



# **CORENET GLOBAL NEW YORK CITY CHAPTER**

**Cutting Edge Energy Practices for the Corporate End User:**

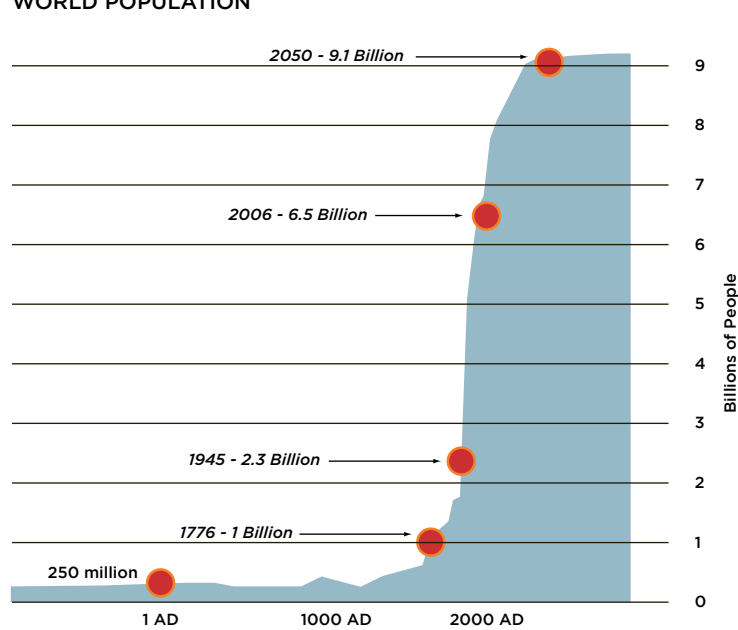
Everything You Need to Know About Energy and Aren't Afraid to Ask

**FXFOWLE ARCHITECTS** Guy Geier, FAIA, FIIDA, LEED AP, Managing Partner

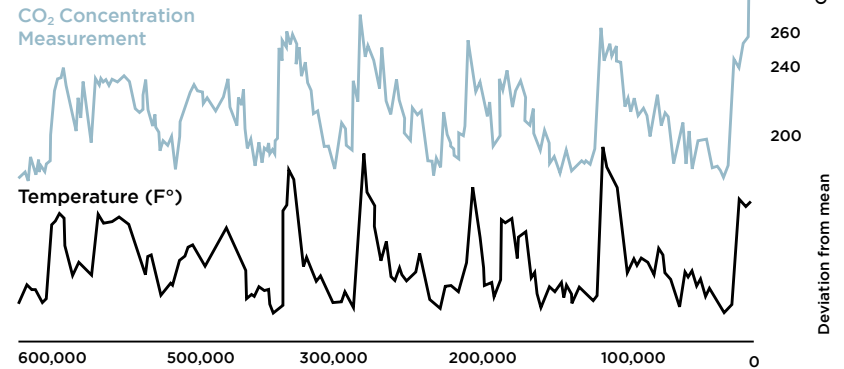
# Why Build Sustainably?—Reduce Impact on the Planet

