X: A Crossover to Sustainable Mobility, a competition to make a Chevrolet Equinox as energy efficient and clean as possible without sacrificing performance.	
<b>D</b>	The University has a recycling program, however, dining services does not have a known local or organic food initiative.	
<b>F</b>	The University has no known policies pertaining to green building.	
<b>F</b>	The University makes neither its proxy voting record nor its list of endowment holdings public. This information is only available to trustees and senior administrators.	
<b>C</b>	The University prioritizes investing to maximize profit and has not made any public statements about investigating or investing in renewable energy funds or community development loan funds.	
<b>F</b>	The University asks that its investment managers handle the details of proxy voting.	

# GIFTS

A total of 92,741 donors gave \$180 million in gifts in 2005.



The money was divided in the following ways:

Academic program support	44%
Research and outreach	26%
Student support	20%
Capital improvement	6%
Faculty support	3%
Strategic initiatives	1%

SOURCE: UNIVERSITY OF MINNESOTA FOUNDATION

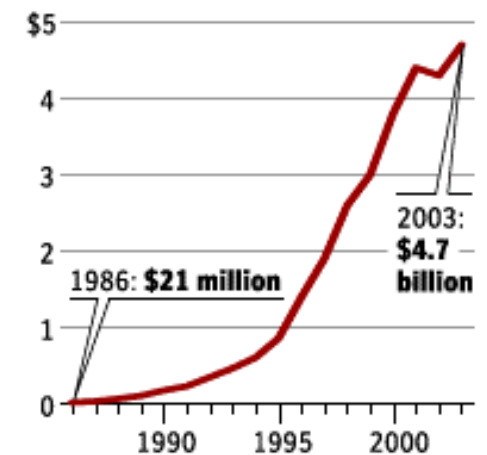


## Donor perceptions

### Thinking Ahead

Microsoft's spending on research and development has escalated steadily.

In billions of dollars



SOURCE: Microsoft Corp.

THE WASHINGTON POST

So...

How does this all impact us in  
higher education?

## Turf to prairie conversions

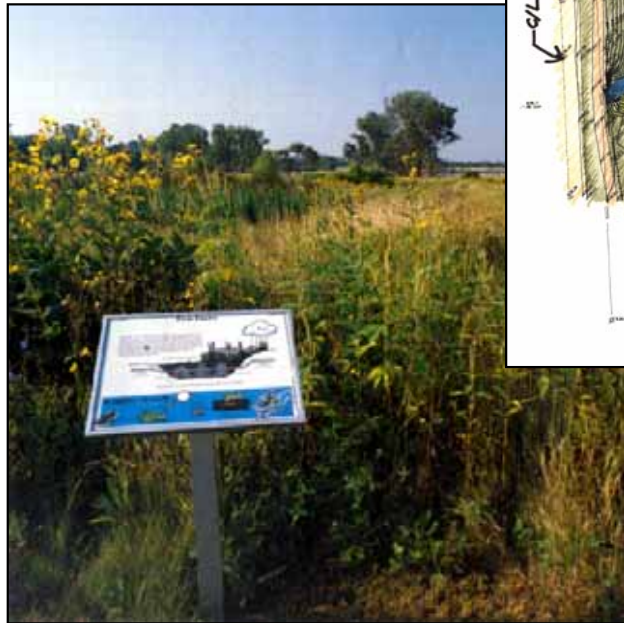
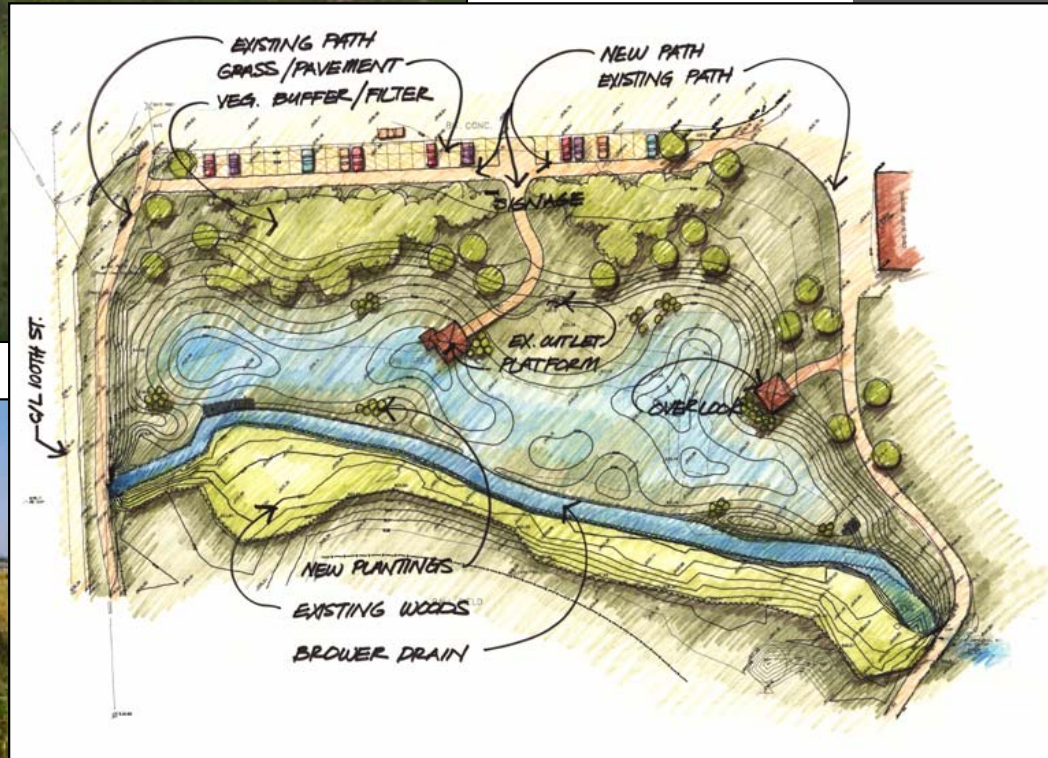


Converting 11 acres from turf to prairie saved \$250,000 over a 10 year period and provided instructional value.

How much do you spend on:

- Mowing?
- Fertilizer?
- Irrigation?

