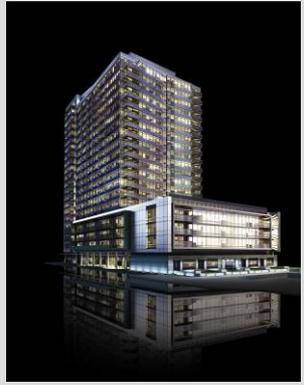


Gerding Edlen

DEVELOPMENT



LIVABLE PLACE INDEX



Gerding Edlen
Development



PLANET

Annual Savings

ENERGY
58,675,734 KWH
5,350 homes

AIR
21,122,811 LBS CO₂
1,950 cars

WATER
37,000,949 GAL
1,850,047 showers

LEED
39 BLDGS*Certified and Registered
5 Platinum, 25 Gold, 7 Silver



NATIONAL BUILDING MUSEUM LECTURE

July 1, 2008

- 
- **THE GLOBAL CRISIS**
Why it is imperative that we practice Sustainable Development
 - **WHO IS GERDING EDLEN**
Innovations, Project Examples
 - Sustainable Development Strategies
How Sustainable Development is achieved
 - Livable Place Index (LPI)
How Sustainable Development is measured
 - **GERDING EDLEN SUSTAINABLE SOLUTIONS (GESS)**
The future of Sustainable Development

WHAT IS THE GLOBAL CRISIS?

Global Warming

Average temperatures have climbed 1.4 degrees Fahrenheit (0.8 degree Celsius) around the world since 1880, much of this in recent decades.

The rate of warming is increasing. The 20th century's last two decades were the hottest in 400 years and possibly the warmest for several millennia.

The United Nations' Intergovernmental Panel on Climate Change (IPCC) reports that 11 of the past 12 years are among the dozen warmest since 1850.



WHAT IS THE GLOBAL CRISIS?

Global Warming & Rising Sea Levels



Sea level could rise between 7 and 23 inches (18 to 59 centimeters) by century's end, the IPCC's February 2007 report projects.

(Seattle, Washington)

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WHAT IS THE GLOBAL CRISIS?

Air Pollution

China just surpassed the United States and is now the number one in carbon dioxide emissions in the world, contributing over 25%.

Worldwide more deaths per year are linked to air pollution than to automobile accidents.

In July 2007, it was reported that the World Bank reluctantly censored a report revealing that 750,000 people in China die every year as a result of pollution-related diseases.



WHAT IS THE GLOBAL CRISIS?

The Effect of Buildings on the Environment

Green building is the practice of increasing the efficiency with which buildings use resources — energy, water and materials — while reducing building impacts on human health and the environment through better siting, design, construction, operation, maintenance, and removal — the complete building life cycle.

WORLDWIDE, BUILDINGS ACCOUNT FOR...

17% fresh water withdrawals

25% wood harvest

33% CO₂ emissions

40% material and energy use
45% in china

U.S. Building Impacts:



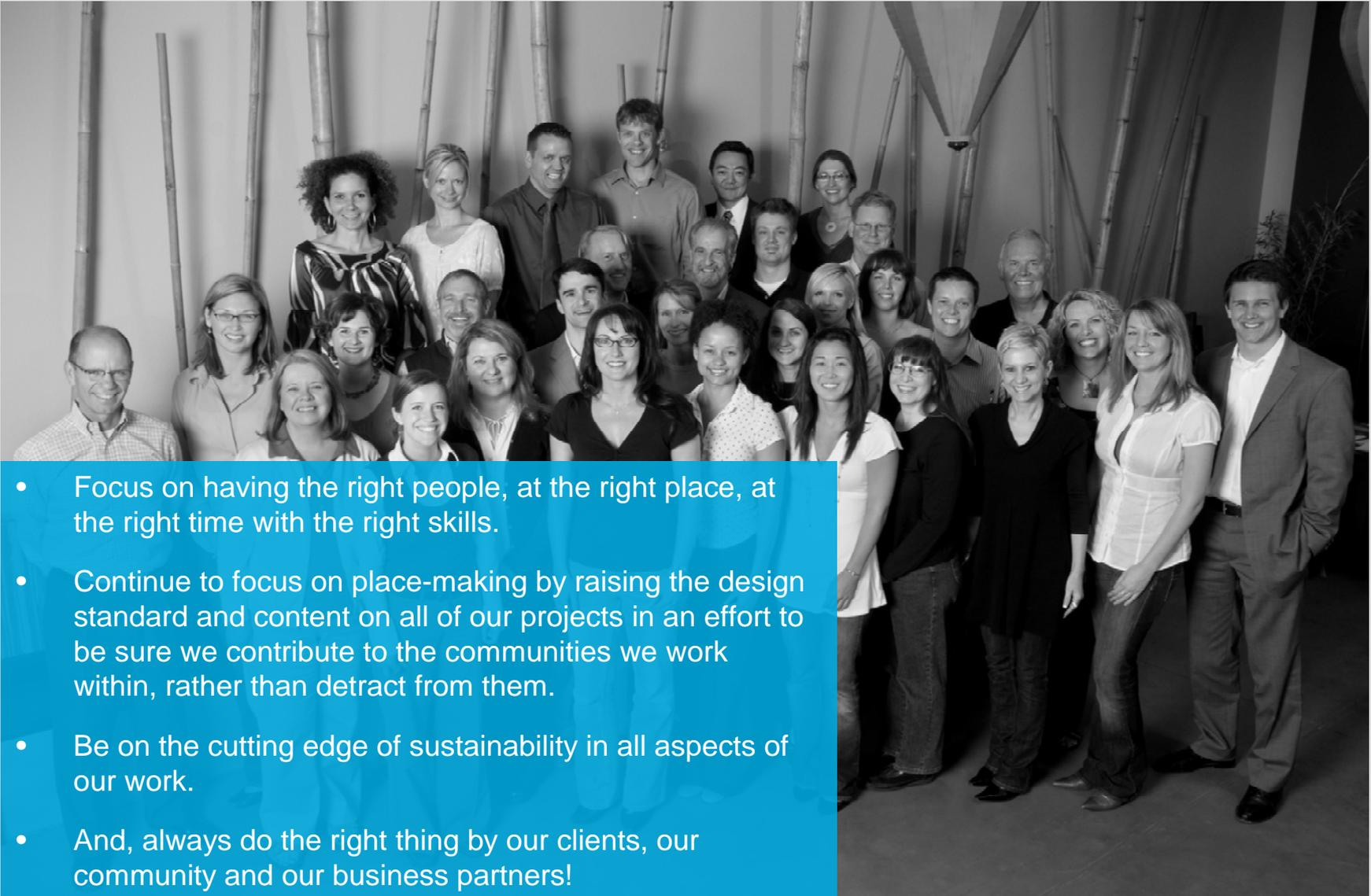
NATIONAL BUILDING MUSEUM LECTURE



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WHO IS GERDING EDLEN

Our Core Values



- Focus on having the right people, at the right place, at the right time with the right skills.
- Continue to focus on place-making by raising the design standard and content on all of our projects in an effort to be sure we contribute to the communities we work within, rather than detract from them.
- Be on the cutting edge of sustainability in all aspects of our work.
- And, always do the right thing by our clients, our community and our business partners!