## World Population, CO<sub>2</sub> Concentration, Temperature

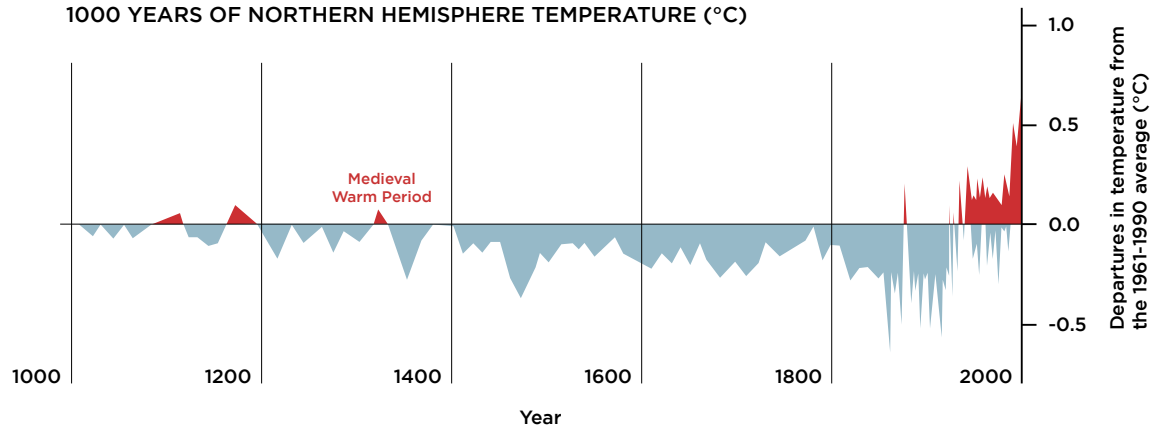
### WORLD POPULATION



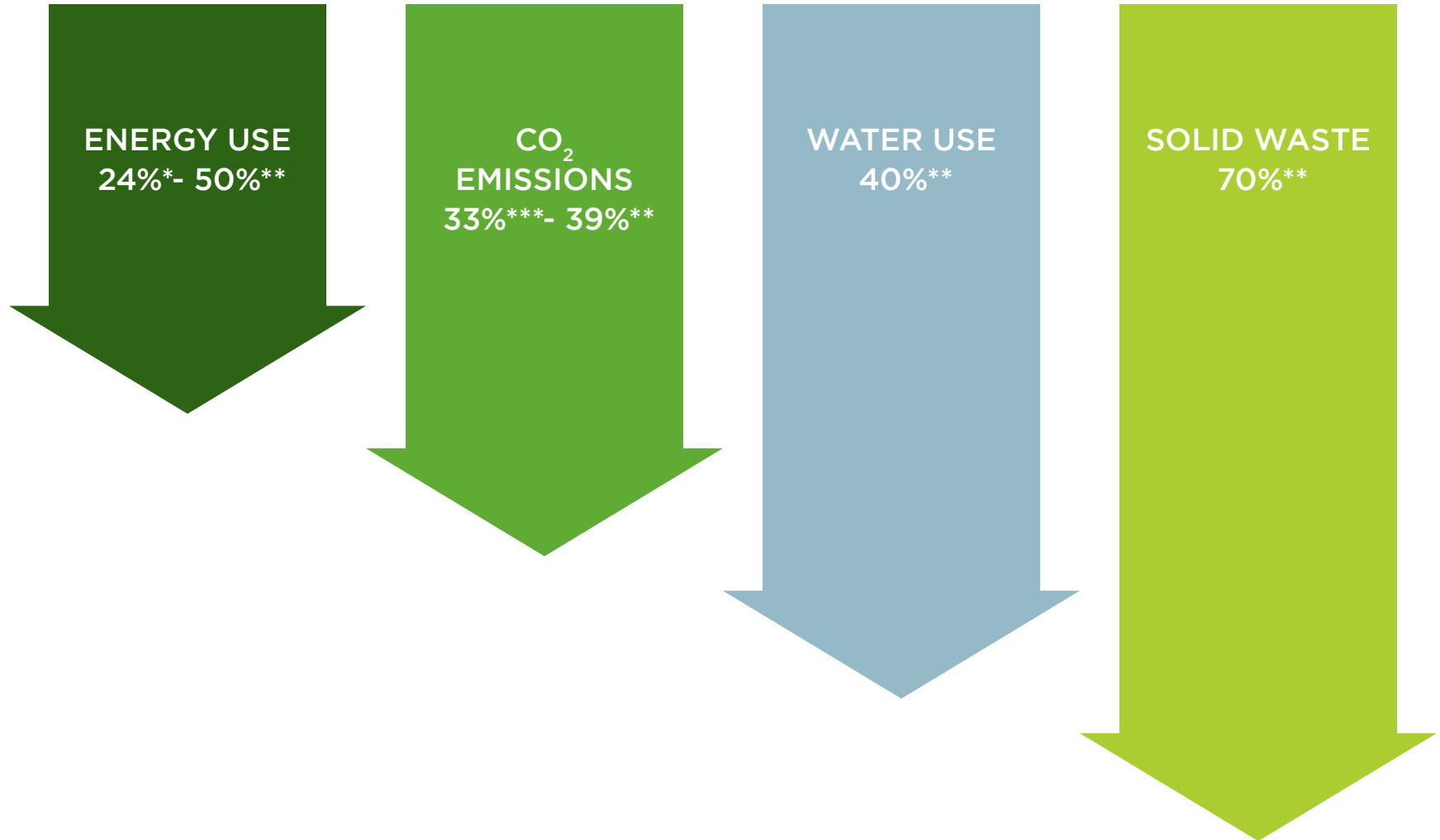
### 600,000 YEARS OF CO<sub>2</sub> and TEMPERATURE CYCLES (°C)