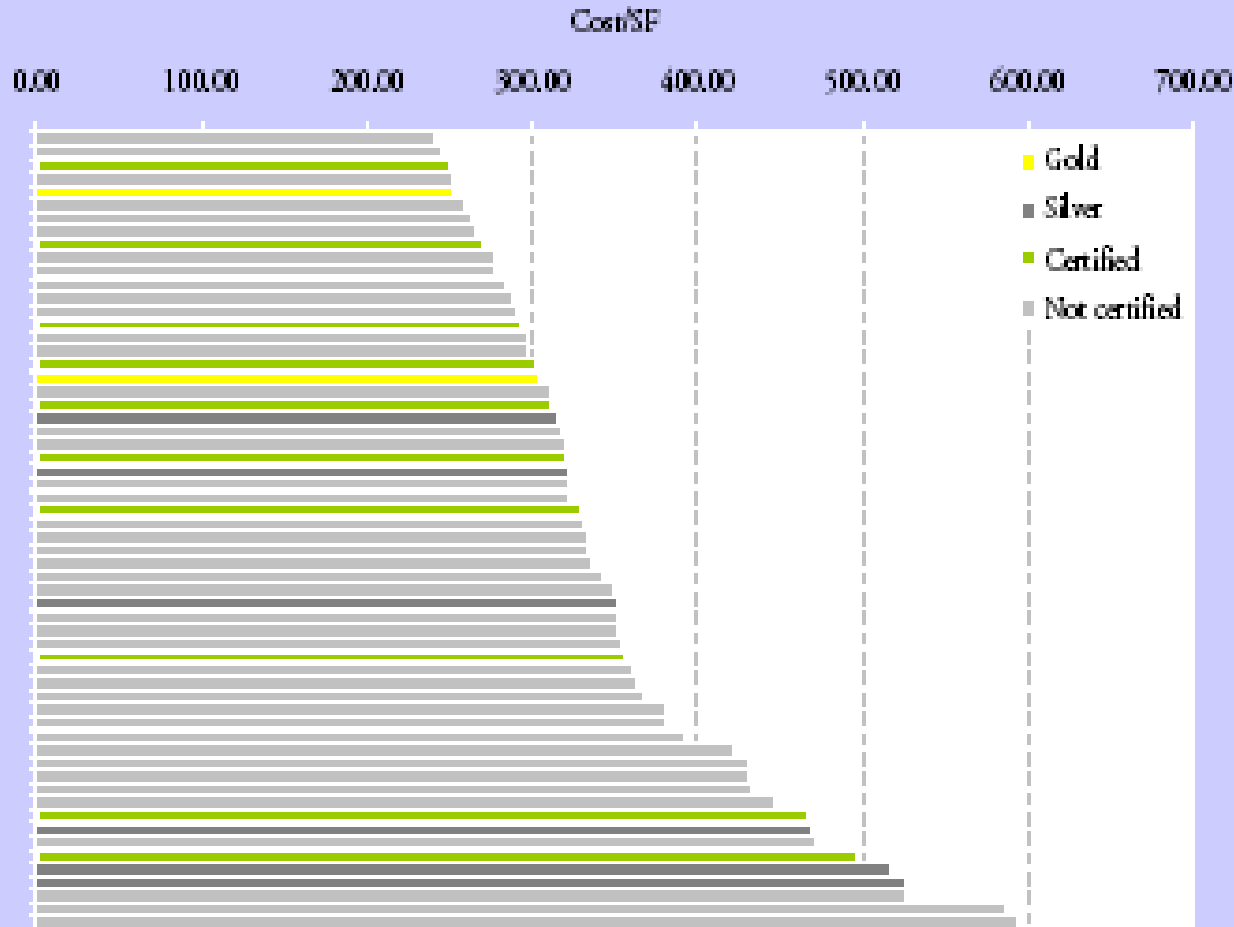
# Sustainable sites



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## Academic Buildings



A total of 60 academic classroom buildings – 17 LEED-seeking and 43 non-LEED – were analyzed. Academic buildings are classroom, computer lab or faculty office buildings in higher education settings. These buildings are located on college and university campuses across the country, and include a range of architectural forms and styles. The higher LEED scoring designs in this category tended to find points in sites, energy efficiency, and indoor environment.

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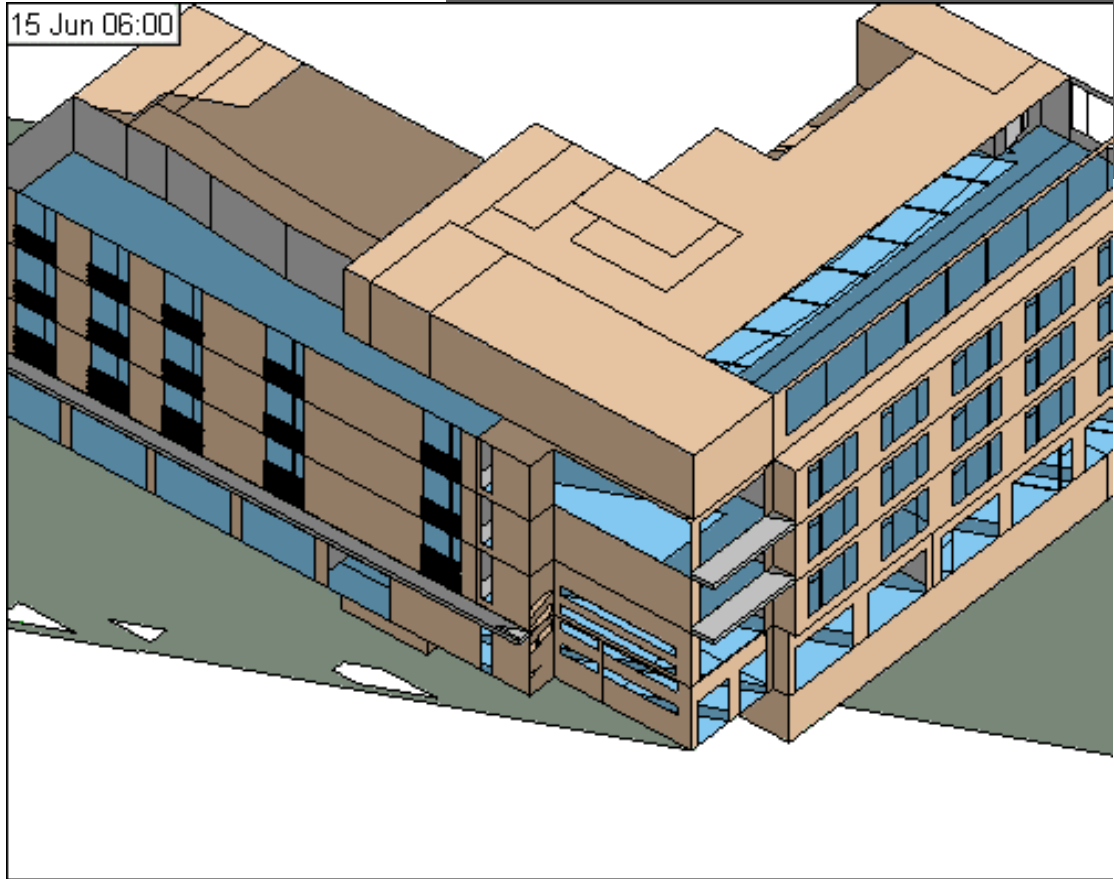
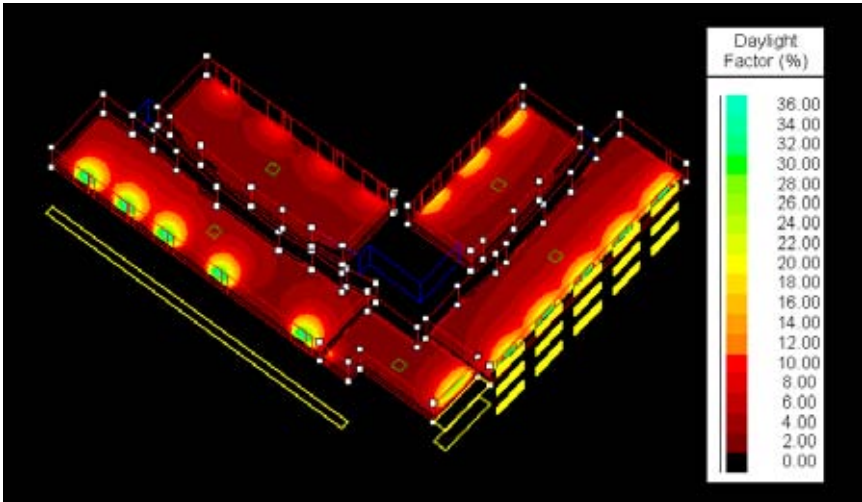
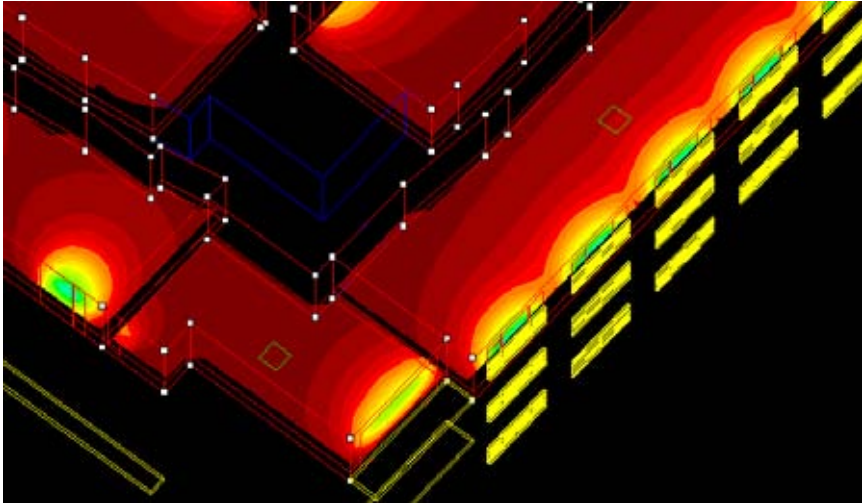
## “Green” Buildings

