

LIVING BUILDING CHALLENGESM

A Visionary Path to a Restorative Future

www.livingbuildingchallenge.org



INTERNATIONAL
LIVING FUTURE
INSTITUTESM



INTERNATIONAL LIVING FUTURE INSTITUTE

An international vision for community-driven transformation.




**CASCADIA GREEN
BUILDING COUNCIL**

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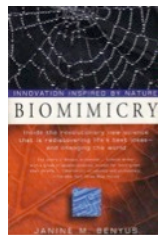


**ECOTONE
PUBLISHING**



**LIVING BUILDING
CHALLENGE**

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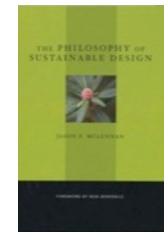
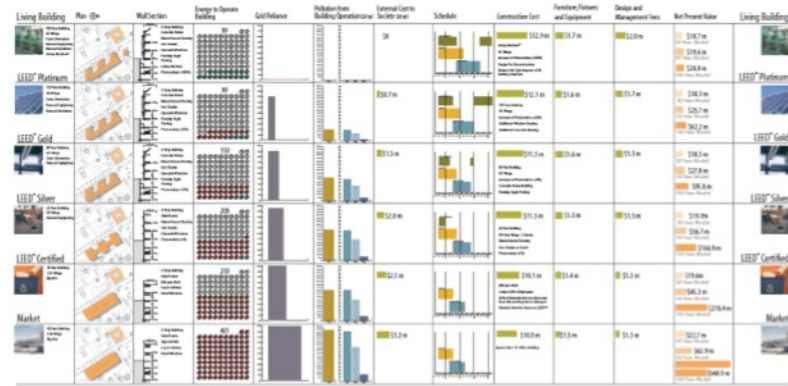
BIOMIMICRY PUBLISHED

MCLENNAN COINED
“LIVING BUILDING”