### 1000 YEARS OF NORTHERN HEMISPHERE TEMPERATURE (°C)



## Green Buildings Can Reduce...



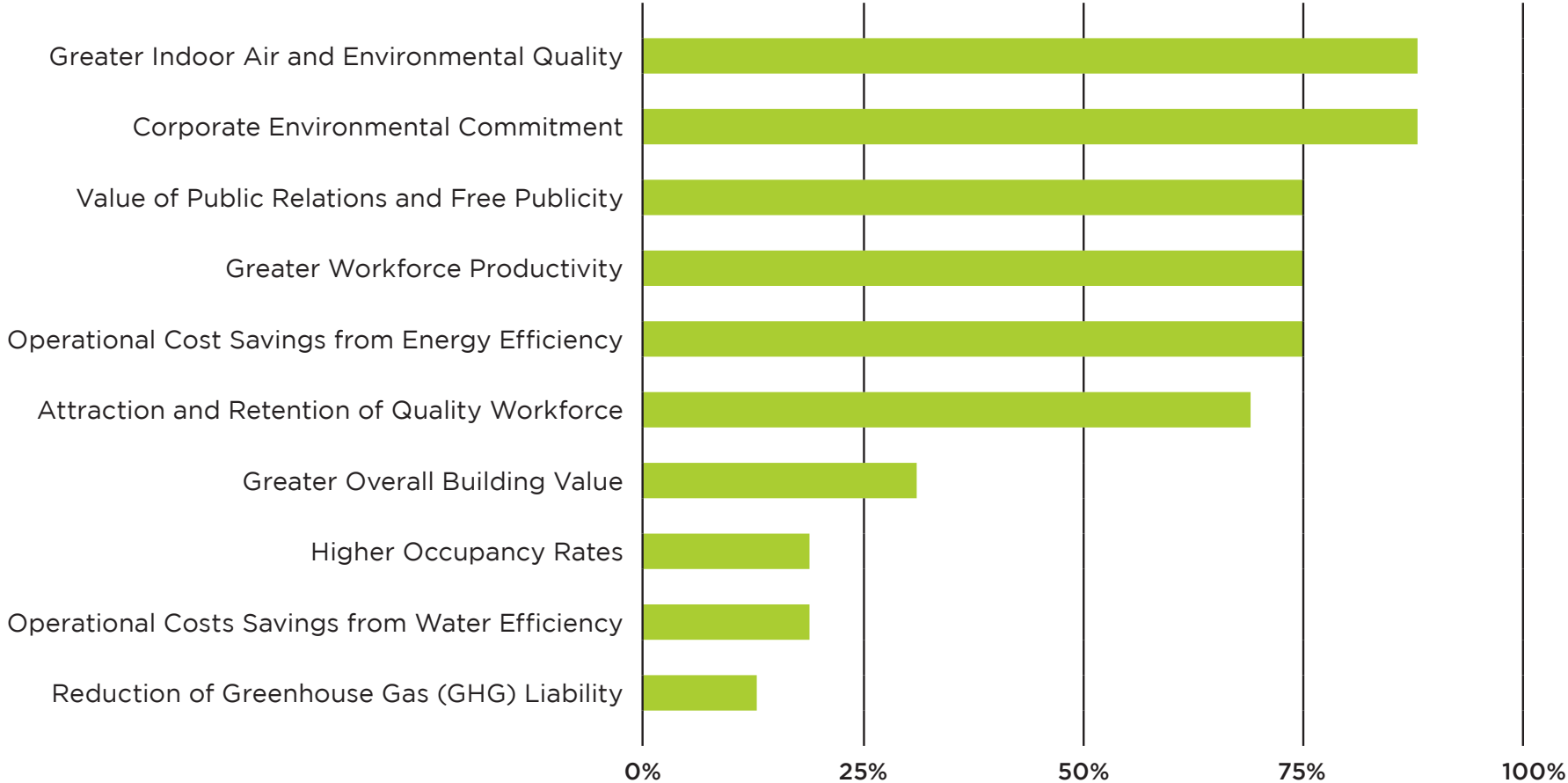
\*Turner, C. & Frankel, M. (2008). Energy performance of LEED for New Construction buildings: Final report.

