

Urban Habitat Chicago, March 2, 2011, Chicago IL

Greener Pastures:

Living & Working in Sustainable Buildings

Greener Pastures: Key Questions

- Where are the People?
 - **Physically:** Where are we choosing to work?
 - **Knowledgeably:** What do we know about options?
 - **Emotionally:** How do we feel about our options?
 - **Intellectually:** Do we understand how our preferences fit together?
 - Cost Effective, Productive, Healthy... Sustainable

Greener Pastures: Challenges

- Address people's needs
 - Start where **they** are.
 - Not everyone is an expert & few are comfortable with change.
 - Design Space for how people will **use** it
- Keep pace with transformational change
 - Including telework and mobility strategies that reduce the demand for real estate and workplaces.
- Continuously question even successful design

Greener Pastures - Presentation Summary

How to invest in sustainable design, understanding cultural change and performance metrics to create & maintain High-Performance Workplaces

- **Perspectives:**
 - GSA Public Buildings Service
 - Office of Federal High Performance Green Buildings
 - Space Utilization Guidelines and Recommendations
- **Why a Sustainable Workplace?**
- **Federal & Chicago Examples**
- **A Tool to Help:**
 - Sustainable Facilities Tool

GSA's Public Buildings Service (PBS)

- Landlord for over 400 federal agencies, bureaus & commissions
 - Portfolio of 362.9 M rentable square feet
 - Space for over 1,000,000 tenants
 - 9,624 owned and leased assets
 - 56+ LEED certified properties (as of 9/30/10)
 - FY' 08 revenue—\$8.23 B
 - \$881.2 M in project starts in FY' 08

Office of Federal High-Performance Green Buildings

- Mission: To be the Federal government's high-performance building **thought leader** and **catalyst**, strategically **facilitating** the **adoption** of integrated sustainable **practices**, **technologies** and **behaviors** to accelerate the achievement of a **zero environmental footprint**.
- This Office works to **identify** and **expand** opportunities and **remove barriers** to sustainable facilities and to lead the marketplace by **piloting** and **adopting transformative sustainable practices**.

SUGAR: Alternative Workplace Strategies

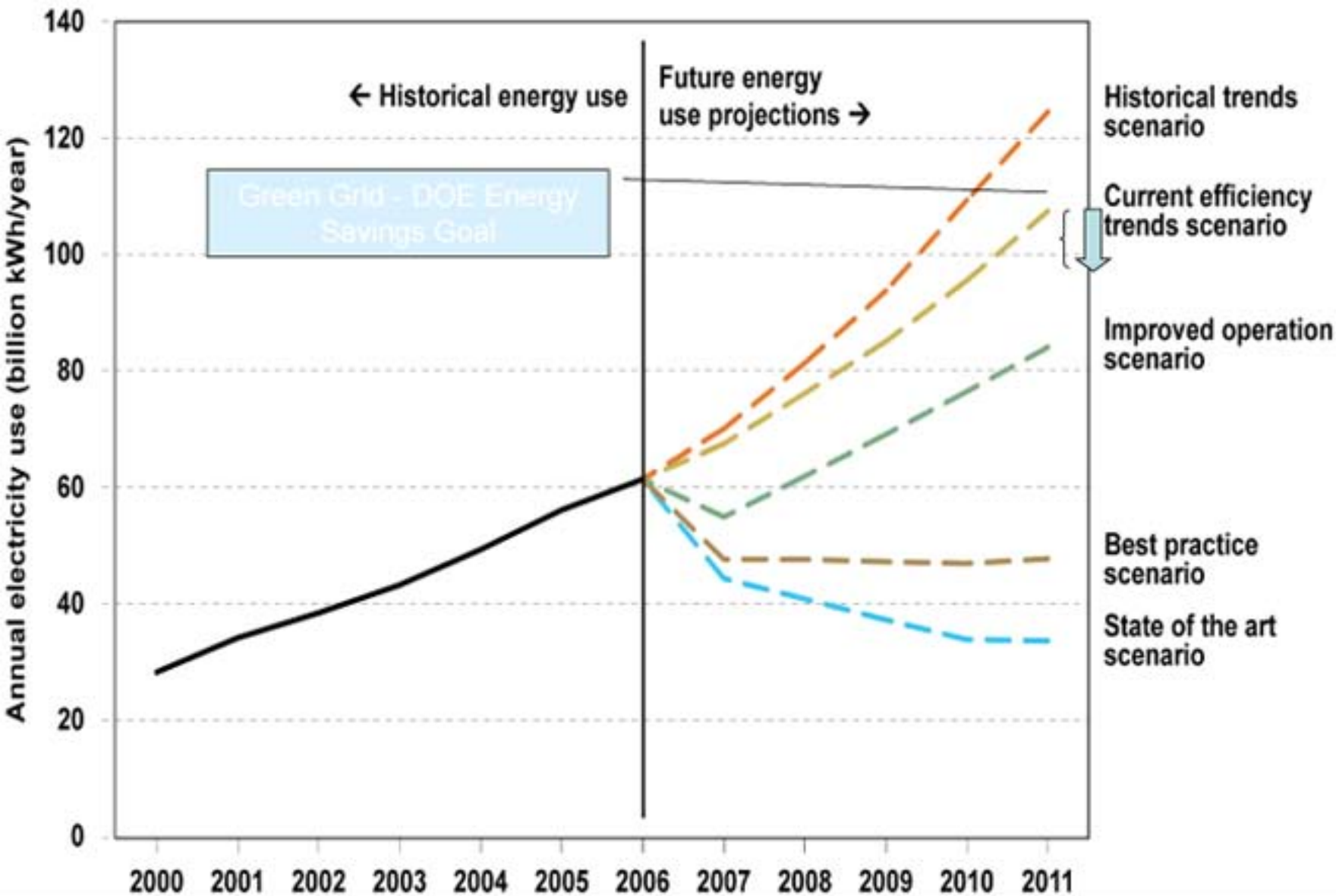
Space Utilization Guidelines And Recommendations

