

# Institute for the Built Environment Green Building & Beyond

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Business Environmental Program Series  
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Institute *for the* Built Environment  
**Colorado State University**  
COLLEGE OF APPLIED HUMAN SCIENCES

## Mission

*To foster sustainability of built & natural environments through interdisciplinary, research-based educational forums.*



# HOW DO WE DEFINE SUSTAINABILITY?

Humanity living equitably  
within the means of nature.

Mathis Wackernagel and William Rees (1996)

## IBE Activities

### Outreach Education

Green Building Certificate Programs

### Research

Greening Industry Practices

### Service Learning Project Work

Green Building and LEED Management  
Corporate Sustainability



## IBE Projects (partial list)

### Charrettes

- Transit Center, US Forest Service/IWC, Poudre Fire Station 4, UW Berry Center & Visual Arts, Denver Green School, Thompson Schools, Rocky National Park



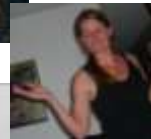
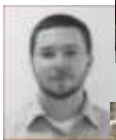
### Green Building

- **Schools** - Fossil Ridge, Zach and Bethke Elementary, Alamosa Schools, Aurora P8
- **Campus Buildings** - CSU Transit Center, School of Business, U of Wyoming Visual Arts + Berry Center
- **Office Buildings** - Sundance Medical, Seven Generations, Burr Oak
- **Non-profits** - United Way Housing Services, Cheyenne Botanic Gardens



### Sustainability Management Plans

- New Belgium Brewing, McWhinney, RB+B Architects



## Outcomes – Great Green Jobs!

Grant French - Swinerton, San Fran

Katherine Pettit – Bank of America, NC

John Mlade - Perkins & Will, Atlanta

Annie Lilyblade, Erik Bergstrom - Neenan

Derek Esposito - Natural Building &  
Renewable Energy

Josie Plaut, April Wackerman – IBE @ CSU

Ben Stanley - YRG Sustainability Consultants

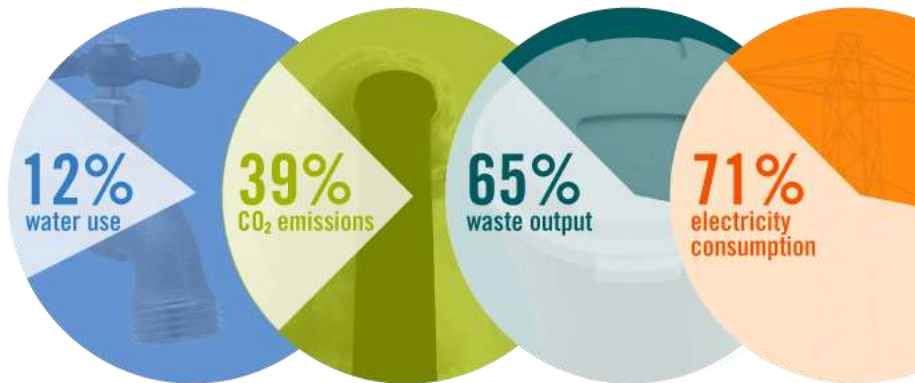
Dana Villeneuve – Architectural Energy Corp.

Stephanie Hodgin – Rocky Mountain Institute

# Why are **buildings** so important to sustainability?



## U.S. Building Impacts:



## Benefits of Green Buildings

- Energy efficiency
- Water savings
- High performance lighting
- Improved indoor air quality
- Temperature control & comfort
- Emissions reductions
- Reduced Construction Waste



Fossil Ridge High School, Fort Collins, CO



Kinard Junior High School, Fort Collins, CO

## METRICS AND ACCOUNTABILITY

How do we know  
if we're green?