*“...there is no significant difference in average cost for green buildings as compared to non-green buildings.”*

Source: “Cost of Green Revisited”, Davis Langdon, July 2007

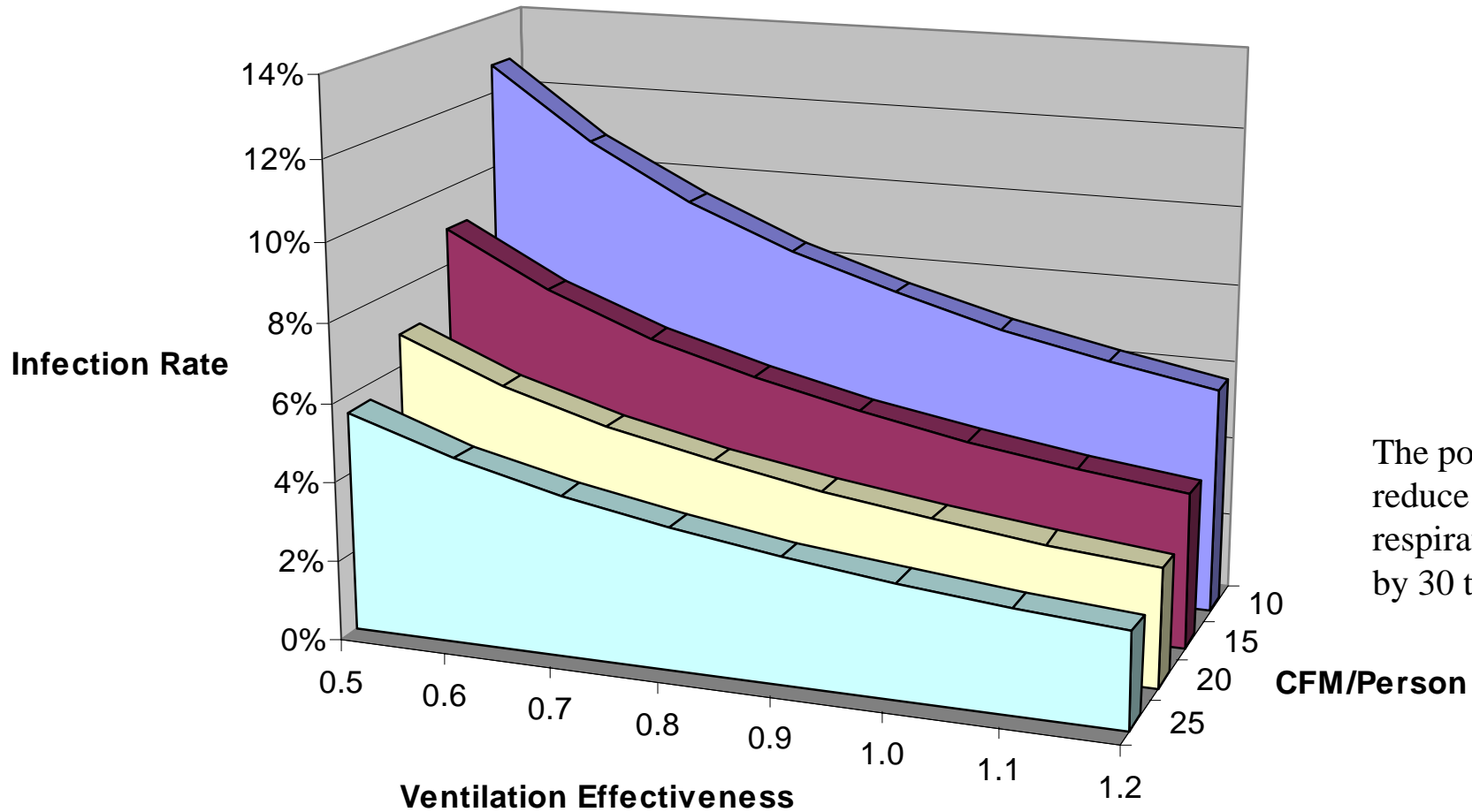
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What do your buildings say about you?



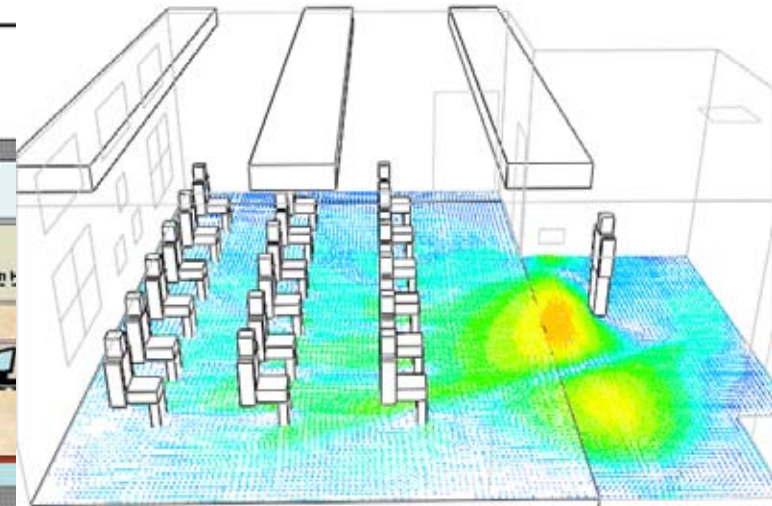
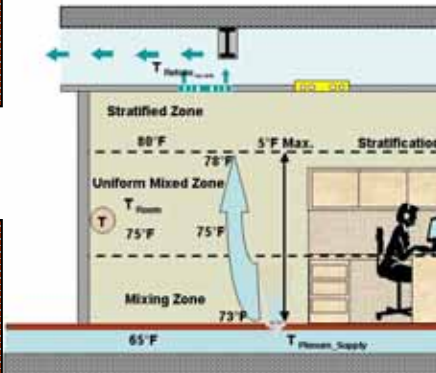
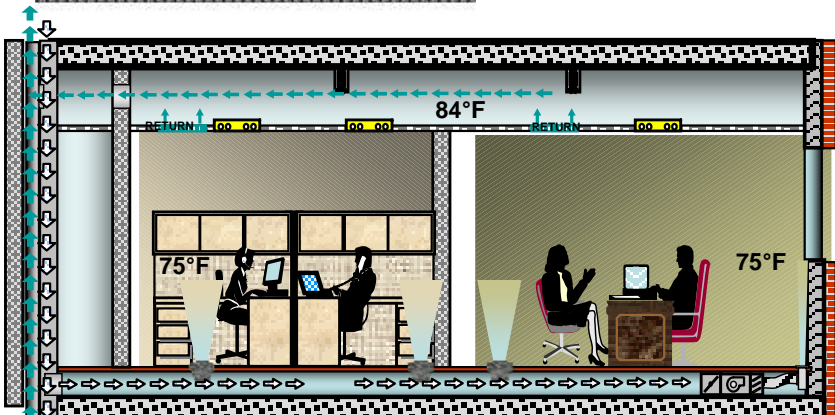
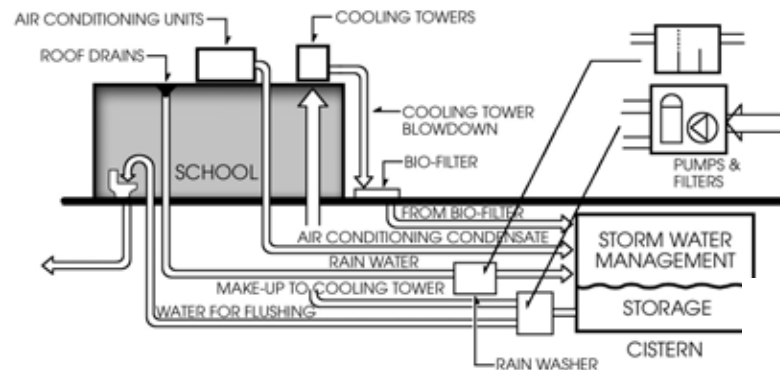
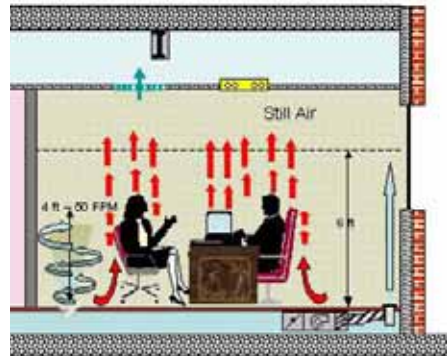
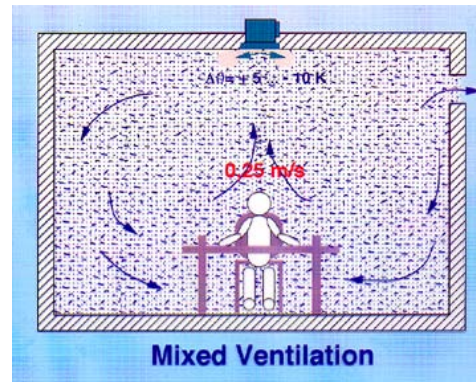
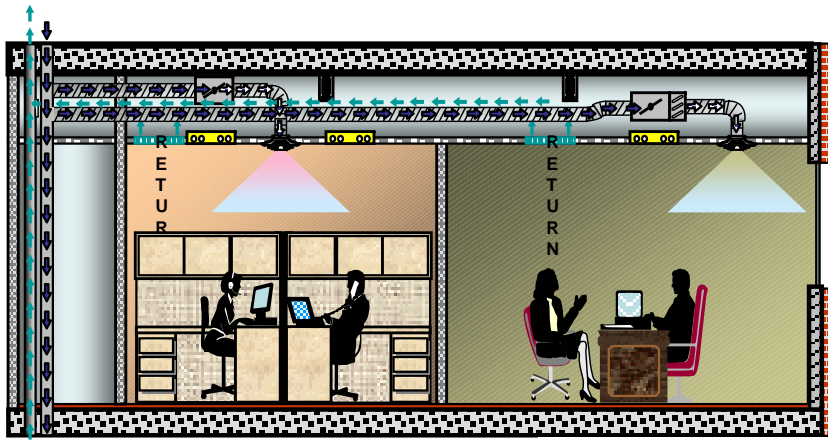
# Ventilation and Disease