“THE LIVING BUILDING”
ARTICLE PUBLISHED

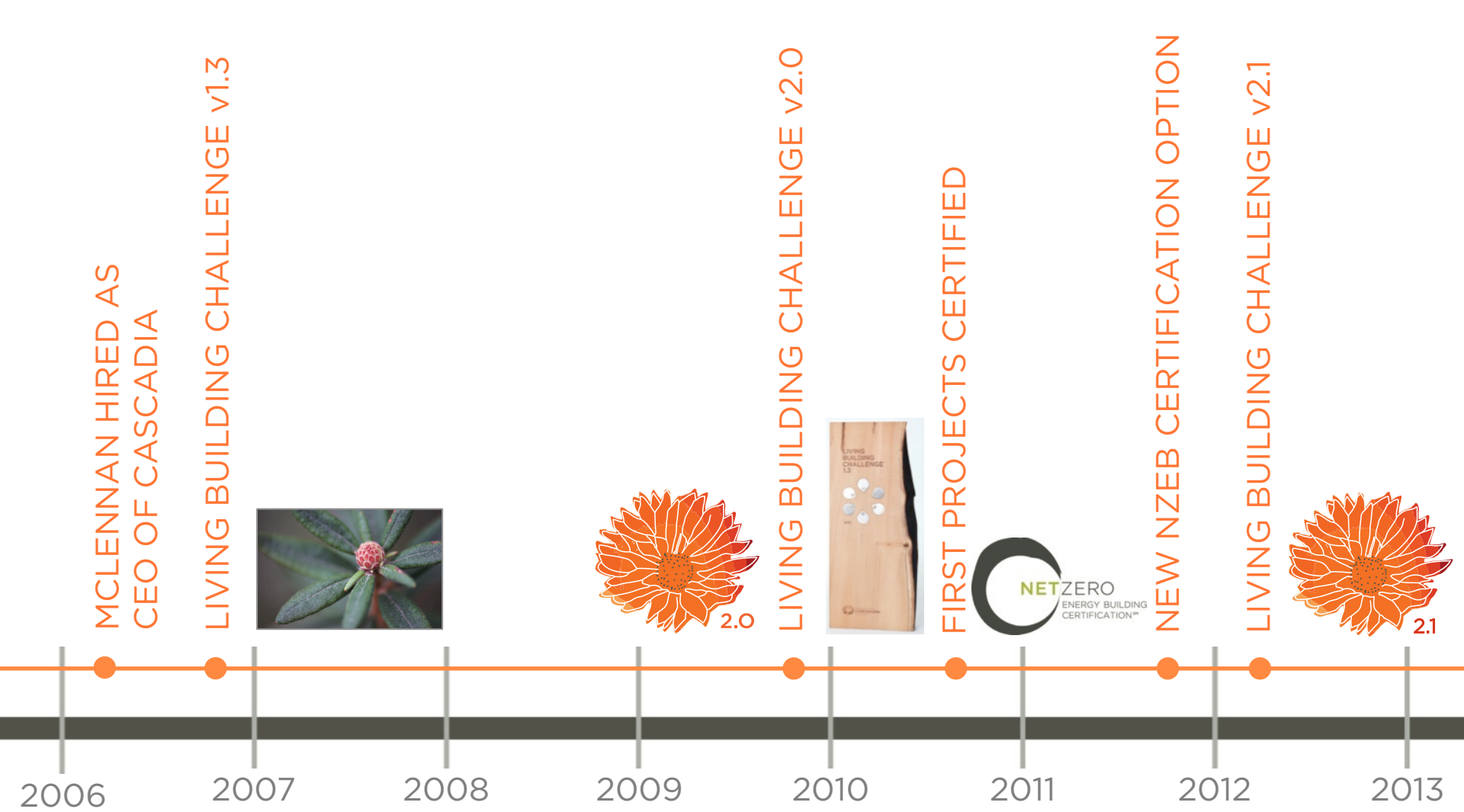
PACKARD SUSTAINABILITY MATRIX



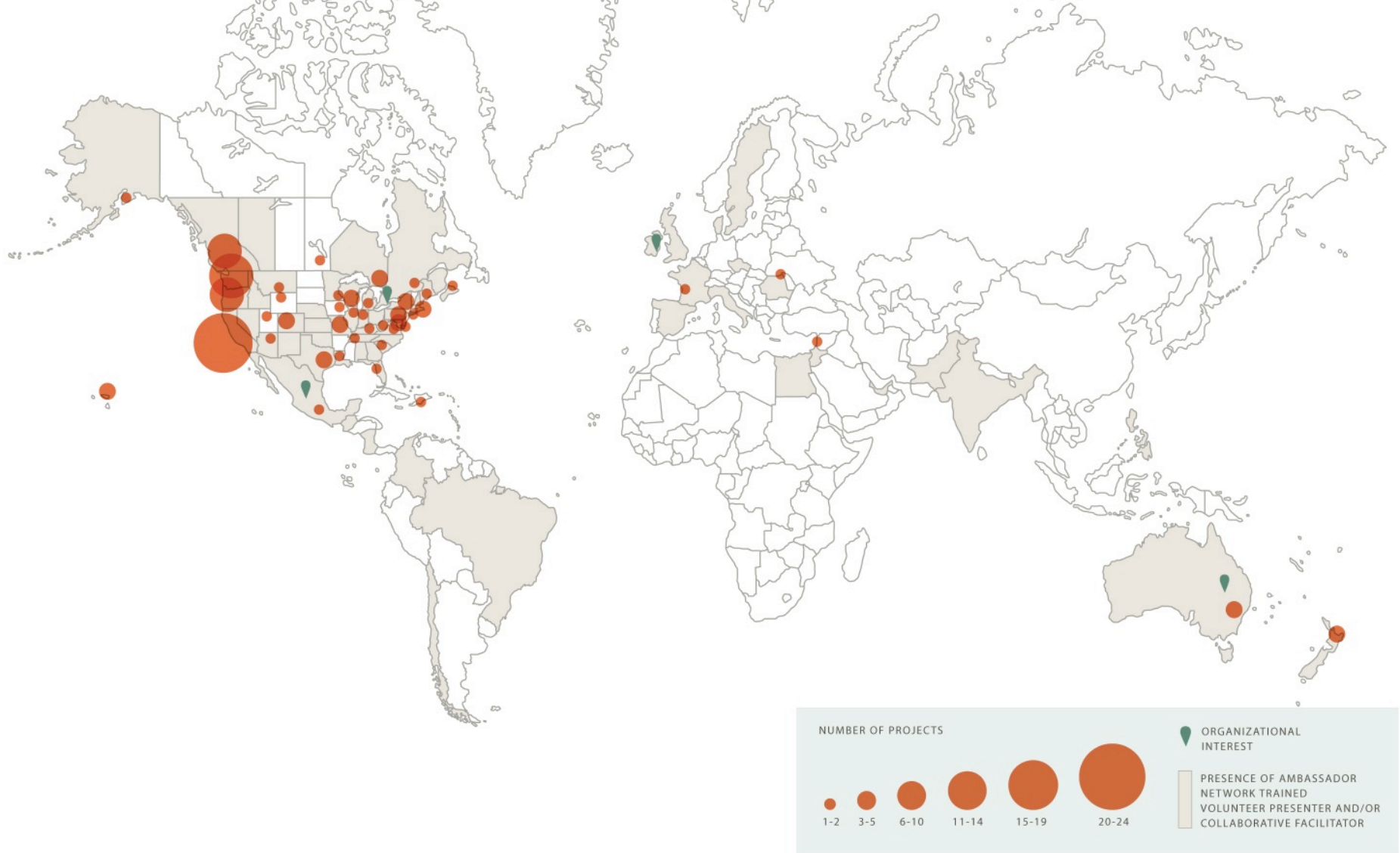
PHILOSOPHY OF SUSTAINABLE
DESIGN PUBLISHED