# LEED

Leadership in Energy & Environmental Design

## Consensus-Based Standards

USGBC has four levels of LEED:



## LEED Prerequisites and Credits

*Project must meet all prerequisites*

	Prereqs	Points	
Sustainable Sites	1	26	Certified (40-49 points)
Water Efficiency	1	10	Silver
Energy and Atmosphere	3	35	(50-59 points)
Materials and Resources	1	14	Gold
Indoor Environmental Quality	2	15	(60-79 points)
Innovation in Design	0	6	Platinum
Regional Priority	0	4	(80+ points)
<b>Totals</b>	<b>8</b>	<b>110</b>	

Like a Diploma



So what would  
**beyond green**  
mean?





## LIVING BUILDING CHALLENGE™ 2.0

A VISIONARY PATH TO A RESTORATIVE FUTURE

[www.ilbi.org](http://www.ilbi.org)



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### THE METAPHOR OF THE FLOWER

ROOTED IN PLACE AND YET:

Harvests all energy + water

Is adapted to climate and site

Operates pollution free

Is comprised of integrated systems

Is beautiful



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## WHY A CHALLENGE?

Infusing inspiration and poetry

Embracing the psychology of the 'end game'

Rewarding early adopters

Creating models for the future

Stirring the pot

Pulling the market forward

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## TWO RULES

1. All Imperatives assigned to a Typology are mandatory.
2. Living Building Challenge certification is based on actual, rather than modeled or anticipated, performance.

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LIMITS TO  
GROWTH  
URBAN  
AGRICULTURE  
HABITAT  
EXCHANGE  
CAR FREE  
LIVING



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# SITE

Restoring a healthy coexistence with nature



NET ZERO  
WATER  
ECOLOGICAL  
WATER FLOW



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# WATER

Creating water independent sites, buildings + communities



NET ZERO  
ENERGY



# ENERGY

*Relying only on current solar income*



CIVILIZED  
ENVIRONMENT  
HEALTHY AIR  
BIOPHILIA



# HEALTH

*Maximizing physical and psychological health + well being*



RED LIST  
EMBODIED  
CARBON  
FOOTPRINT  
RESPONSIBLE  
INDUSTRY  
APPROPRIATE  
SOURCING  
CONSERVATION  
+ REUSE



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# MATERIALS

Endorsing products + processes that are safe for all species through time



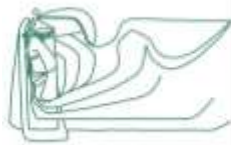
HUMAN SCALE  
+ HUMANE  
PLACES  
DEMOCRACY  
+ SOCIAL  
JUSTICE  
RIGHTS TO  
NATURE



