

# *Working for Green*

## **Workshop 3. Build it Green**

### *Genzyme Corporation*

- Introduction: Genzyme Organization and Environmental Vision
- Genzyme Green Buildings  
*Rick Mattila (Retired) Director of Environmental Affairs*



# Genzyme a Global Corporation

- 31<sup>st</sup> Year, ~ 10,000 employees
  - Products in 100 countries
  - 11 manufacturing sites
  - 2010 revenue of \$4.05 billion
  - Part of the Sanofi Group: April 2011
  - Entrepreneurial, Decentralized Organization
- 
- Collaboration, Innovation, Transparency
  - People Focused (patients, communities, employees)
  - Be Leaders in what we do
  - Societal Responsibility
    - Provide unmet medical needs
    - Environmental Sustainability: **Green Buildings**



# Genzyme's Environmental Vision

- ***Genzyme recognized as an environmental leader***

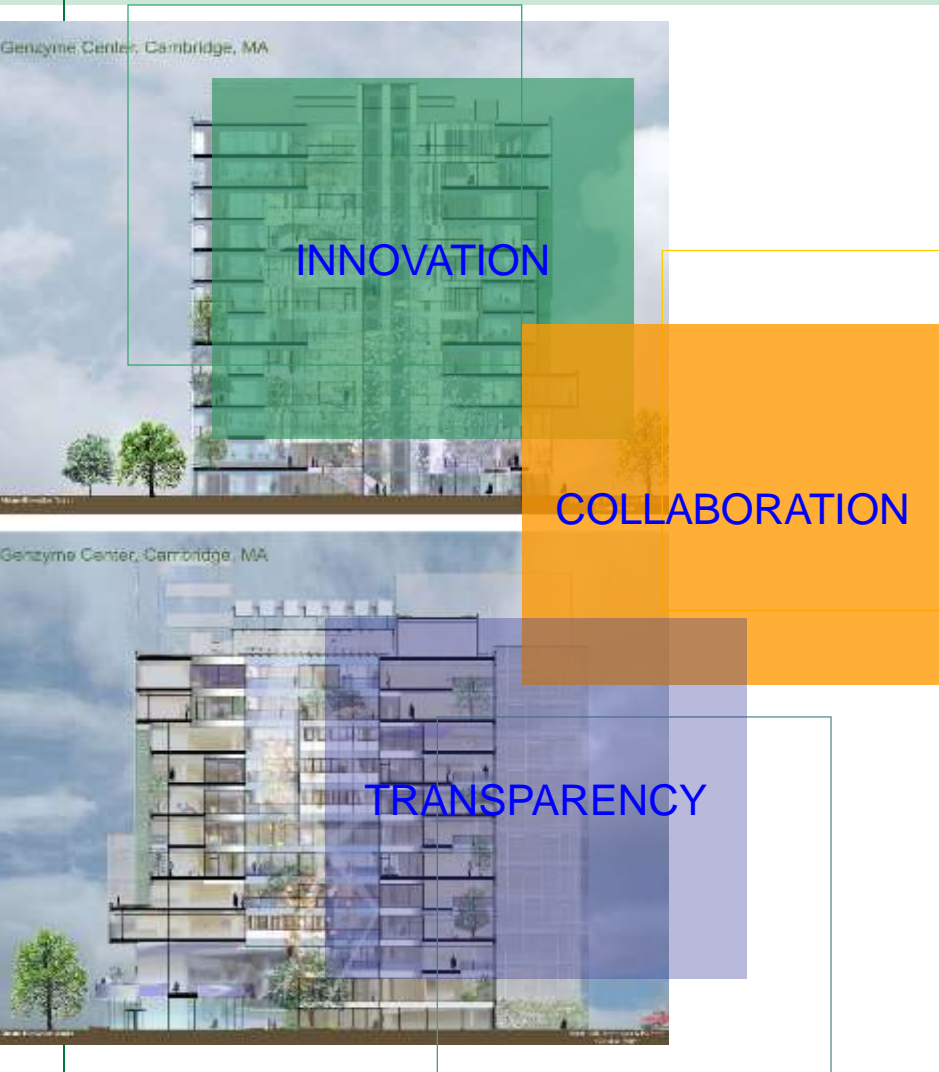


- 2012 EPA Climate Leadership Award: Goal Achievement
- 2009 Partner of the Year Large Business
- 2010 Honorable Mention Large Business
- 2011 Gold Achievement Award