WHO IS GERDING EDLEN

Placemaking



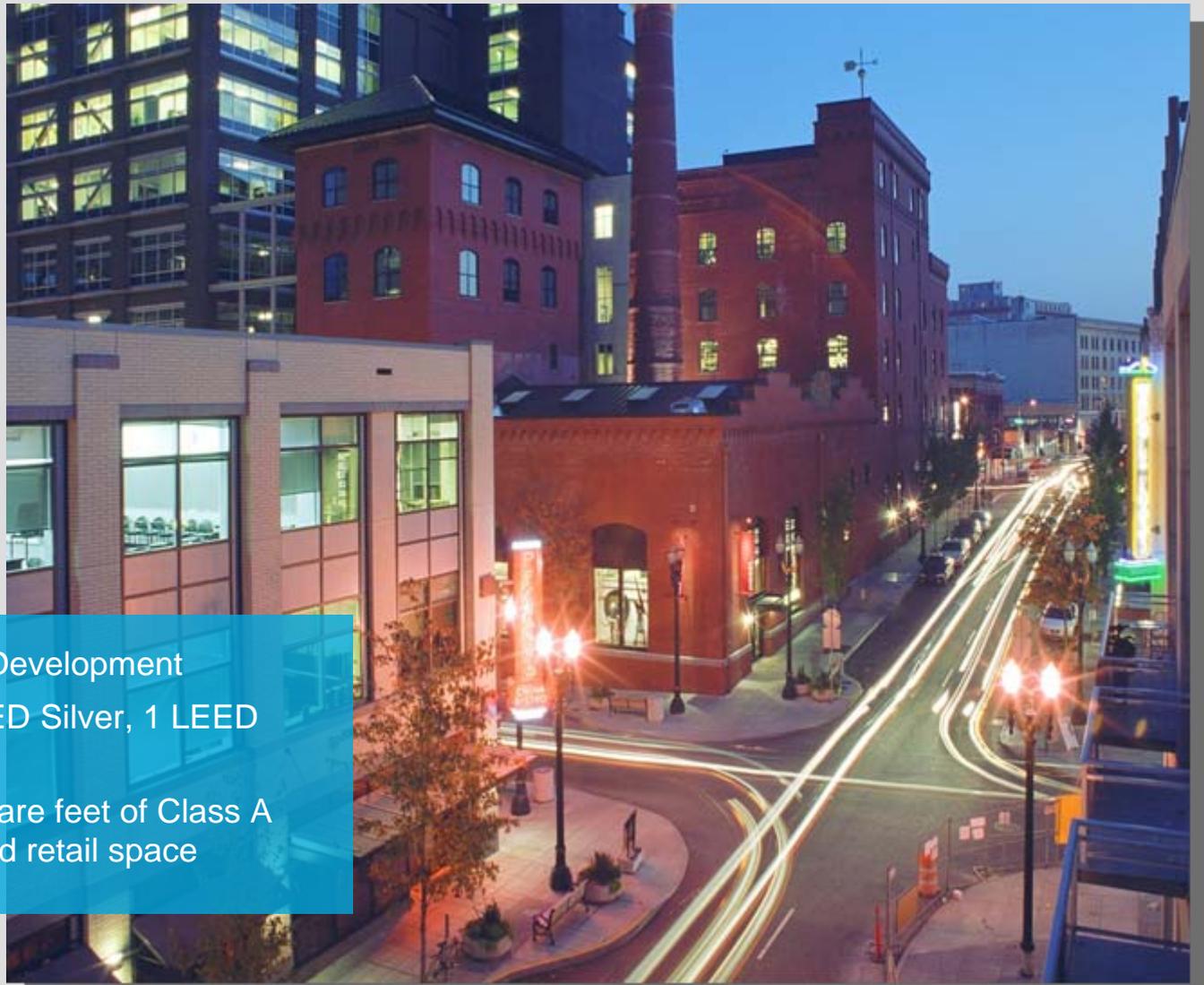
Principles of Place

- Build community, create inviting spaces
- Minimize carbon footprint, reduce energy dependence
- Incorporate open space, connect people to nature
- Encourage alternative transportation, 20-minute living
- Craft the first 30 feet and inspire with art



GREEN BUILDING EXAMPLES

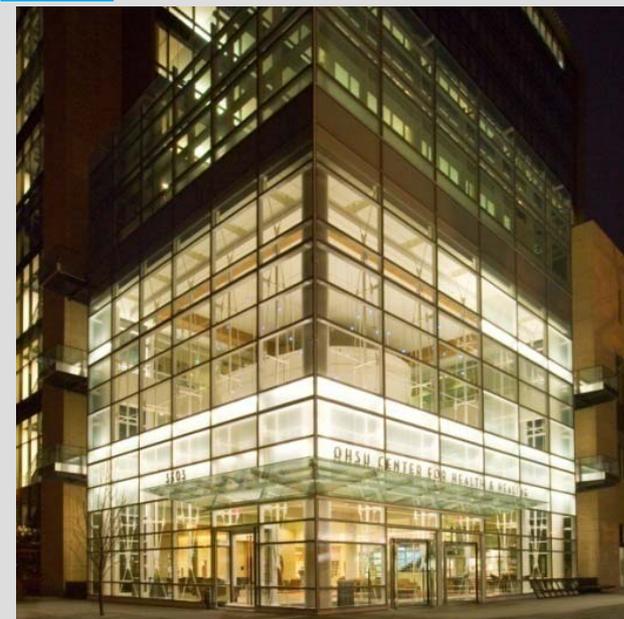
Brewery Blocks . Portland, Oregon



- Vibrant Mixed-Use Development
- 4 LEED Gold, 1 LEED Silver, 1 LEED Platinum buildings
- Over 1.7 million square feet of Class A office, residential and retail space

GREEN BUILDING EXAMPLES

South Waterfront, OHSU . Portland, Oregon



OHSU Center for Health and Healing
412,000 sq. ft. 16-story building
Certified LEED Platinum

- Building Integrated Solar PV
- Building Energy Conservation at 61%
- Two-story Trombe Wall
- Sophisticated Building Controls
- Five 60kW natural gas microturbines
- Daylighting Controls
- 100% Wastewater Treatment