1997 1998 1999 2000 2001 2002 2003 2004 2005

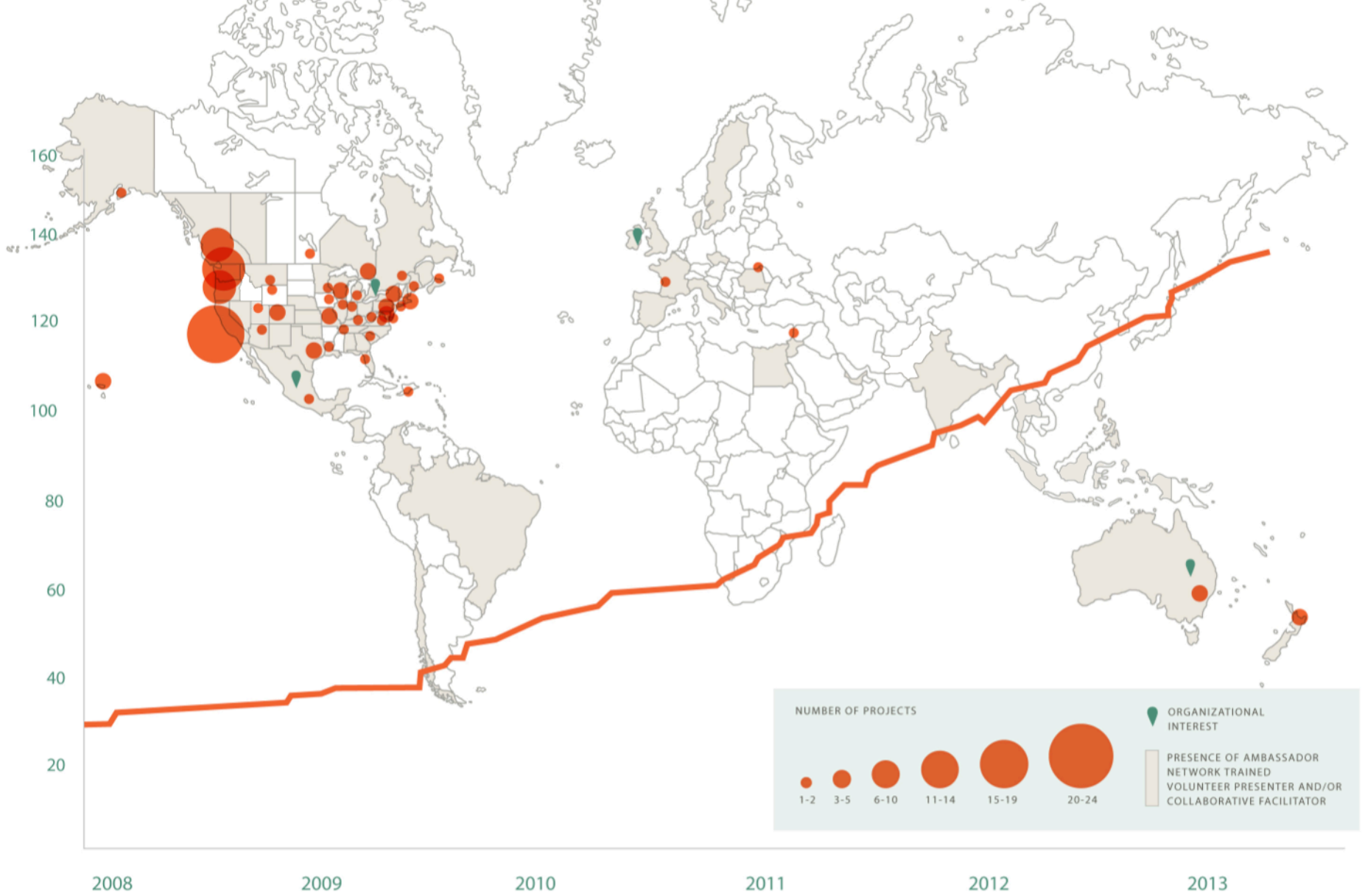
THE BACK STORY



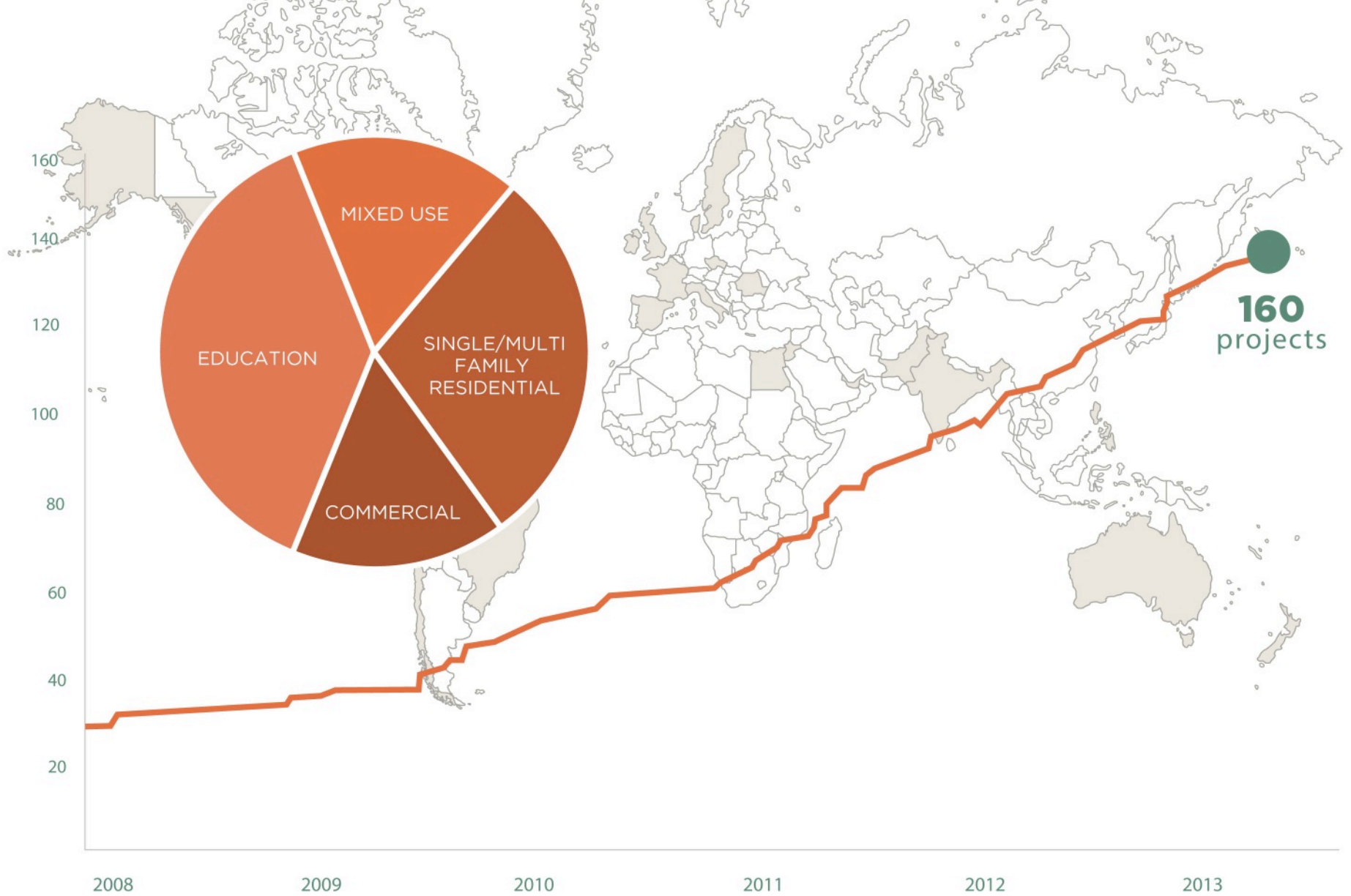
THE BACK STORY



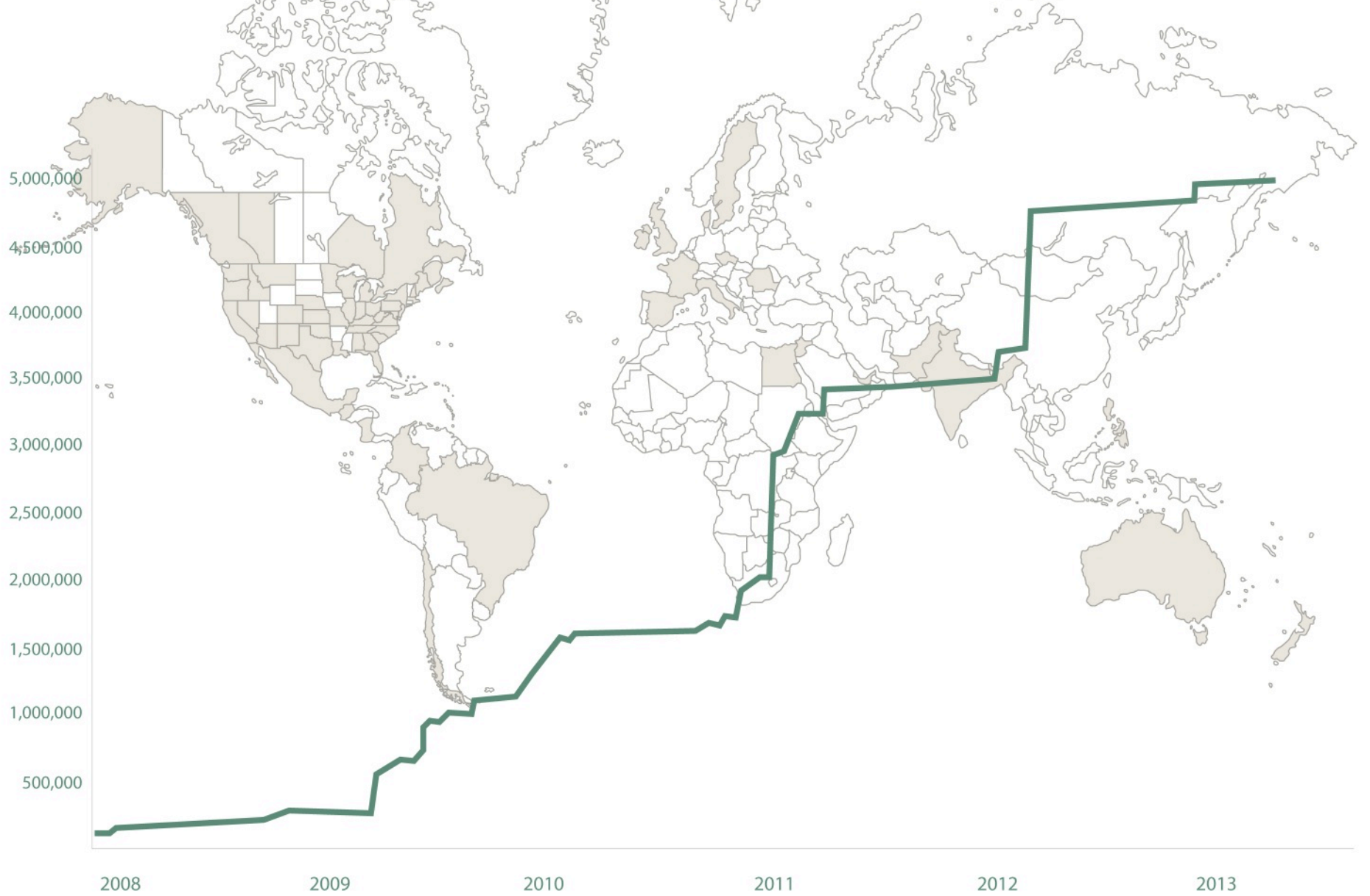
GLOBAL REGISTERED PROJECT MAP



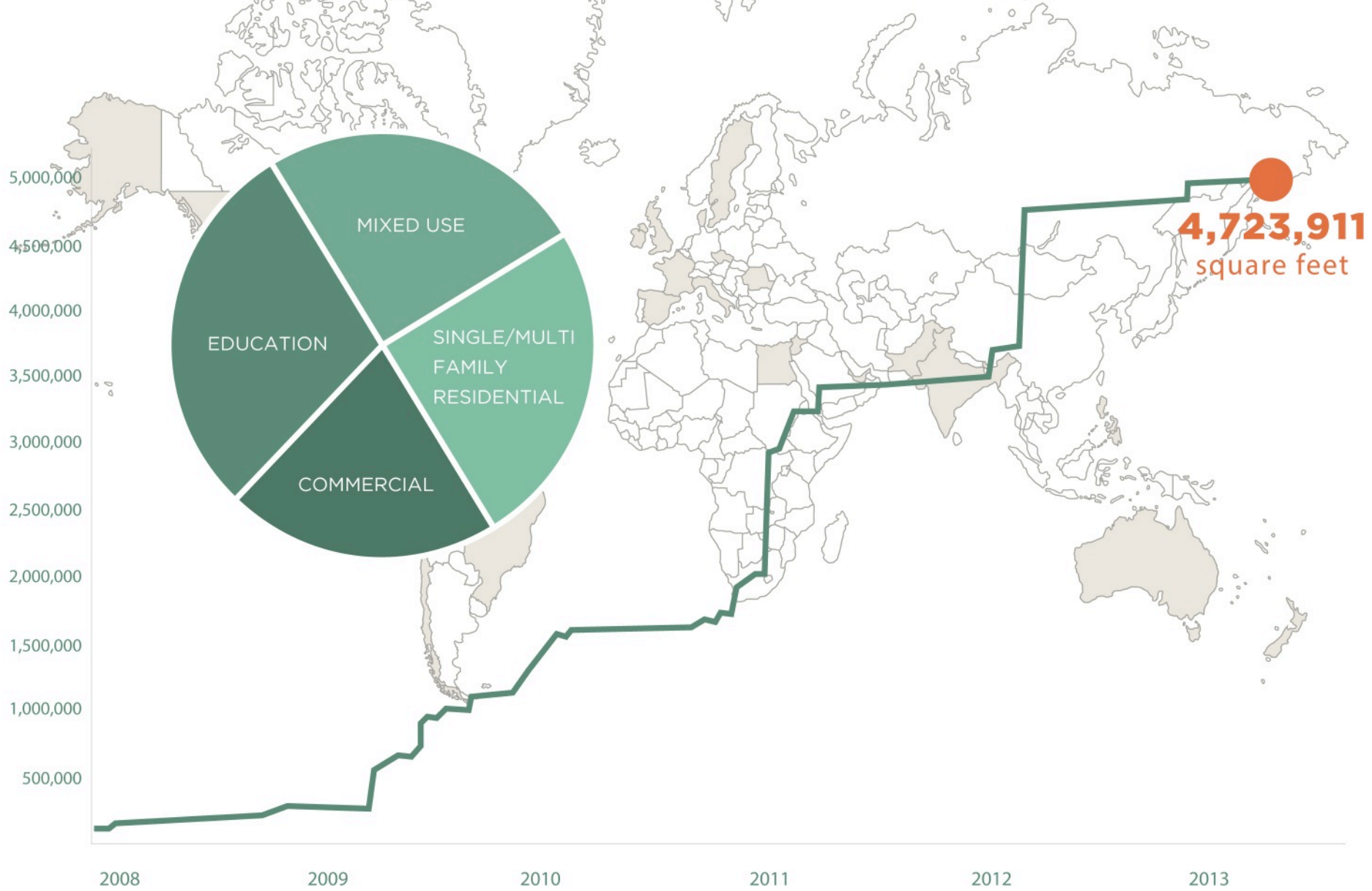