- Leverage expert research to recommend sustainable, cost-reduction solutions that create High-Performance Federal Workplaces.
- Identify a range of options that look simultaneously at the economic, environmental, and social implications of **alternative workplace strategies**.
- These strategies include:
 - Activity Zones
 - Hoteling
 - Interagency Space Sharing
 - Storage Solutions
 - Telework
 - Virtual Workplaces

SUGAR: Behavior & Organizational Change

Facilities and Workplace Managers must partner with real estate and asset managers to realize the full potential cost and energy savings projected from new ways of working in our business cases.

We cannot afford to heat, cool, ventilate, light and clean as if everyone was still at the office.



Why a Sustainable WorkPlace?

The Environmental Argument

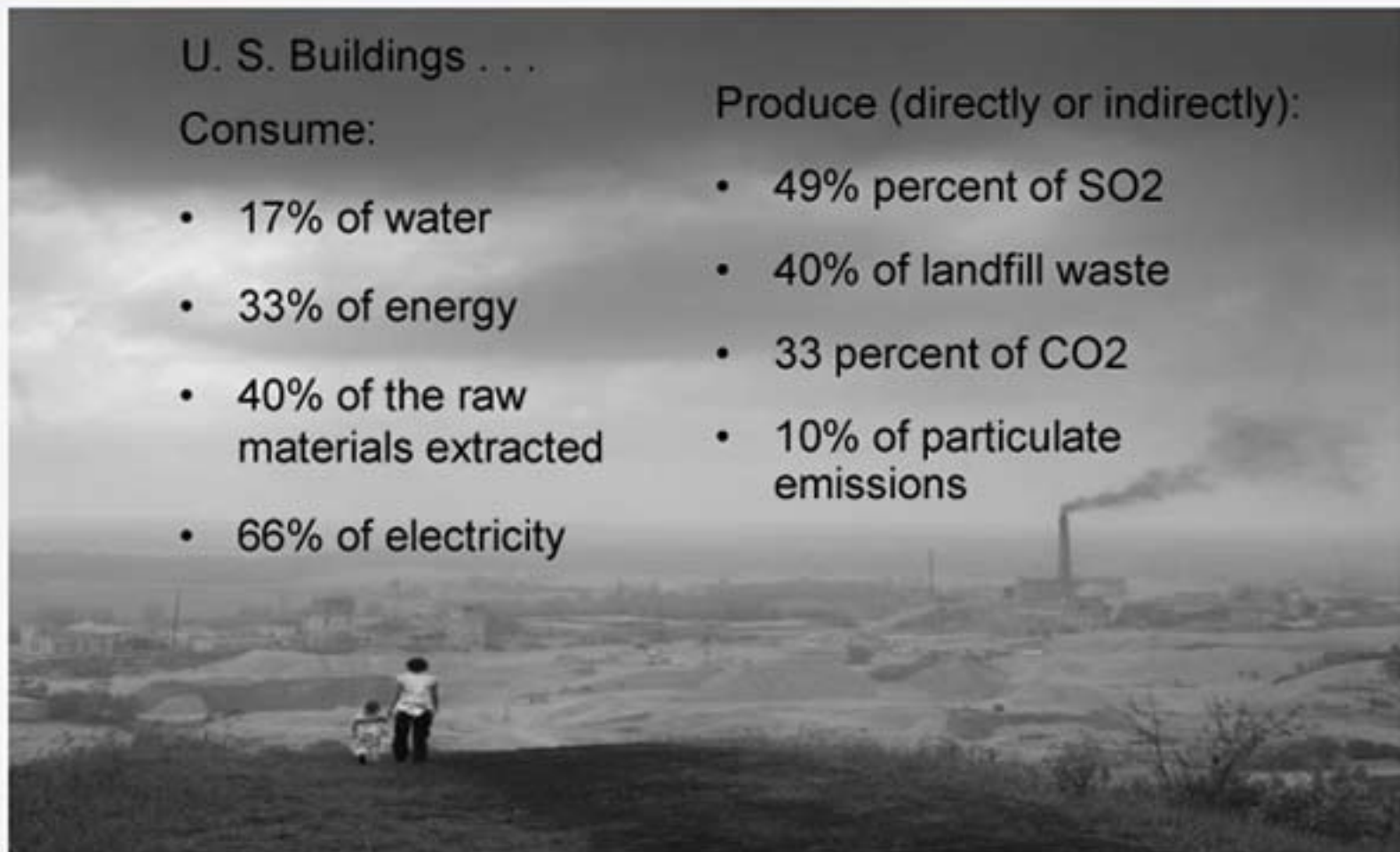
U. S. Buildings . . .