NATIONAL BUILDING MUSEUM LECTURE

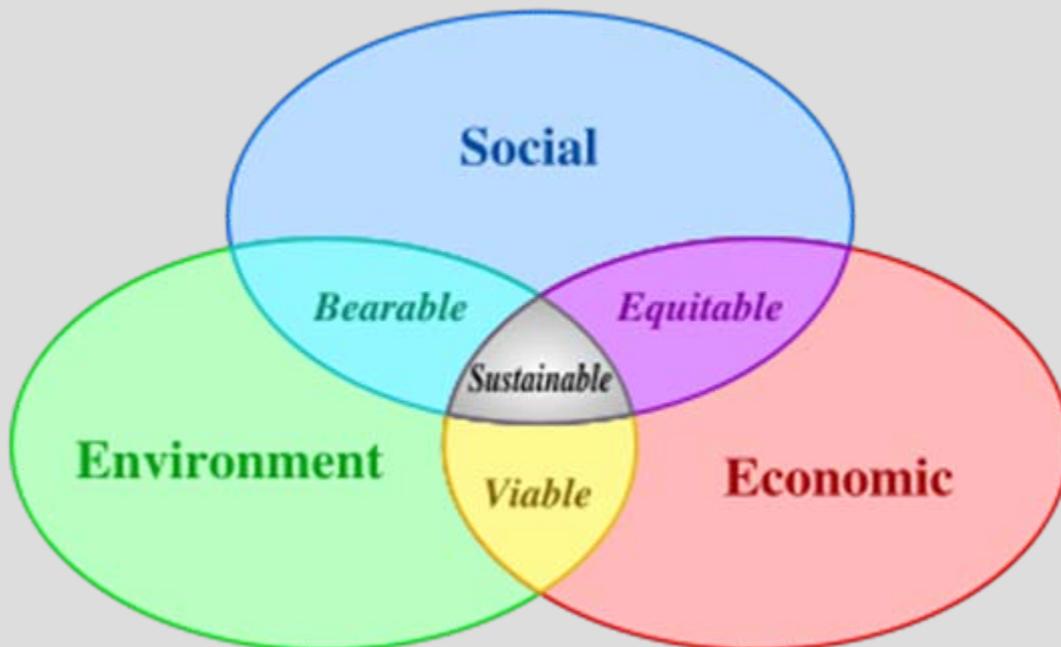


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SUSTAINABLE DEVELOPMENT STRATEGIES

What is Sustainable Development?

Sustainable development is a pattern of resource use that aims to meet human needs while preserving the natural environment so that these needs can be met not only in the present, but in the indefinite future.



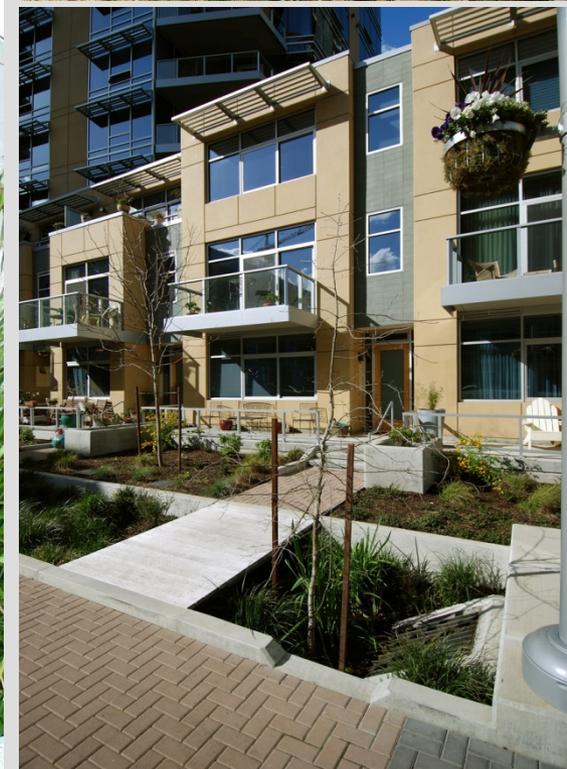
People. Planet. Profit.