GLOBAL REGISTERED PROJECT MAP



GLOBAL REGISTERED PROJECT MAP



GLOBAL REGISTERED PROJECT MAP



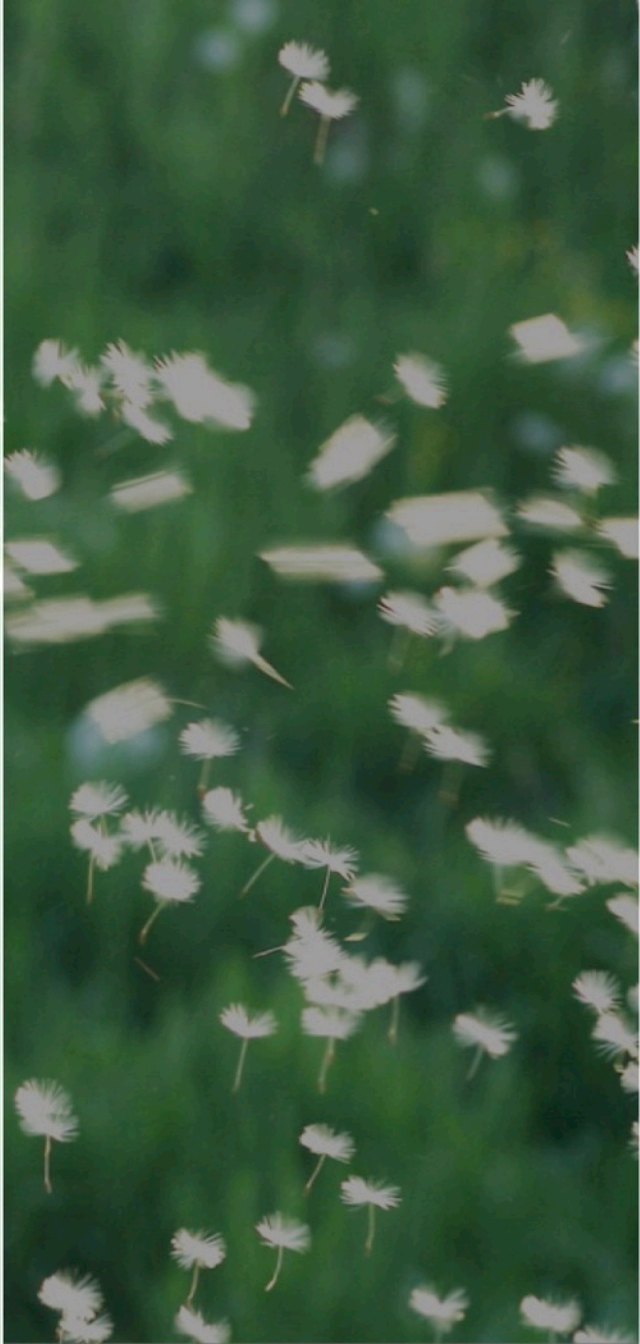
GLOBAL REGISTERED PROJECT MAP



INTERNATIONAL IMPACT



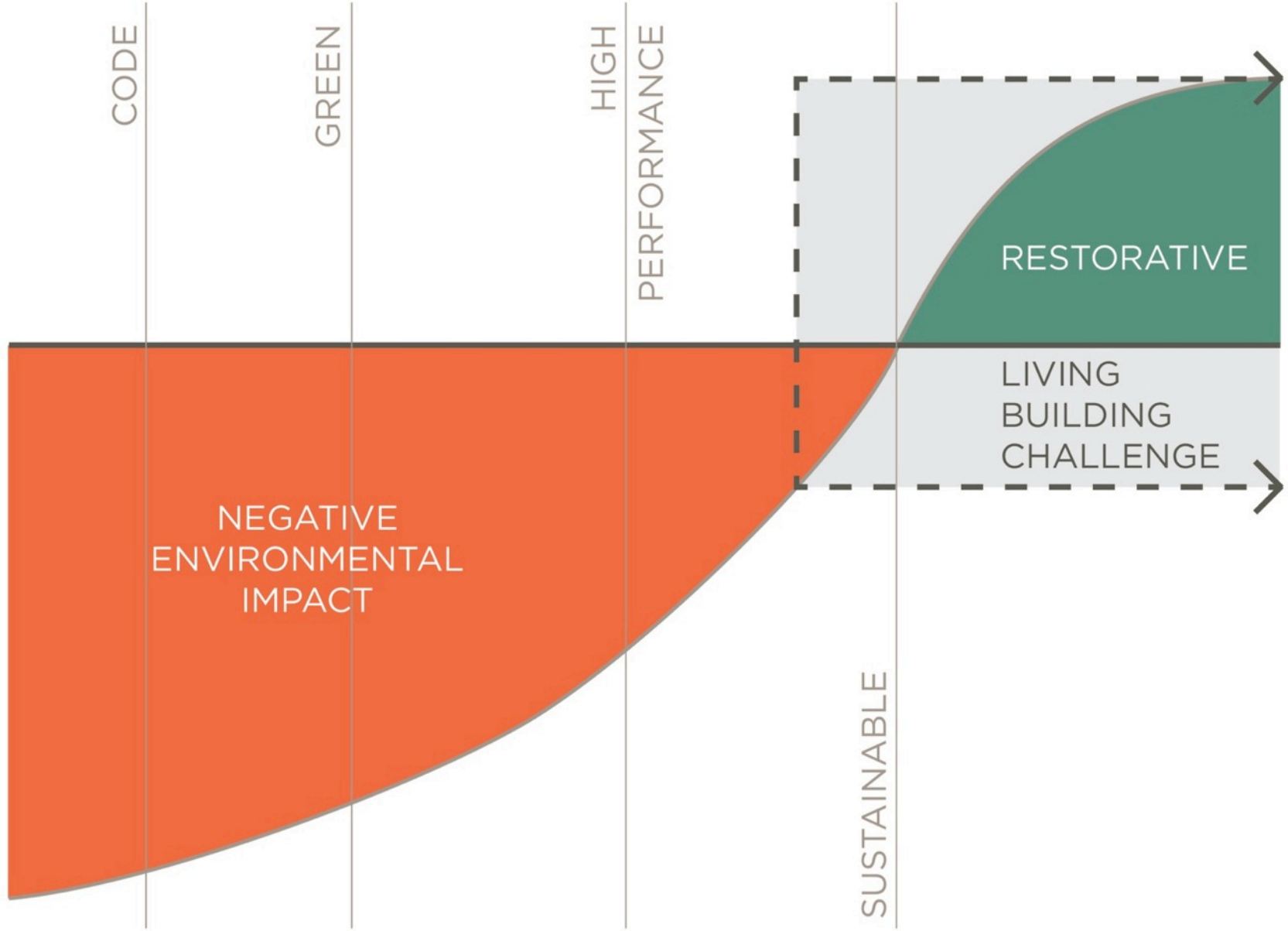
PHILOSOPHY



ADVOCACY TOOL



CERTIFICATION PROGRAM



CONTEXT

THE ECOLOGICAL PARADIGM: FROM GREEN BUILDINGS TO LIVING BUILDINGS

Biomimicry: using nature as
model, measure and mentor

The barriers to change are not
technological

The only limiting factor is
Motivation



THE METAPHOR OF THE FLOWER

ROOTED IN PLACE AND YET:

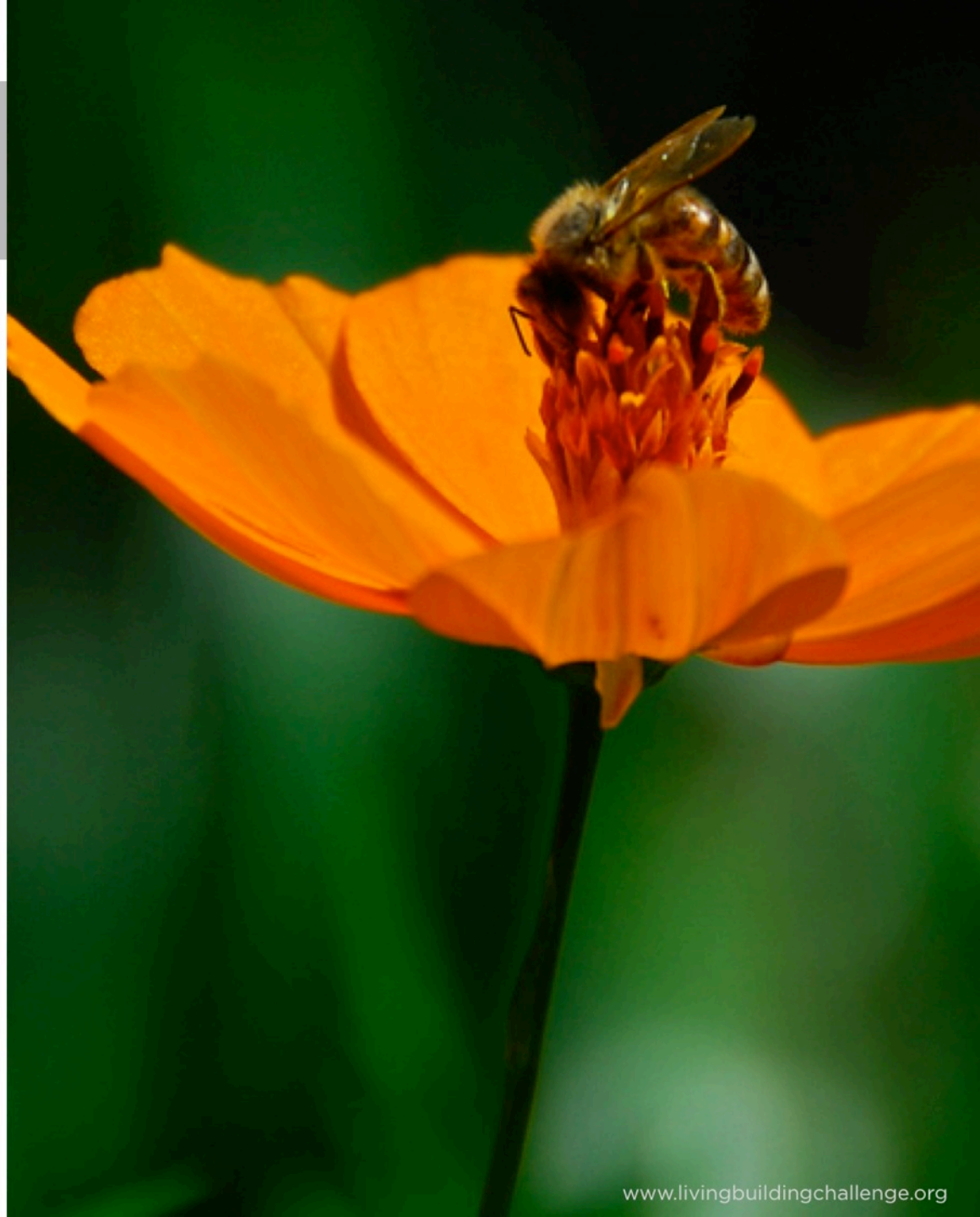
Harvests all energy + water

Is adapted to climate and site

Operates pollution free

Is comprised of integrated systems

Is beautiful



WHY A CHALLENGE?

Infusing inspiration and poetry

Rewarding early adopters

Creating models for the future

Stirring the pot

Pulling the market forward





EMBRACING THE PSYCHOLOGY OF THE “END GAME”