Facilities as a sales tool

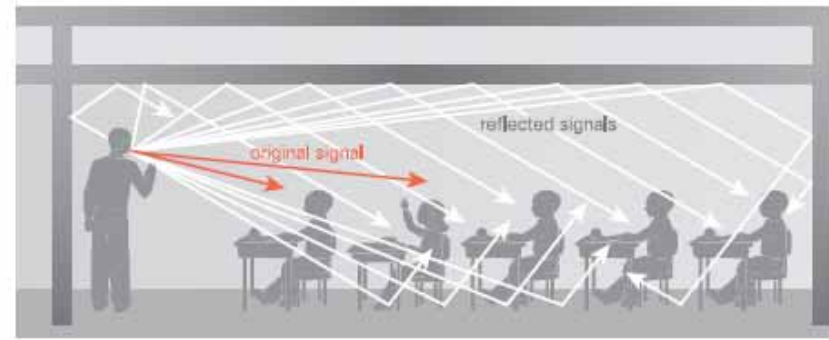
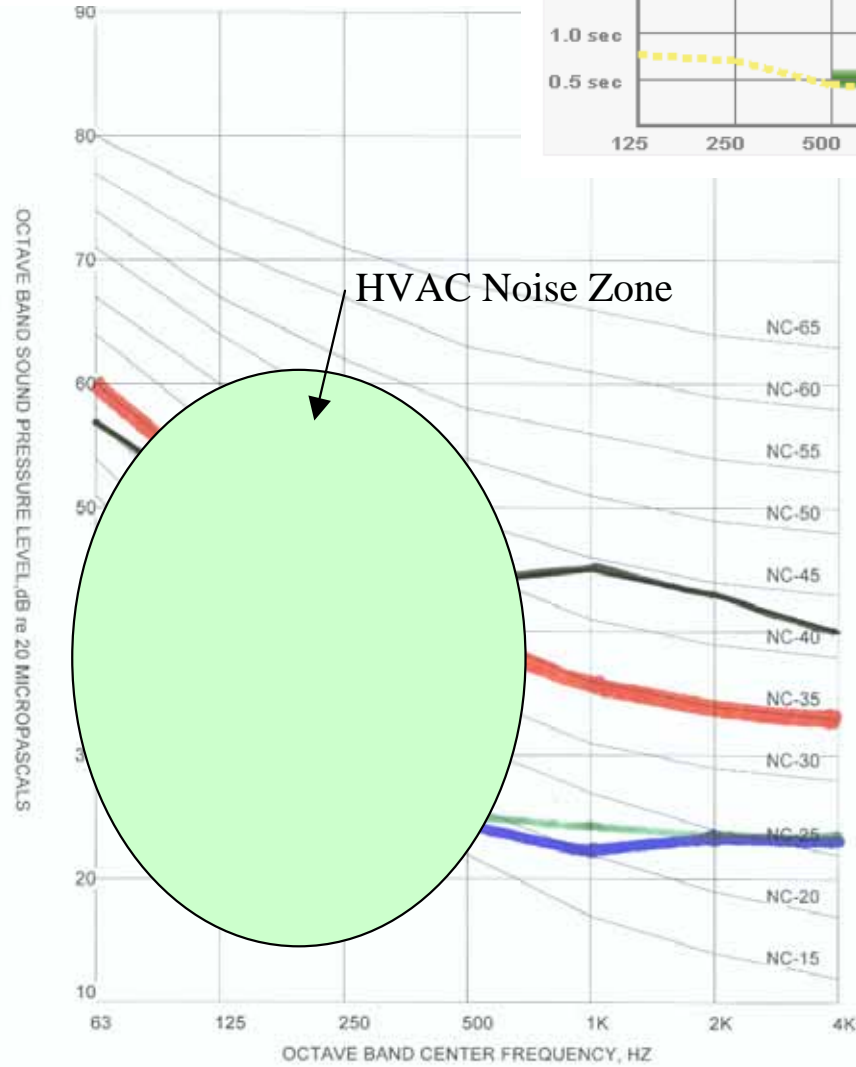
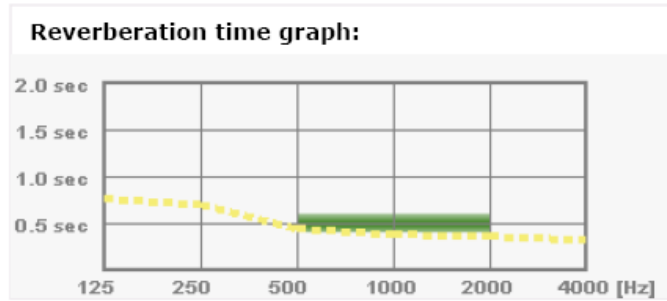


The potential exists to reduce the spread of respiratory infections by 30 to 50%!

How do we tell the story?