\*\*Kats, G. (2003). The Costs and Financial Benefits of Green Building: A Report to California's Sustainable Building Task Force.

\*\*\*GSA Public Buildings Service (2008). Assessing green building performance: A post occupancy evaluation of 12 GSA buildings.

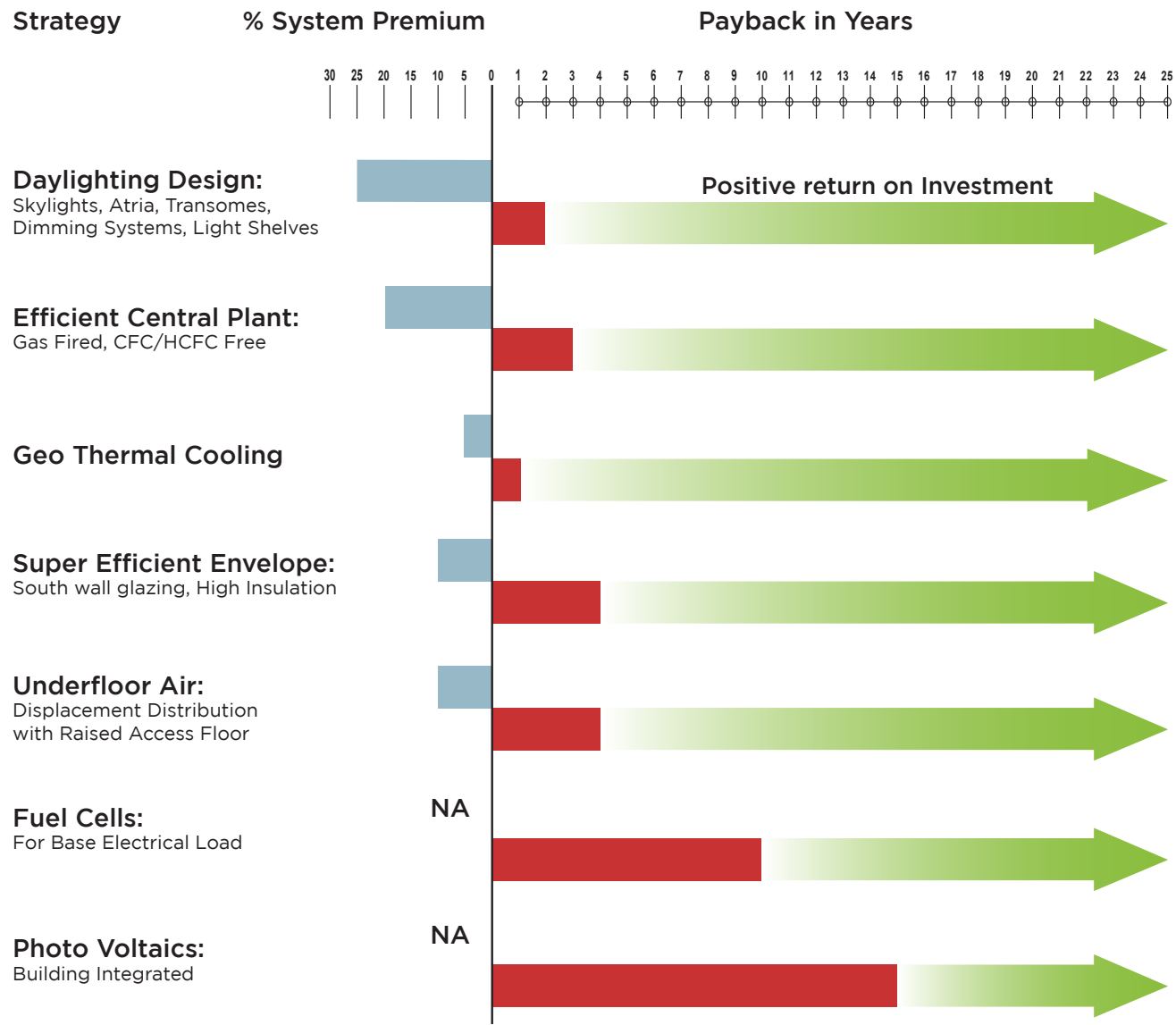
# Why Build Sustainably?—Business Advantages