SITE



WATER



ENERGY



HEALTH



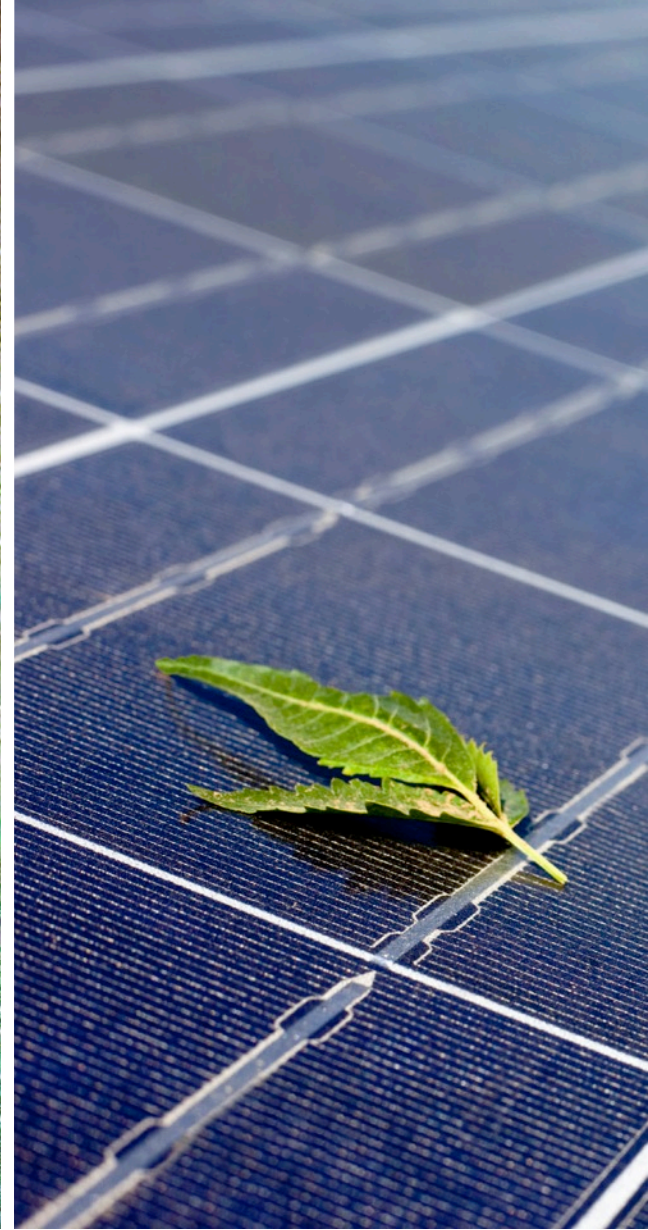
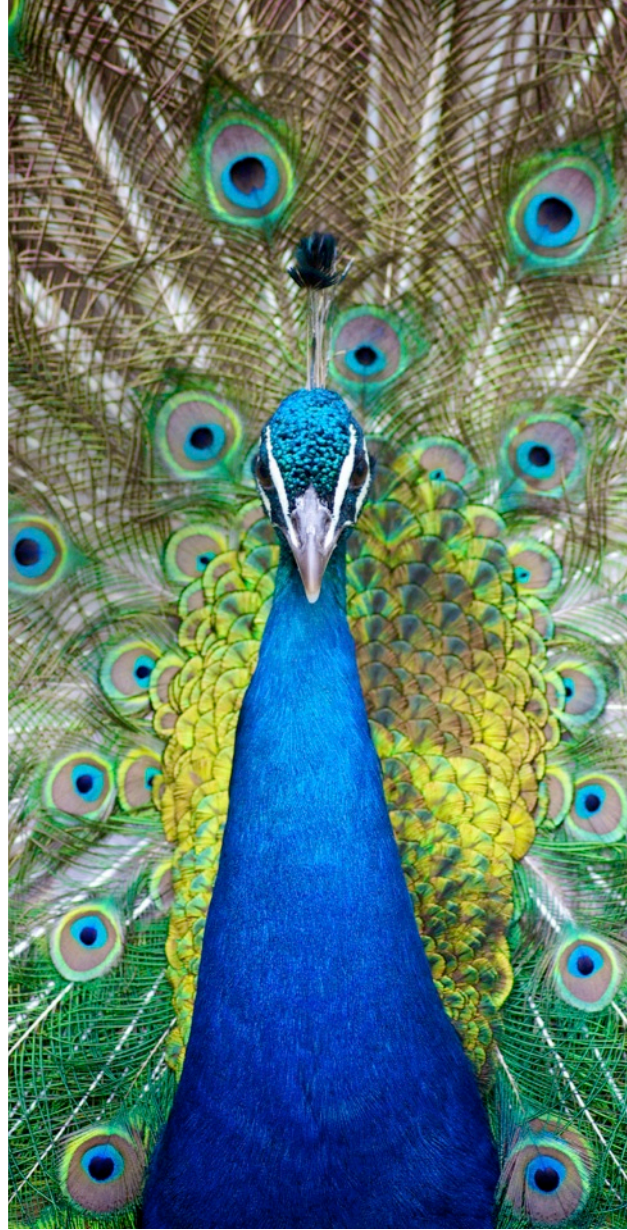
MATERIALS



EQUITY



BEAUTY



3 CERTIFICATION PATHS

LIVING BUILDING CERTIFICATION

All Imperatives assigned to a Typology are mandatory to earn “Living” status.

Certification is based on actual, rather than modeled or anticipated, performance over a 12-month occupancy period.



PETAL RECOGNITION

3 PETALS MINIMUM:

Water OR Energy OR Materials

PLUS

01: Limits to Growth

20: Inspiration + Education



NET ZERO ENERGY BUILDING

5 Imperatives

01: Limits to Growth

07: Net Zero Energy

18: Rights to Nature

19: Beauty + Spirit

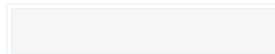
20: Inspiration + Education

Projects certified at “Living”
status are also Net Zero Energy
Building certified



NEIGHBORHOOD	BUILDING	LANDSCAPE + INFRASTRUCTURE	RENOVATION	
				01 LIMITS TO GROWTH
				02 URBAN AGRICULTURE
				03 HABITAT EXCHANGE
				04 CAR FREE LIVING
				05 NET ZERO WATER
				06 ECOLOGICAL WATER FLOW
				07 NET ZERO ENERGY
				08 CIVILIZED ENVIRONMENT
				09 HEALTHY AIR
				10 BIOPHILIA
				11 RED LIST
				12 EMBODIED CARBON FOOTPRINT
				13 RESPONSIBLE INDUSTRY
				14 APPROPRIATE SOURCING
				15 CONSERVATION + REUSE
				16 HUMAN SCALE + HUMANE PLACES
				17 DEMOCRACY + SOCIAL JUSTICE
				18 RIGHTS TO NATURE
				19 BEAUTY + SPIRIT
				20 INSPIRATION + EDUCATION

 Scale Jumping Solutions permissible



Imperative optional for corresponding Typology

SUMMARY MATRIX

01 LIMITS TO GROWTH

02 URBAN AGRICULTURE

03 HABITAT EXCHANGE

04 CAR FREE LIVING



SITE

Restoring a healthy coexistence with nature

05 NET ZERO
WATER

06 ECOLOGICAL
WATER FLOW



WATER

Creating water independent sites, buildings + communities



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ENERGY

Relying only on current solar income

08 CIVILIZED
ENVIRONMENT

09 HEALTHY AIR

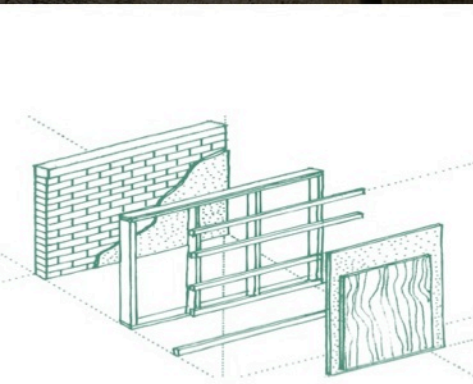
10 BIOPHILIA



HEALTH

Maximizing physical and psychological health + well being

- 11 RED LIST
- 12 EMBODIED CARBON FOOTPRINT
- 13 RESPONSIBLE INDUSTRY
- 14 APPROPRIATE SOURCING
- 15 CONSERVATION + REUSE