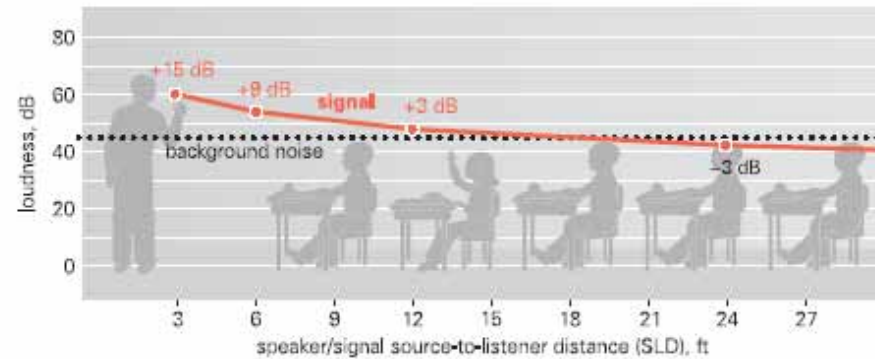
# Staff Concerns



Typical Classroom – NC 44

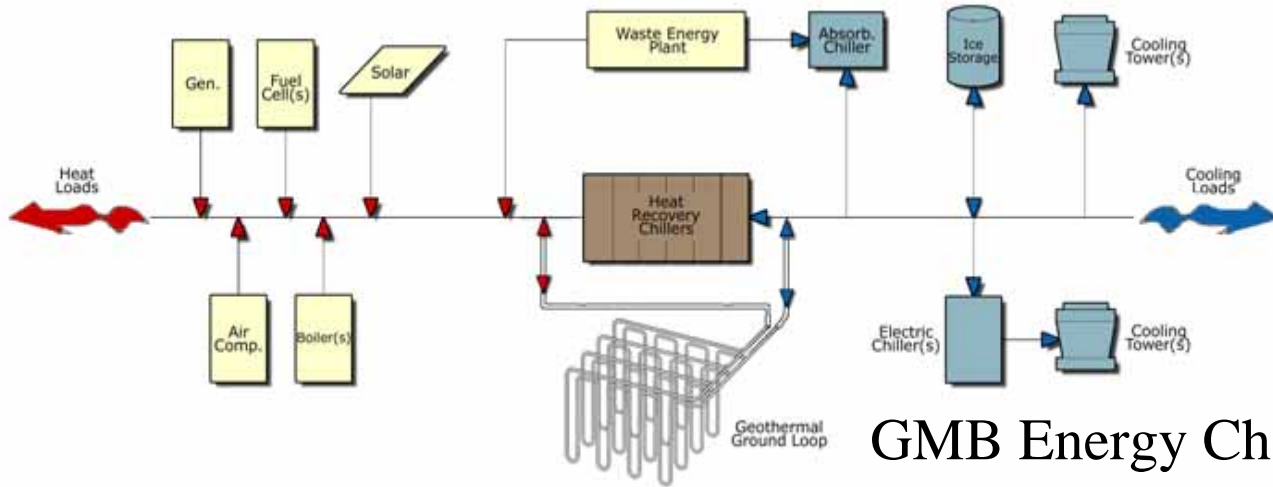
ANSI S12.60 Classroom Acoustical Standard – NC 35

Two Recent GMB AE Projects – **NC 27!!!**

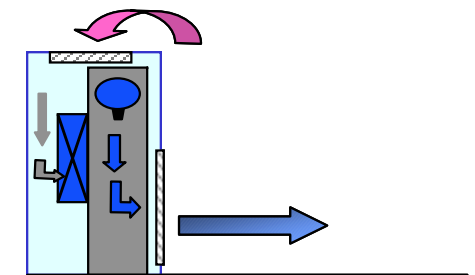


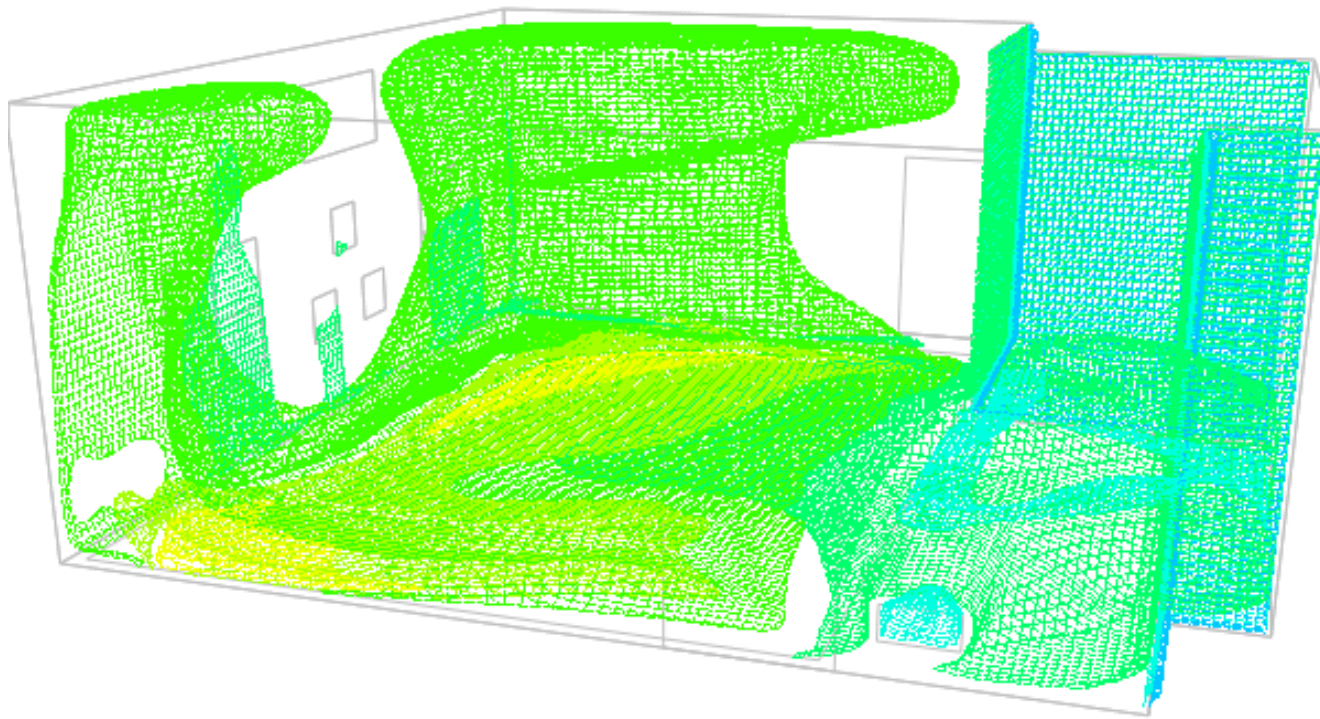


Can it work?