Client Motives for Undergoing a Green Retrofit



Source: Deloitte

# Sustainable Systems Payback



## Business Results of Building Green

**8-9%** operating cost decreases\*

**7.5%** building value increases\*

**6.6%** return on investment improves\*

**3.5%** occupancy ratio increases\*

**3%** rent ratio increases\*\*

\*Source: McGraw-Hill Construction, Key Trends in the European and U.S. Construction Marketplace SmartMarket Report, 2008

\*\*McGraw-Hill Construction, Greening of Corporate America SmartMarket Report, 2007

## Savings Over Conventional Buildings

### Energy

**Certified - 28%** savings

**Silver - 30%** savings

**Gold - 48%** savings

**Platinum - 50% ++** savings

### Water

**50%** savings typical

**\$0.50/sf** - 20 year Present Value

### Operations & Maintenance

**\$0.68/sf** per year or **\$8/sf** 20 year Present Value (5% savings)

### Pollution

**\$1/sf** per ton of **CO<sub>2</sub>** savings (estimated cost of global warming \$3B/yr)

Source: Greg Kats, The Costs and Financial Benefits of High Performance Buildings, 2005

## Incentives—Federal + State ([www.dsire.com](http://www.dsire.com))



**Federal Energy policy act deduction** – up to \$1.80/sq. ft for energy reduction >50% than ASHRAE 2001

**Federal energy tax credits** – 10-30% tax credit for investment in solar energy, fuel cell and micro turbine property

**NYS green building tax credits** - Up to \$2 million per building\*\*

**NYS Solar and Fuel Cell tax credit** – 20-25% cost of equipment and installation

**NYS Solar Property Tax Abatement** – 20 or 35%\*\* of installed cost of PV system

**NYS green roof tax abatement** - \$4.50/sq.ft of planted roof up to \$100,000

**NYS Property tax exemption** - 15-year real property tax exemption for solar, biomass, and wind energy systems constructed in New York State