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# EQUITY

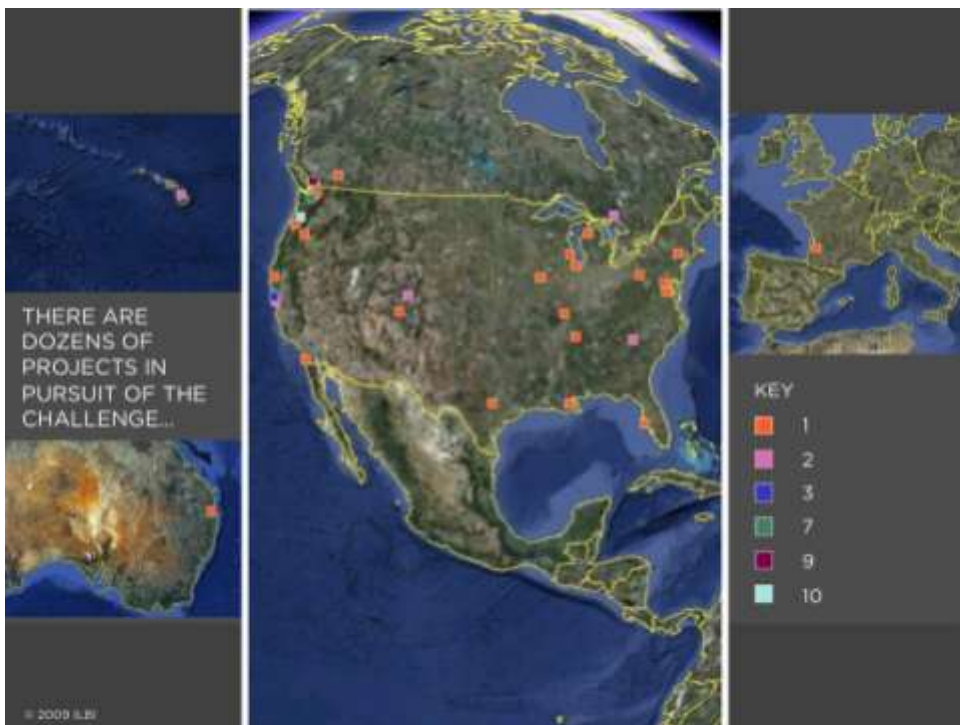
Supporting a just, equitable world



© 2009 I.D.B.

# BEAUTY

Celebrating design that creates transformative change





JOIN THE COMMUNITY [WWW.ILBI.ORG](http://WWW.ILBI.ORG)

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## A tree is not sustainable.

“By looking at just the building project, and not the larger whole, you are inherently promoting non-sustainability.”

Tim O’Riordan UK  
Sustainable Development Commission

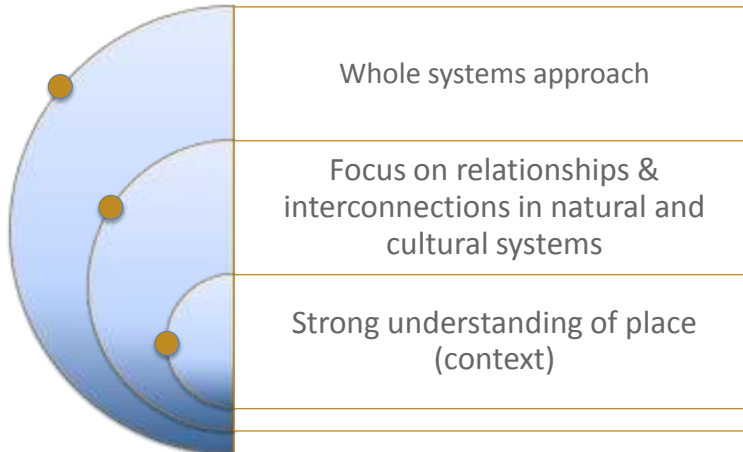




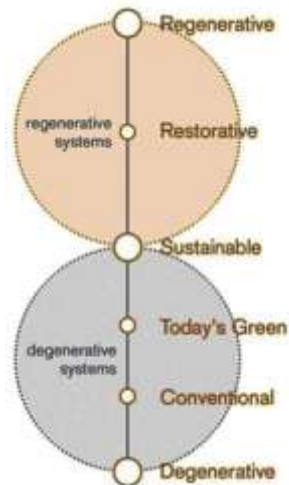
Living  
Environments in  
Natural,  
Social &  
Economic  
Systems



# How do we get there?



# Degenerative & Regenerative



**Regenerate**  
To give new life, strength, or vigor

**Sustain**  
To keep from failing; to maintain

**Degenerate**  
Having declined in worth

## What does it do?



### LENSES Framework

- Guide dialogue and redefine success
  - Shift paradigms and mindsets toward regenerative action

### LENSES Guidebooks

- User and Participant Overview
- Facilitator's Toolkit
  - Process
  - Metrics
  - Activities
  - Planning & Logistics