SUSTAINABLE DEVELOPMENT STRATEGIES

Environmental Benefits



- Create Regenerative Built Environments
- Produce More Energy than You Consume
- Consume More Waste than We Produce
- Make a Positive Impact on Ecosystems
- Create Great Places for People to Live, Work and Learn



SUSTAINABLE DEVELOPMENT STRATEGIES

Social Benefits

- Connect people and buildings to nature
- Inspire communities with art
- Increased social interaction
- Improved quality of life
- Create social equity



SUSTAINABLE DEVELOPMENT STRATEGIES

20-Minute Living

- Similar to “Smart Growth”
- Characterized by proximity to transit options
- 20-minute living, preferably by walking
- Choose urban sites adjacent to services
- Demographic and economic diversity



SUSTAINABLE DEVELOPMENT STRATEGIES

Economic Benefits

- Reduce infrastructure inefficiencies
- Lower operating costs
- Mitigate risk of rising energy cost
- Increase productivity and retention of workforce
- Improve efficiency of regional markets



SUSTAINABLE DEVELOPMENT STRATEGIES

LEED – Hard Costs at Various Certification Levels



LEED Platinum Certification

- Approx. 1 - 3% first cost premium
- 40% - 60% energy savings, potential for \$100,000+ energy savings

(Some Gold buildings save as much energy as Platinum buildings)



LEED Gold Certification

- Approx. 1% first cost premium
- 30% - 40% energy savings over baseline or potential for up to \$100,000 annual energy savings

(Silver and Gold buildings can have comparable energy savings)



LEED Silver Certification

- No initial first cost premium
- 20% - 30% energy savings over baseline, potential for up to \$70,000 savings annually

(% savings varies depending on size of building, building use and type of MEP systems)

GERDING EDLEN SUSTAINABLE SOLUTIONS

Sustainability Statistics

- Gerding Edlen LEED Projects – 39 Total
 - LEED Platinum (5)
 - LEED Gold (27)
 - LEED Silver (7)
- The Future as Distributed Infrastructure
 - Renewable Energy
 - Sewage
 - Water



Toilets and urinals flushed
with reclaimed water
DO NOT DRINK



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LIVABLE PLACE INDEX™ – Measuring Sustainability

Our Livable Place Index (LPI) tracks the impact of each of our buildings' energy, water and carbon emission savings and translates those savings into everyday terms.



PLANET
Annual Savings



PEOPLE
20-Minute Living



PROFIT
Economic Impact

LIVABLE PLACE INDEX™ – Measuring Sustainability

The Casey . Portland, Oregon

LIVABLE PLACE INDEX



The Casey

PLANET

Annual Savings

ENERGY

889,804 KWH

81 homes

AIR

266,585 LBS CO₂

25 cars

WATER

625,591 GAL

31,280 showers

LEED

Platinum

Certified



LIVABLE PLACE INDEX™ – Measuring Sustainability

The Casey . Portland, Oregon

PEOPLE

20-Minute Living

CONTEXT

Walkscore™: 98

Walker's Paradise

Public Transport: 6

Portland streetcar, bus routes,
bike lanes

COMPLIMENT

Art & Culture: 2

Façade Art Glass Display, lobby
artwork

Community Amenities: 1

Café Umbria

Connection to Nature: 2

Ecoroof, views

Transport Alternatives: 2

Flexcars, bike storage

Affordable Housing: N/A



LIVABLE PLACE INDEX™ – Measuring Sustainability

The Casey . Portland, Oregon

PROFIT

Economic Impact*

Jobs Created: 807

Construction: 752

Post-Construction: 55

Fiscal Impact: \$9,242,375

Federal, State, & Local
Tax Revenue

Total Impact: \$126,670,996

Direct, Indirect and Induced
Economic Effects

*generated using IMPLAN®

11.29.2007



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NATIONAL BUILDING MUSEUM LECTURE

“Within five years our buildings need to produce more energy than they consume and consume more waste than they produce.”

- Mark Edlen and Dennis Wilde, January 2007

Six months later...

“How the heck are we going to do that?!?”

- Mark Edlen and Dennis Wilde, June 2007



GERDING EDLEN SUSTAINABLE SOLUTIONS

Three Divisions

High Performance Buildings

- High Performance/Green Building Consulting
- LEED Project and Process Management (NC, CI, EB, ND, etc.)
- Financial incentive coordination
- Best practices sharing (tenant manuals, LPI, Principles of Place)

Distributed Infrastructure

- Renewable Energy, Water Conservation Systems, On-site Wastewater Treatment, Etc.
- Third party ownership model that pairs Tax Credit Investors with System Hosts