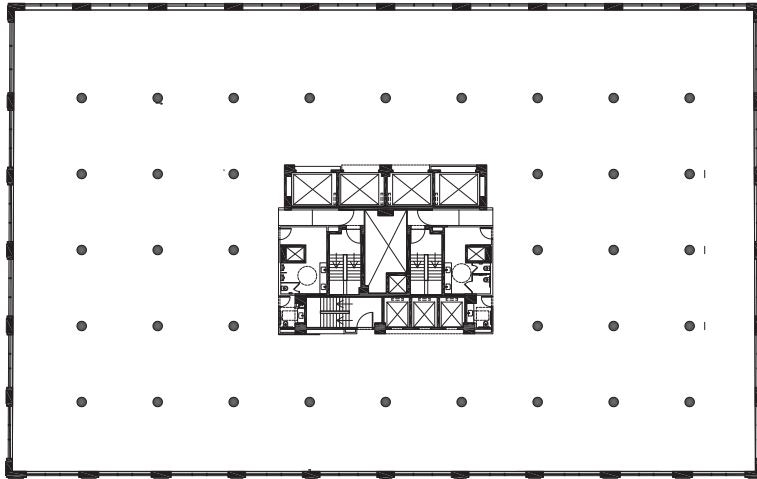
**NYSERDA incentives** – grants, energy rebates, loan interest rate reduction, and others for energy-efficiency, peak load reduction, on-site renewable energy, alternative fuel vehicles, and water efficiency