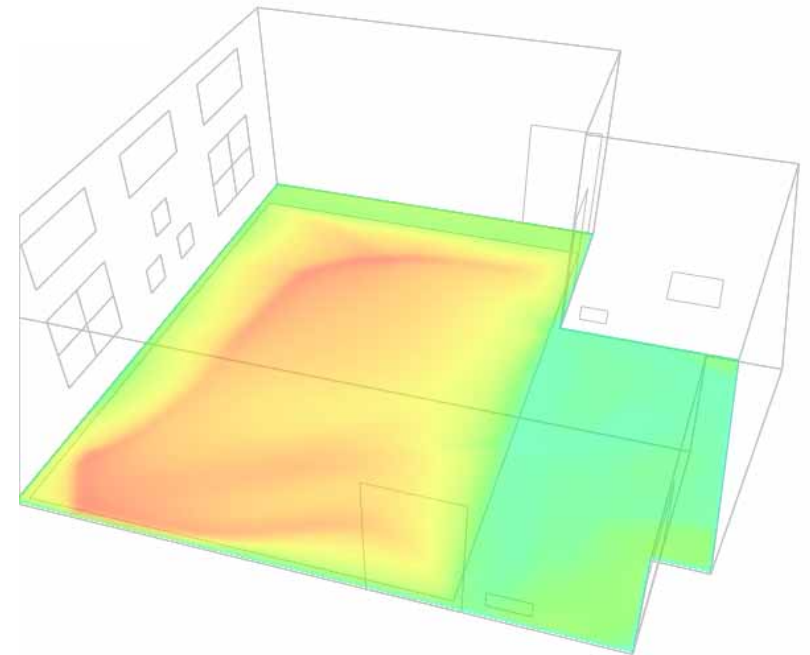
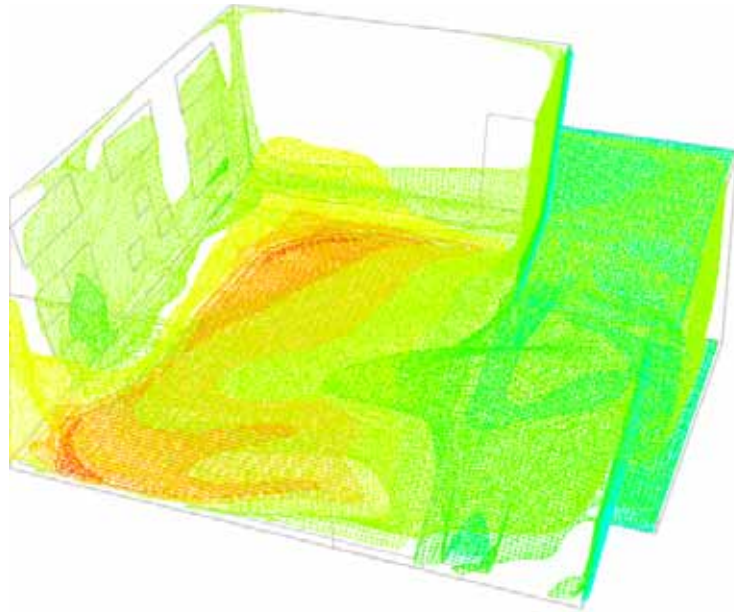


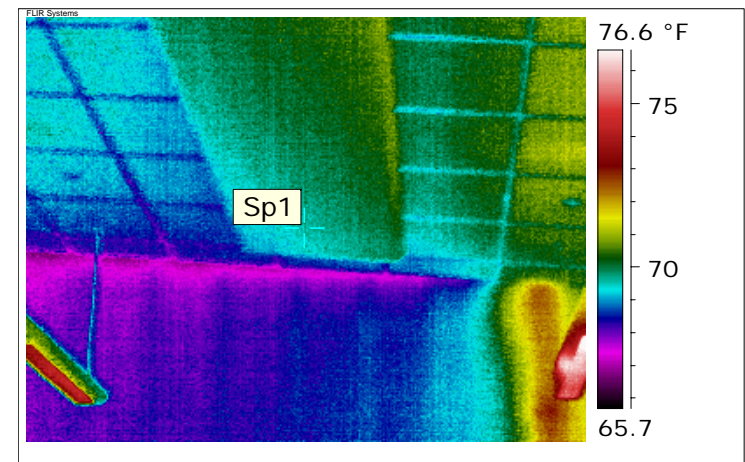
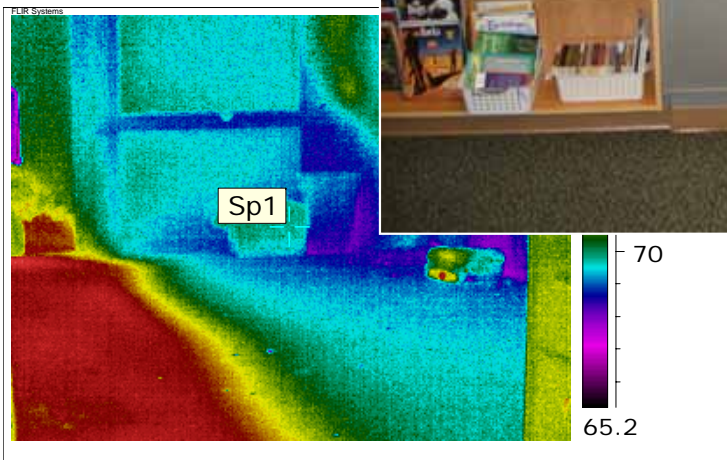
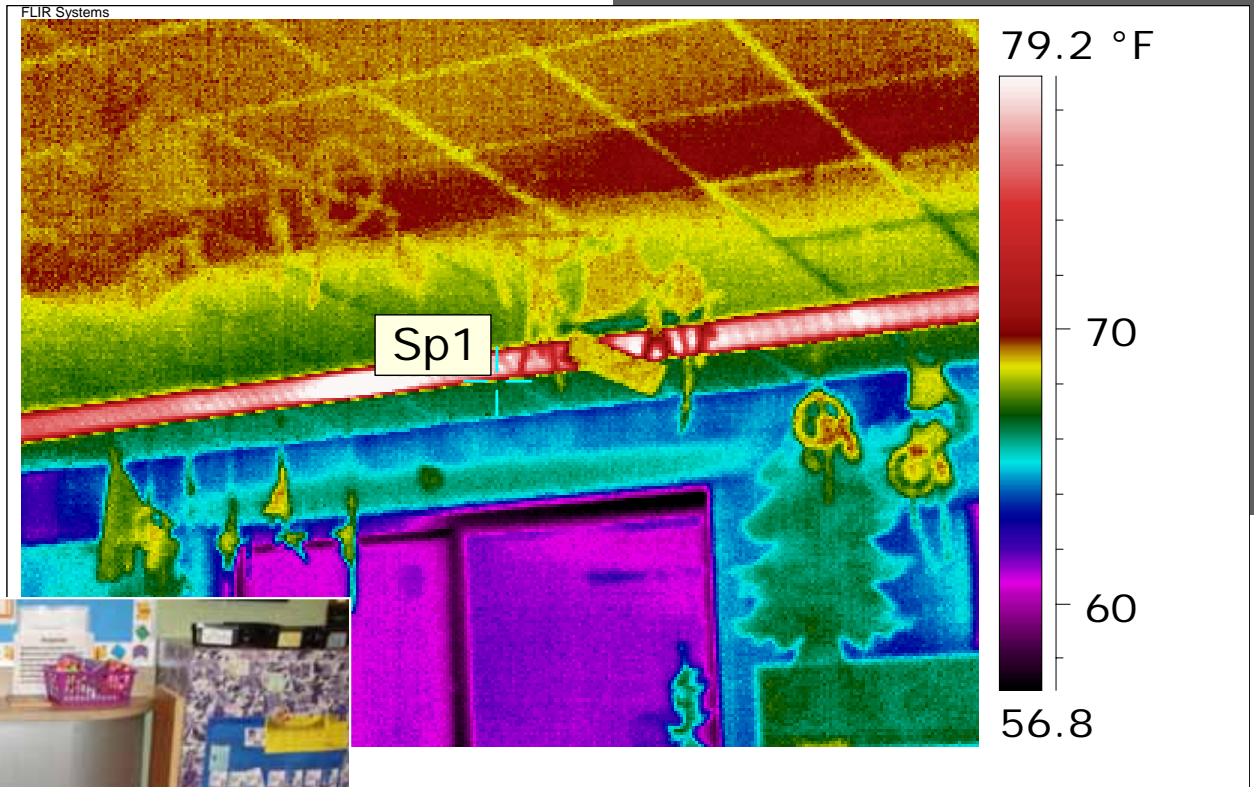
GMB Energy Chassis



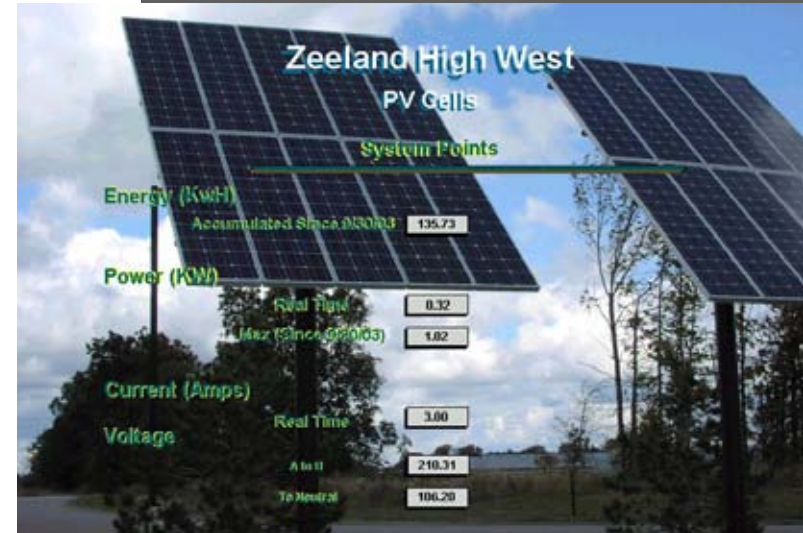


Smart design?