Consume:

- 17% of water
- 33% of energy
- 40% of the raw materials extracted
- 66% of electricity

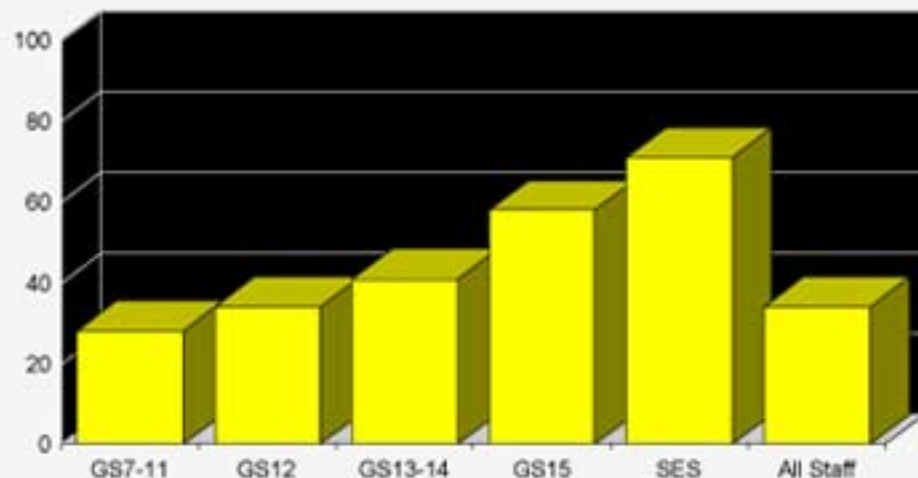
Produce (directly or indirectly):

- 49% percent of SO₂
- 40% of landfill waste
- 33 percent of CO₂
- 10% of particulate emissions