\*\* until the end of 2010

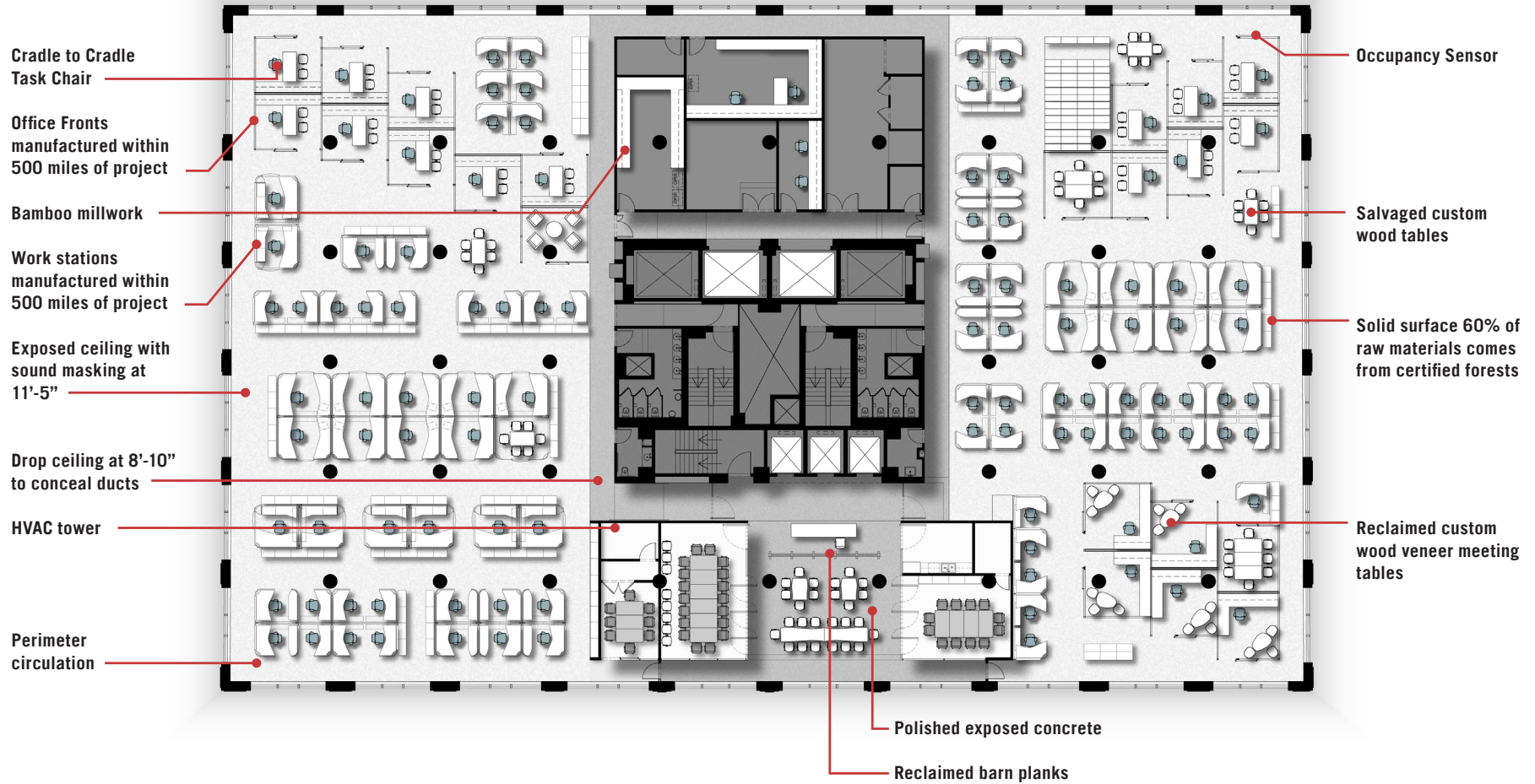
# National Audubon Society Headquarters

New York, NY

225 Varick Existing Conditions



# Sustainable Features



# LEED Checklist

National Audubon Society Headquarters				
48	16	LEED-Civ2.0 Total Project Score		
		Certified 21 to 26 points   Silver 27 to 31 points   Gold 32 to 41 points <b>Platinum 42 to 57 points</b>		
YES	NO	LEED Credit	LEED Credit Name	Credit Value
4	10	(SS) Sustainable Sites 7		
2	0	(WE) Water Efficiency 2		
11	1	(EA) Energy & Atmosphere 12		
10	4	(MR) Materials & Resources 14		
16	1	(IEQ) Indoor Environmental Quality 17		
5	0	Innovation & Design Process 5		
48	16	LEED-Civ2.0 Total Project Score <b>Platinum 42 to 57 points</b>		







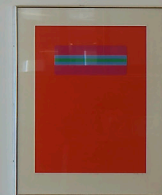


**The Rockefeller Brothers Fund Headquarters**  
New York, NY

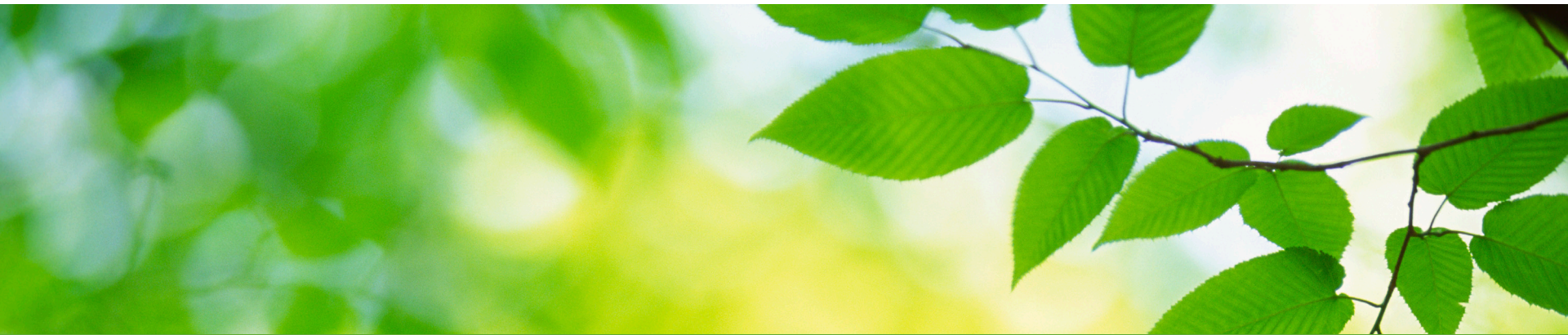












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