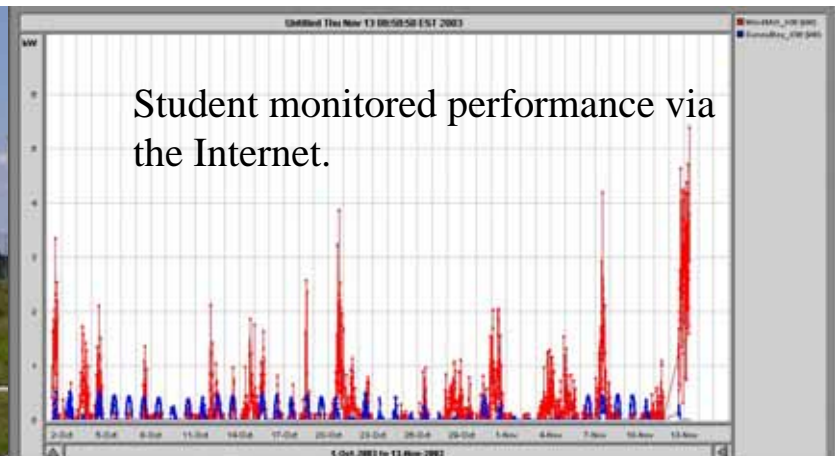




# Facilities that teach



## Teaching Tools

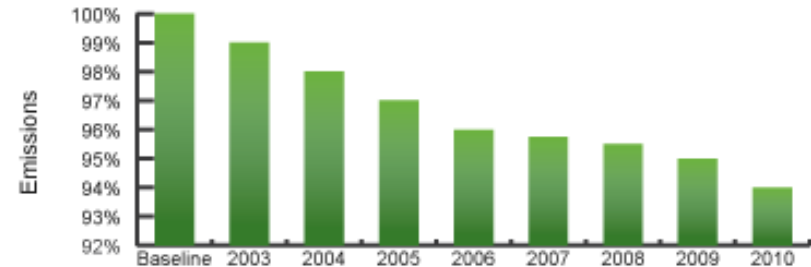
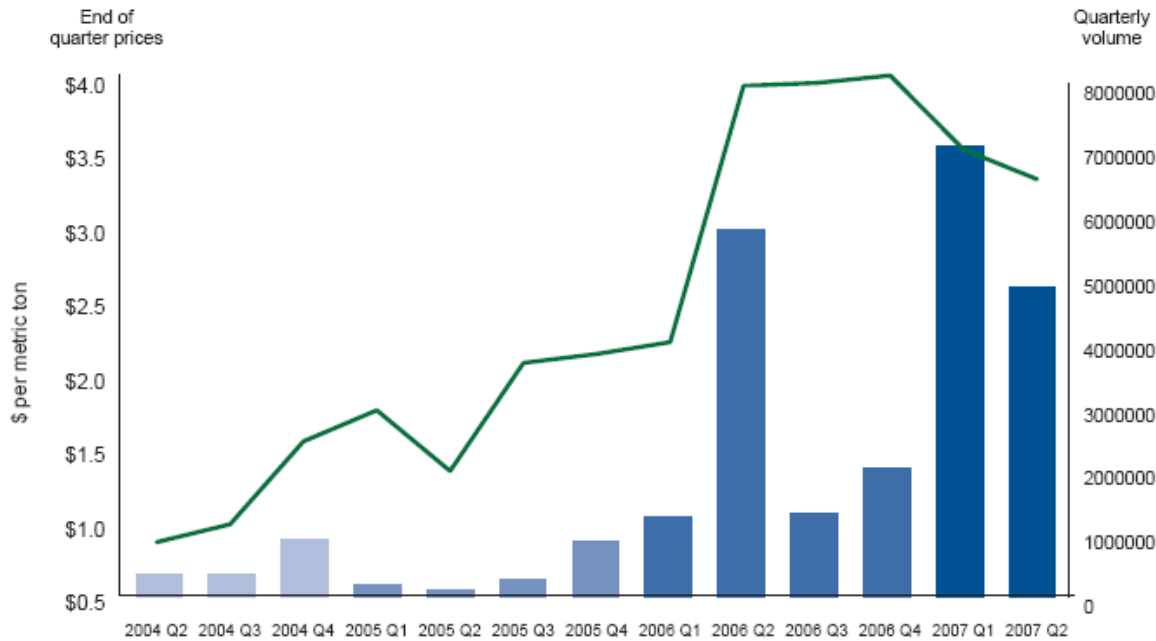