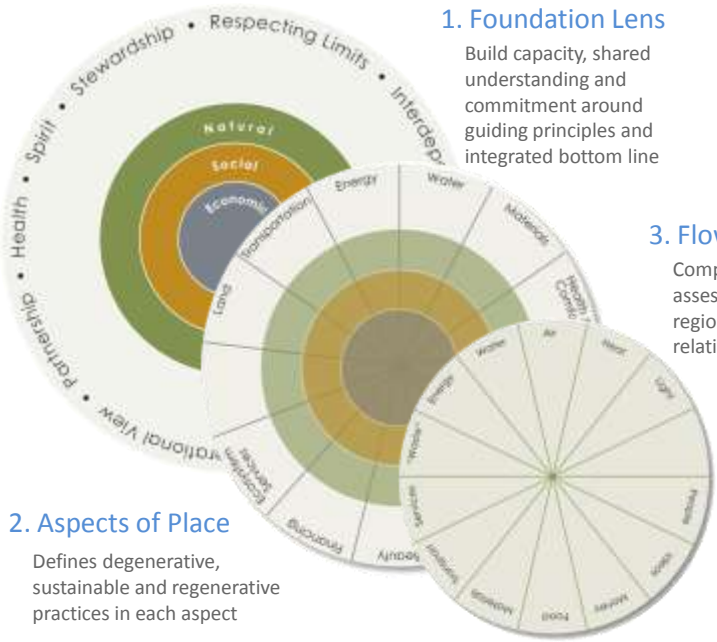
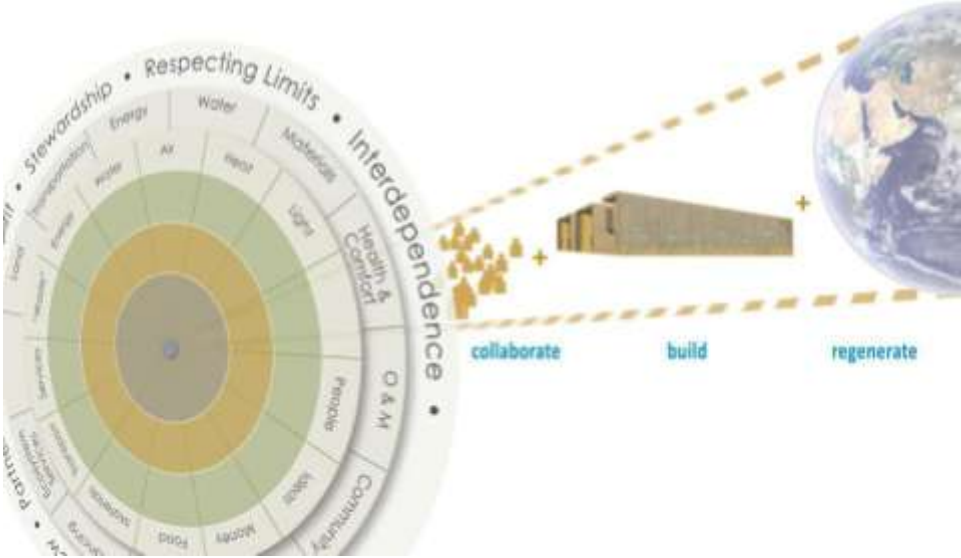
## Types of Projects



- Master Planning for Communities
- New and Existing Private, Institutional & Government Built Environments
- New and Existing Homes/dwellings



# How it works

### 1. Foundation Lens

Build capacity, shared understanding and commitment around guiding principles and integrated bottom line

### 2. Aspects of Place

Defines degenerative, sustainable and regenerative practices in each aspect

### 3. Flows Lens

Comprehensive assessment of site and region over time + relationships

## Summary



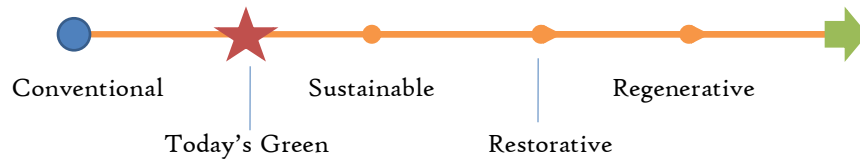
Engage the human being

Redefine success

Create deeply appropriate solutions



It's just the beginning...



# Thank You!

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