- ***An effective environmental management system to maintain compliance***
- ***Continuously improve environmental performance***

# Genzyme Center Green Building Concept



- Parallels Genzyme's scientific **Innovation**
- Supports **Collaboration**
- Reflects **Transparency** principal
- Environmentally friendly with cutting edge **energy efficiency**
- **Community benefits:** aesthetic and environmental
- Designed from **inside out**
- Maximize **benefit to employees:**(built for people)

# Sustainable Site

## Urban Development: Kendall Square & Brownfield Site

**Genzyme Center LEED-NC Platinum & West Kendall LEED-CI Silver**



# Sustainable site: Vegetative roof

Reduction in Heat Island and stormwater pollution



# Water Conservation

*Low Flow Fixtures: Use 30% less water within the building*

- Dual-flush toilets



*Waterless urinals*



# Energy & Atmosphere

41% Less Energy Cost

Energy Source for Heating & Cooling: Steam

Steam Absorption Chiller



Energy Efficient glass  
Commission building  
Building Management System  
*100% “green power” Supplied to Building\**



Photo: Doug Welch, January 2002



# Energy & Atmosphere

Open windows, full atrium: Natural Air Flow  
Heat recovery from discharged air



# Conserving Material Resources

- 93 % of Construction waste recycled (US EPA Wastewise Program Champion 2003)
- 23% of materials used in building are recycled material (concrete, steel, aluminum, tile, drywall, ceilings, carpets)
- More than 60% materials from local sources
- Wood materials from managed forests.