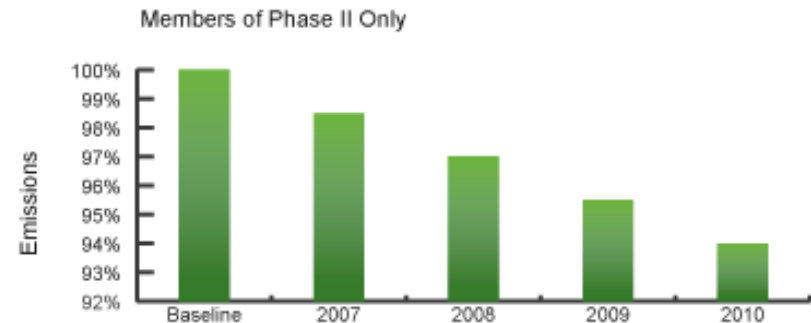
# Carbon Trading

Members of Phase I and Phase II

CCX Price and Volume History 2003-2007



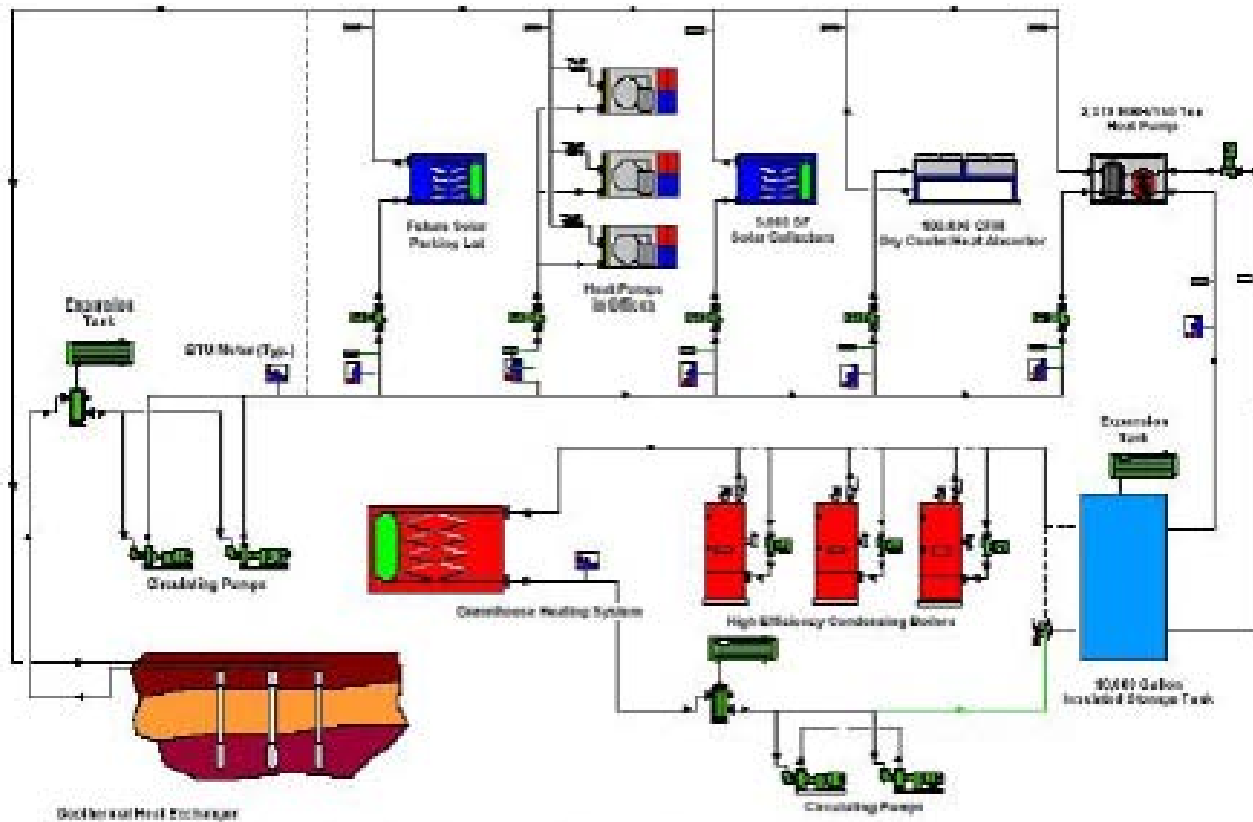
CCX Program Commitment Period



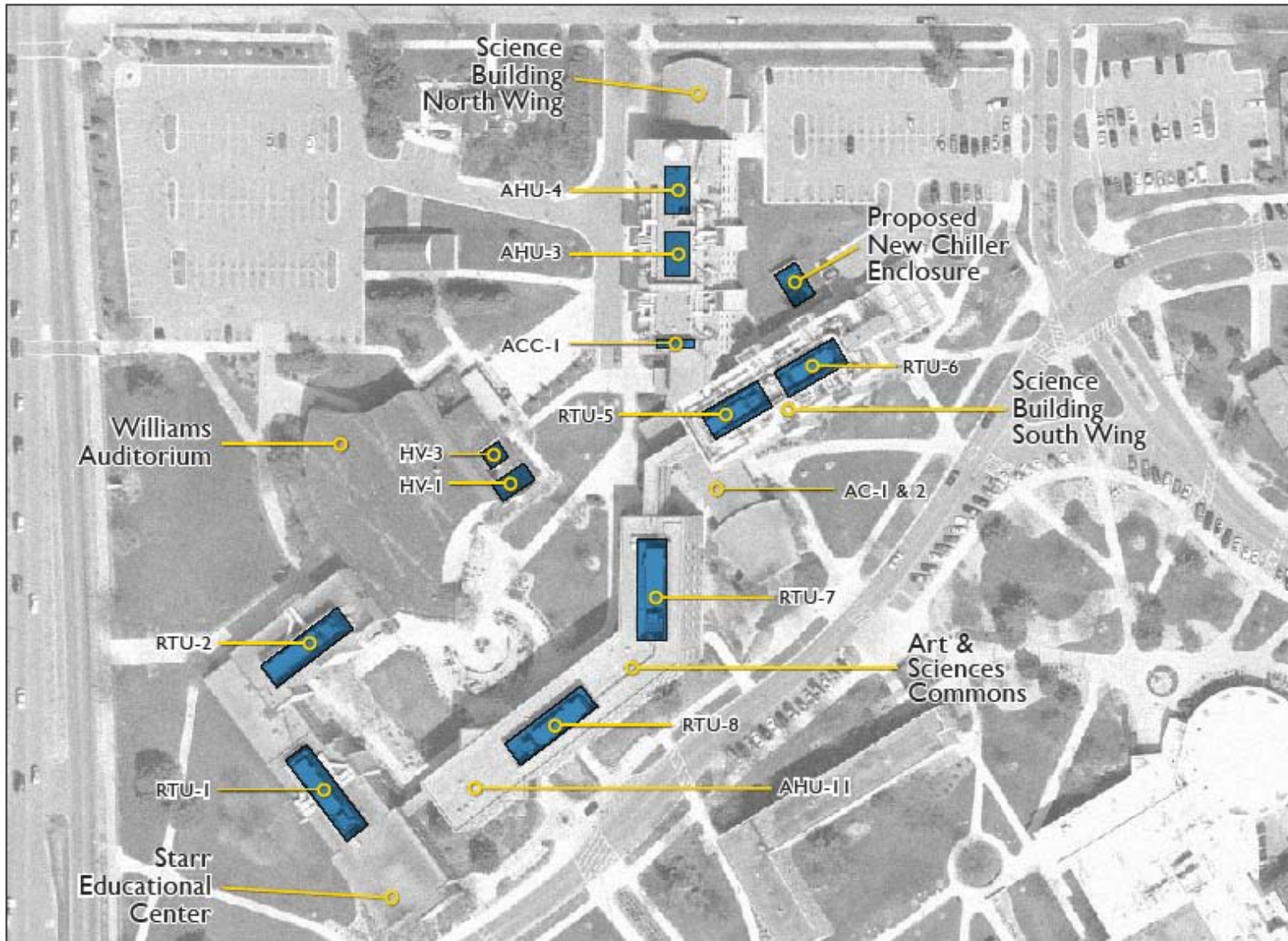
CCX Program Commitment Period

# Innovation creates interest.

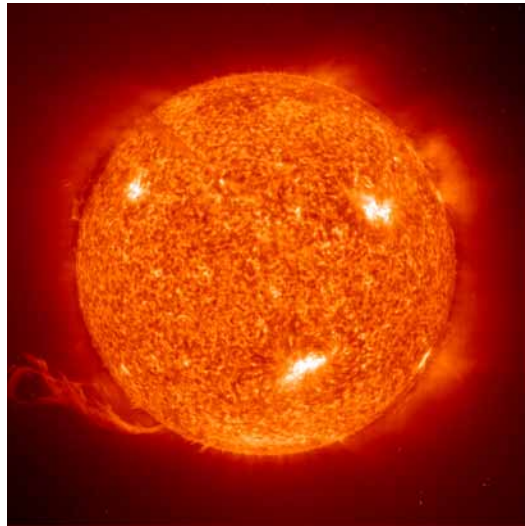
PR?



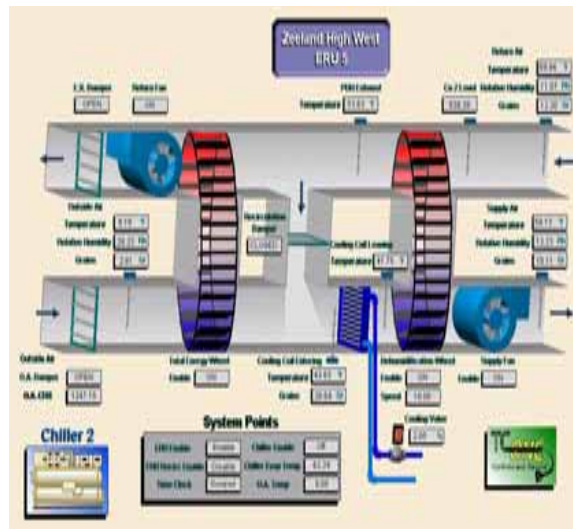
# Long-term Vision?



Success?



How do you measure the value of what you do?



**THANK YOU!**  
**steveh@gmb.com**