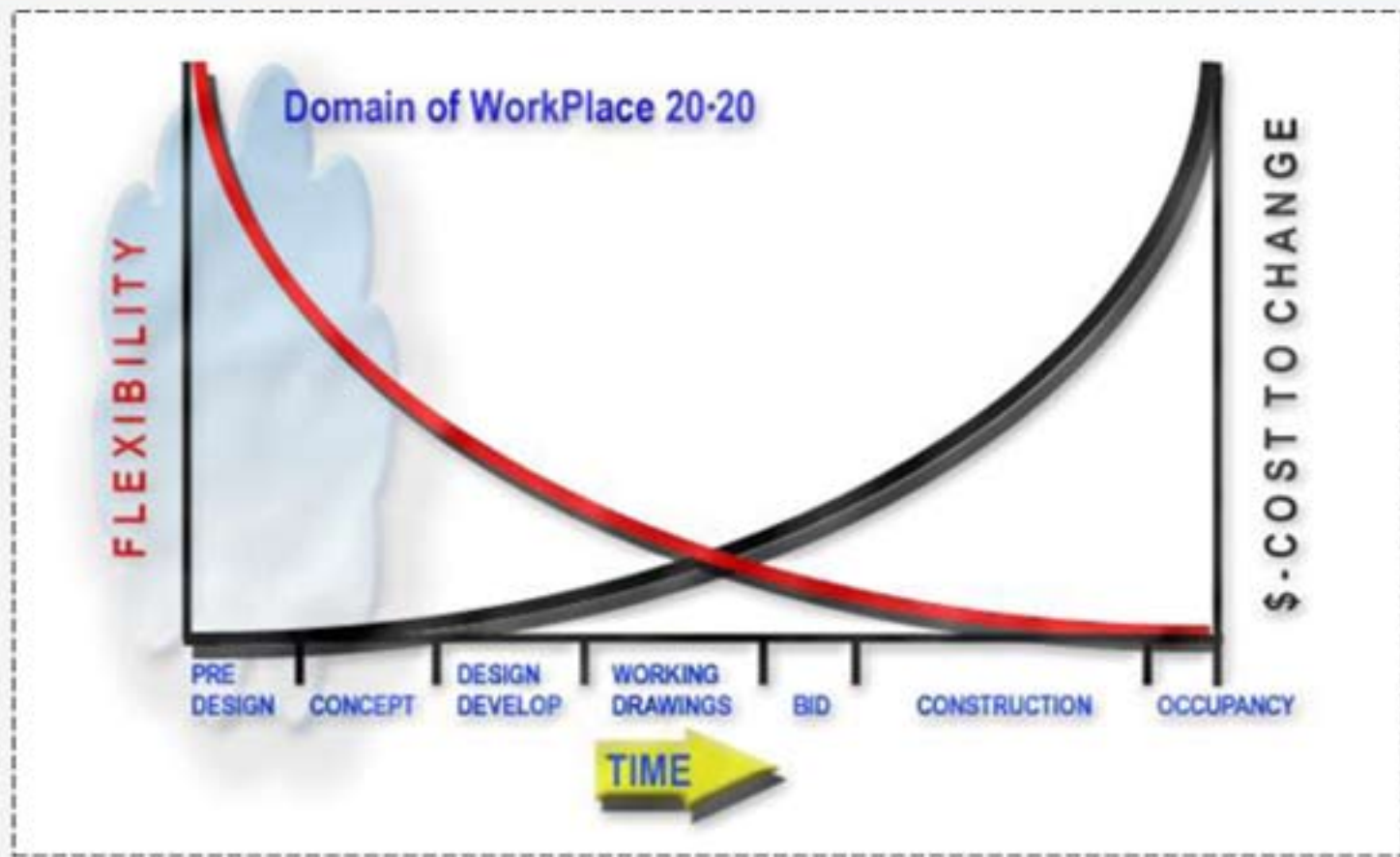
Why a Sustainable WorkPlace: The Business Argument

- Work Environment Affects:
 - Satisfaction & Health
 - Hiring and Retention
 - Productivity
 - The Bottom Line
- Work Environments can enable organizational change