# Indoor Quality

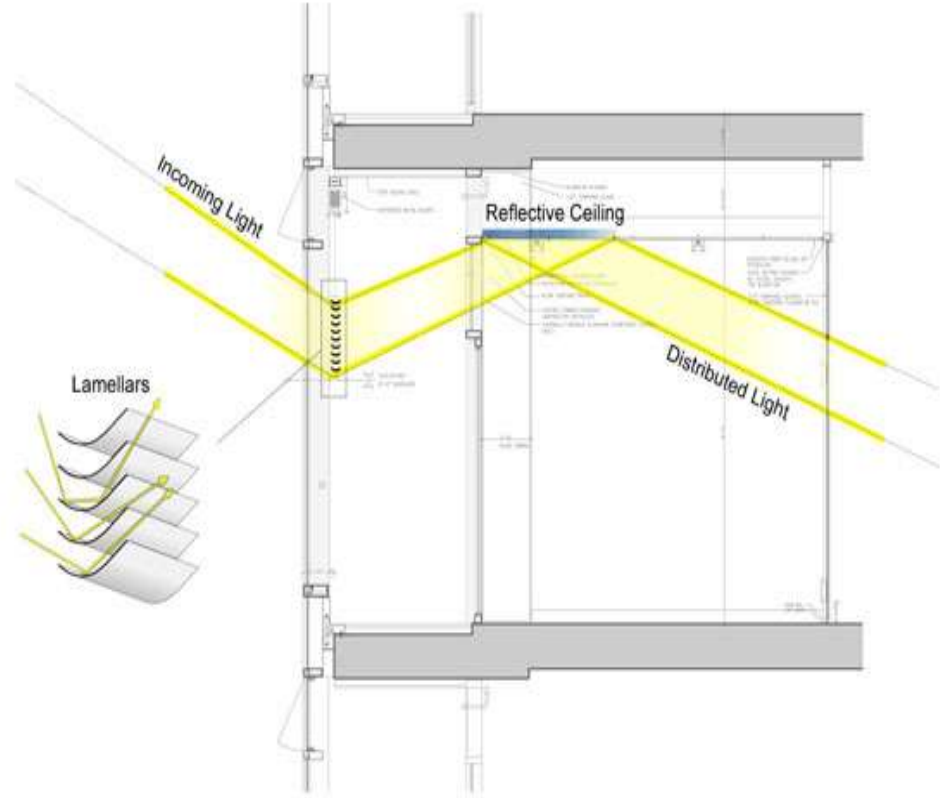
*Low VOC materials*

*Indoor air quality plans: during & after construction*

*18 Indoor Gardens*



# Natural Light Enhancement: Perimeter blinds & reflective ceiling panels

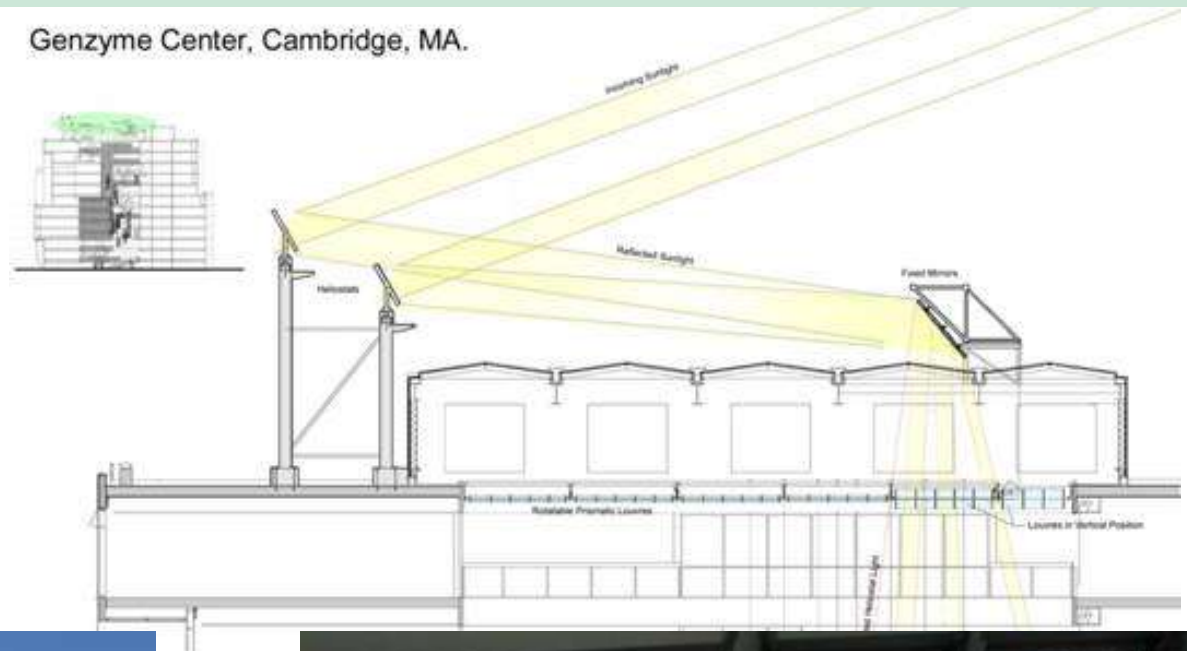


Section Through Loggia

# Natural Light Enhancement

## Atrium

- Rooftop Heliostats
- Fixed Mirrors
- Skylight and louvered sunshades



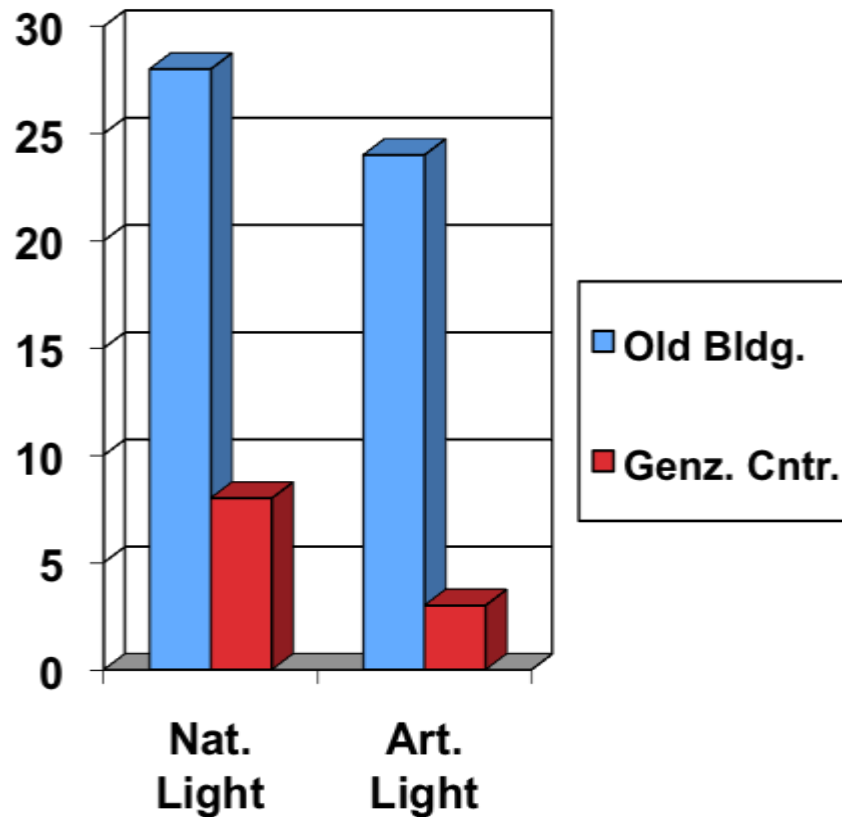
# Value of Green Building Investment Post Occupancy Surveys

- April 2004 on line survey: 4 months post occupancy
    - compared to June 2001 (paper) survey at previous building location
  - Online survey October, 2005 (22 months post occupancy)
  - Similar respondents in all surveys, variety of positions and departments. Written comments: 109 (2004), 225 (2005)
  - First Survey Questions (scale of 1 to 5):
    - How important is (heat, light, fresh air) to you?
    - How well does the building perform ?
- Added Question:** How does Genzyme Center compare to previous building?



# Natural Light and Artificial Light (first survey)

% gap between Importance and Performance



**Natural Light: 95% GC better**  
**Artificial Light: 79% GC better**



# Building Support and Employee Productivity

(first survey)