Sustainability Master Planning

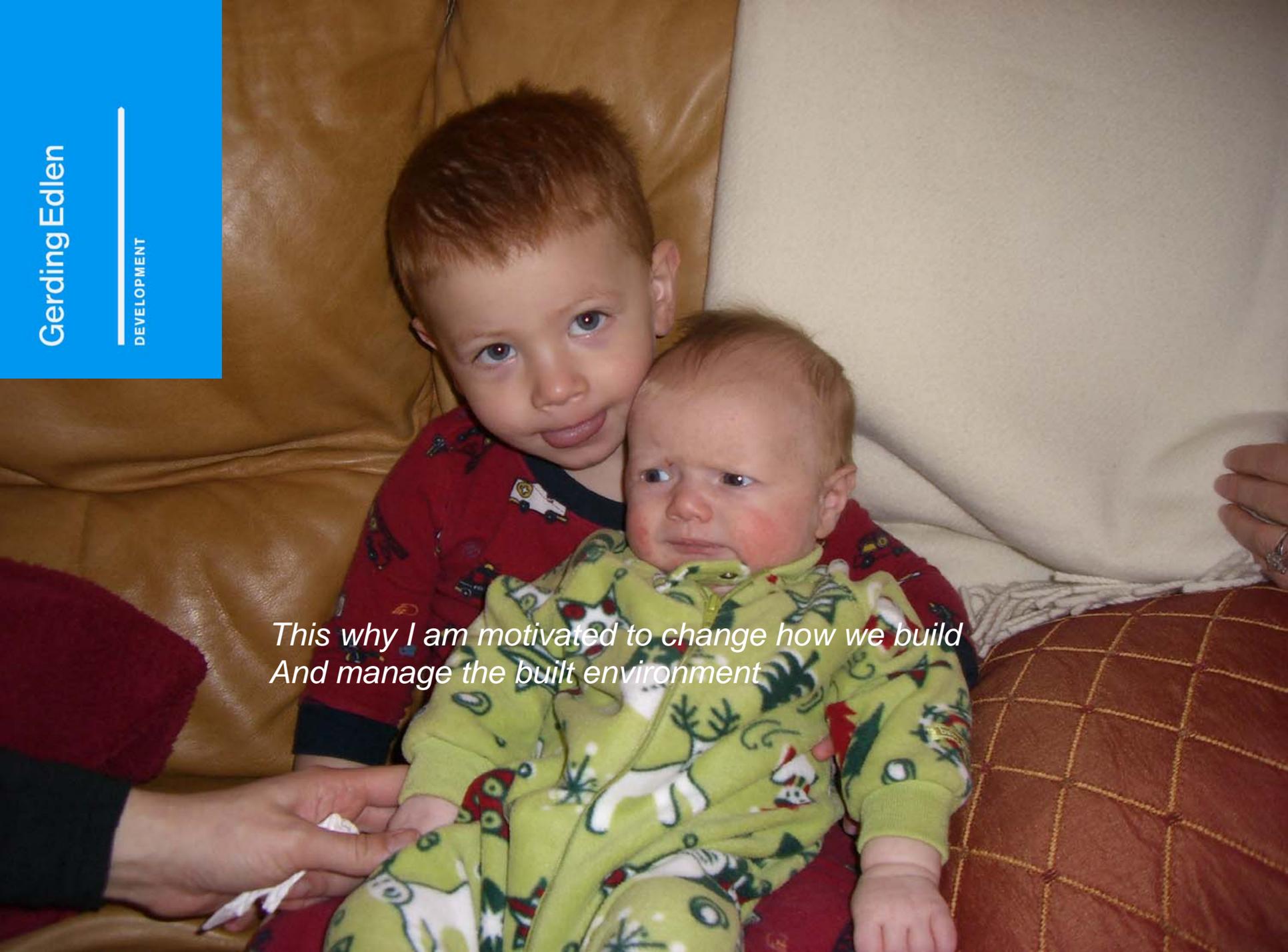
- Build Awareness
- Baseline the Status Quo
- Create a Vision of the Future
- Develop a Strategic Playbook of Tactics

THE FUTURE OF SUSTAINABLE DEVELOPMENT

Our Goals

- It's all about speed - we must move fast
- Take a leadership position and export the expertise
- Implement adaptive codes
- Educate, people are beginning to understand the issues
- Education = improved technology & systems
- Government encouragement, in some cases – requirements
- Government must lead by example with their own buildings and actions
- Innovation & courage on the private side to build in a sustainable fashion
- Sustainable lifestyles - it won't be long before customers demand a sustainable way of life





*This why I am motivated to change how we build
And manage the built environment*