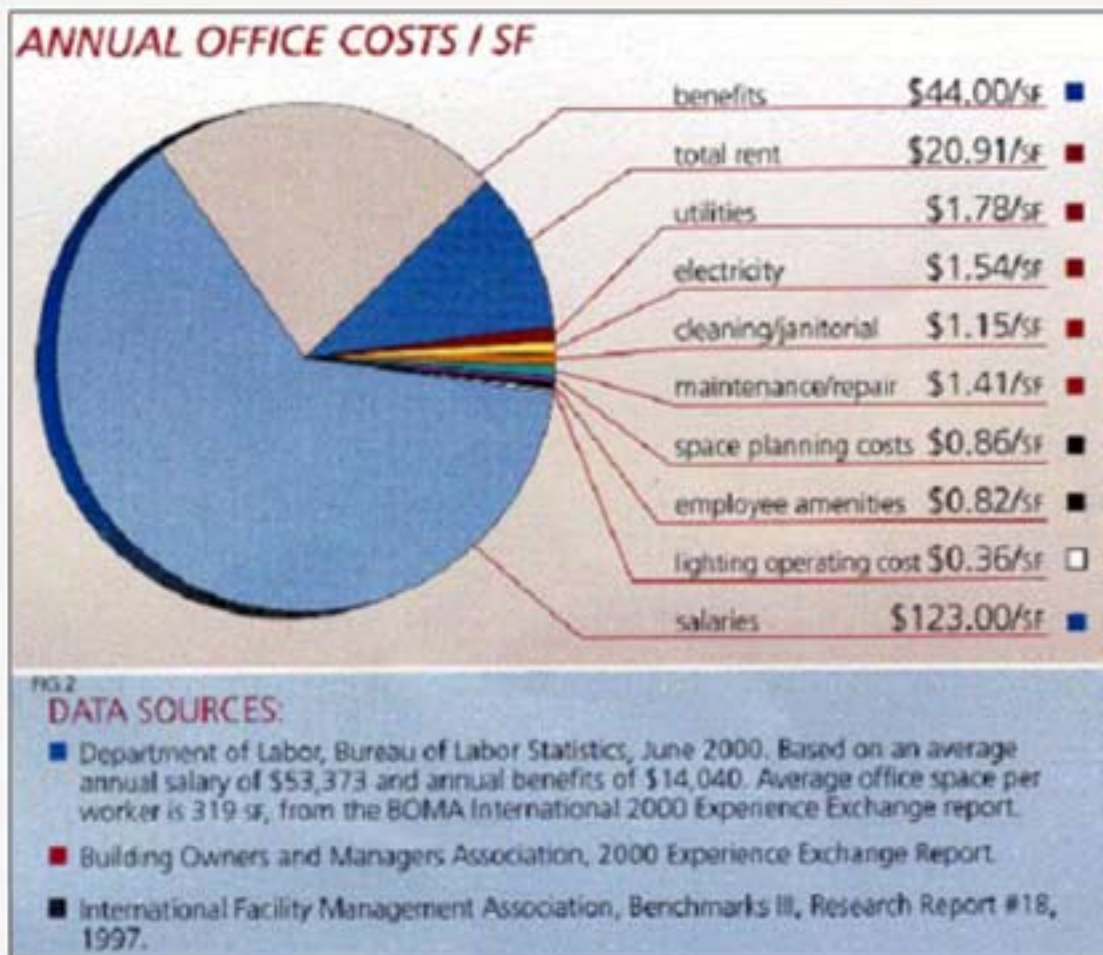


% Federal Employees Eligible for Retirement
from 1999 to 2005

Why a Sustainable WorkPlace: The Process Argument



Why a Sustainable WorkPlace: The Investment Argument



Operations	4%
Rent	11%
Salaries/Benefits	85%

Why a Sustainable WorkPlace?

The Occupant Argument



GSA PBS Albuquerque Service Center

Photo: Robert Reck Photography

- People spend 87% of their time indoors, 18% at work
- 20% - 30% U.S. office workers affected by Sick Building Syndrome
- Indoor pollution one of top five EPA environmental health risks
- Indoor pollutant levels may be 2-5 times higher than outdoors

Sustainable WorkPlace Characteristics



GSA PBS Rocky Mountain Regional Office

Photo: Gensler

- Integrated process
- Collaborative development
- GSA Hallmarks of the Productive Workplace
 - Equitable
 - **Sustainable**
 - Flexible
 - Comfortable
 - Connectable
 - Reliable
 - Identifiable

The Integrated Design Process

To be most successful, green building strategies should be incorporated into all phases of the project—from programming & budgeting to design & construction to commissioning, operating & maintenance.

- Collaboration from beginning of the project
- Multi-disciplinary design teams
- Commitment from all parties
- Integrated/systems approach
- Life-cycle costing & life-cycle materials analysis

32% Water use
reduction

95% Reuse of
historic building shell

Green housekeeping
procedures employed

GSA

Green Facts

Howard M. Metzbaum
U.S. Courthouse
Cleveland, OH

LEED-NC rating out of 69

Certified 29

Sustainable Sites 6/14

Water Efficiency 4/5

Energy & Atmosphere 3/17

Materials & Resources 6/13

Indoor Environmental
Quality 7/15

Innovation & Design 3/5

USGBC LEED-NC rated Apr. 19, 2006



Howard M. Metzenbaum U.S. Courthouse, Cleveland, Ohio

95 Energy Star
Score

50% Water use
reduction

60% Total
Energy use reduction

100%
Occupancy rate after
renovations

GSA

Green Facts

John J. Duncan Federal Building
Knoxville, TN

LEED-EB rating out of 85

Certified 34

Sustainable Sites 6/14

Water Efficiency 2/5

Energy & Atmosphere 15/23

Materials & Resources 3/16

Indoor Environmental
Quality 5/22

Innovation & Design 3/5

USGBC LEED-EB rated Jan. 4, 2007

100% Building
is completely powered
by wind.

51% Materials
used on the project
have recycled content

50% Water
savings for exterior
plantings

GSA

Green Facts

*Byron G. Rogers
U.S. Courthouse
Denver, CO*

LEED-EB rating out of 76

Gold **44**

Sustainable Sites 11/16

Water Efficiency 2/5

Energy & Atmosphere 15/22

Materials & Resources 2/10

*Indoor Environmental
Quality* 10/18

Innovation & Design 4/5

USGBC LEED-EB rated Sept. 21, 2006



Federal Building, San Francisco, California
Greener Pastures