■ Genzyme Center more supportive of work: **74%**

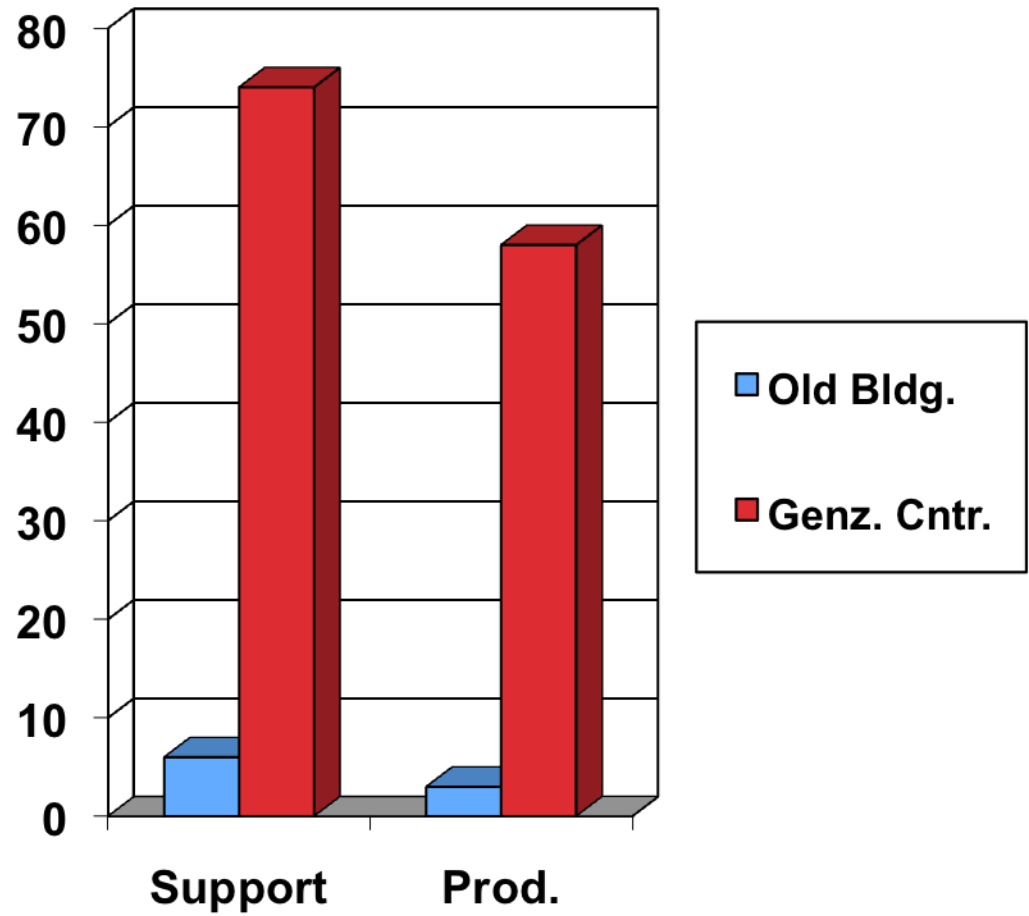
Less supportive: 6 %

No difference: 20 %

■ “I’m more productive in Genzyme Center”: **58%**

Less productive: 3 %

No difference: 39%





# Second Post-Occupancy Survey: Natural light

- **Question 5:** How have Genzyme Center's lighting features affected your ability to be productive at work



# Second Post Occupancy Survey

Connection to nature through gardens and views = Enhanced well-being and higher productivity: 88%

No change in well-being: 12%

**What is the value of green design?**

**People cost is 10X building cost.**

**(recruitment, retention, salary, benefits)**



# 13 Certified Green Buildings

## (11 LEED certified)

2005: Genzyme Center: NC Platinum

2007: 675 West Kendall: CI Silver

2008: Science Center (Fram):NC Gold

2009: Ridgefield, NJ: NC Gold

2010: Lyon, France: HQE Certified, (LEED expected)

2010: Phoenix: CI Silver

2010: Allston: NC Gold

2010: Waterford, Ireland: NC Gold

2010: San Antonio: EB Silver

2010: Cambridge UK: Carbon Trust

**2011: Ridgefield, NJ: CI Platinum**

**2012: Northborough: Gold**

**2012: 68 NYA (Fram)-NC Gold**

(31 New York Avenue- expect NC certified)



# Polygons Project, Lyon

High Environmental Quality (HQE) French Standard  
(LEED application as well)



# Allston Expansion (Design Image) LEED-NC Gold



# Green Building Benefits to Business

- Cost: <2% upfront cost on Science Center
- Recruitment and retention of staff as well as productivity
- Over 20,000 visitors on formal tours: Genzyme Center
  - Business, government officials, community groups
- Environmental leadership recognition
- Voice in environmental policy: MA
- Potential partners, expansion into new markets
- Contribution to Sustainability Goals  
(e.g .GHG emission reduction)

*To waste and destroy our natural resources, to skin and exhaust the land instead of using it so as to increase its usefulness, will result in undermining in the days of our children the very prosperity which we ought by right to hand down to them. - Theodore Roosevelt*