MATERIALS

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

16 HUMAN SCALE
+ HUMANE
PLACES

17 DEMOCRACY +
SOCIAL
JUSTICE

18 RIGHTS TO
NATURE

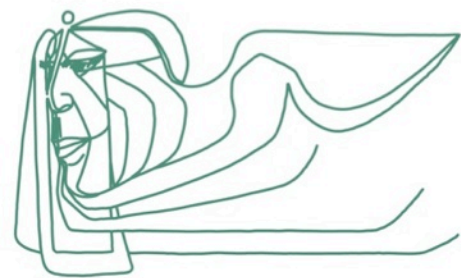


EQUITY

Supporting a just, equitable world

19 BEAUTY +
SPIRIT

20 INSPIRATION +
EDUCATION



BEAUTY

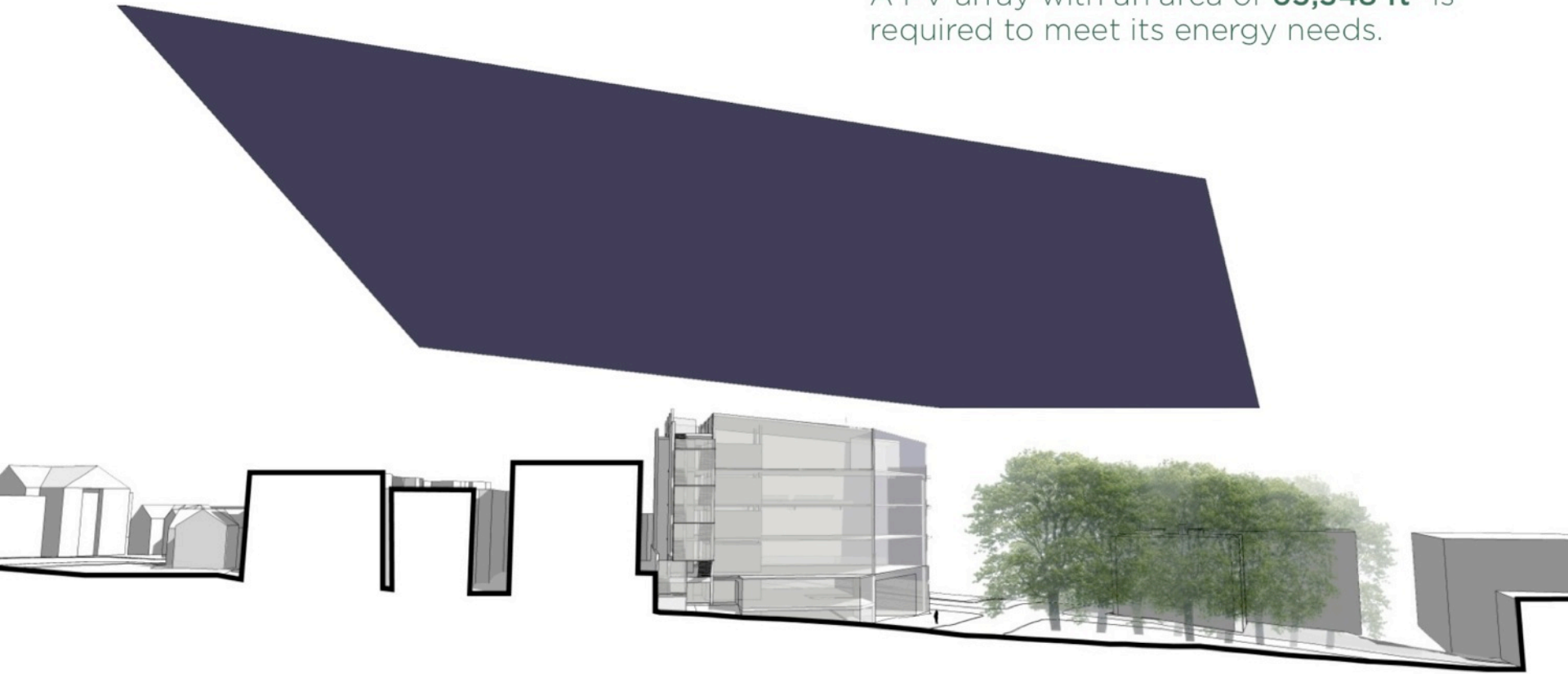
Celebrating design that creates transformative change



BULLITT CENTER SEATTLE, WASHINGTON

A typical building of this size has an **Energy Use Intensity of 72 kBtu/ft²/year.**

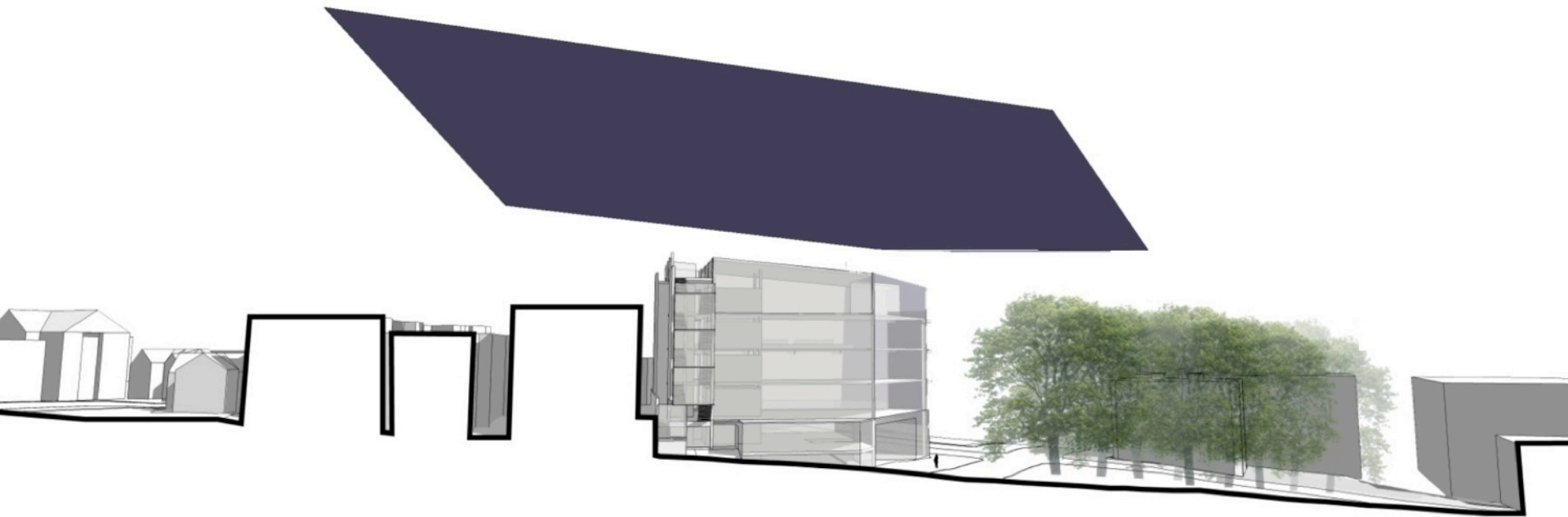
A PV array with an area of **63,348 ft²** is required to meet its energy needs.



BULLITT CENTER
SEATTLE, WASHINGTON

A building of this size meeting Seattle energy code has an **Energy Use Intensity of 51** kBtu/ft²/year.

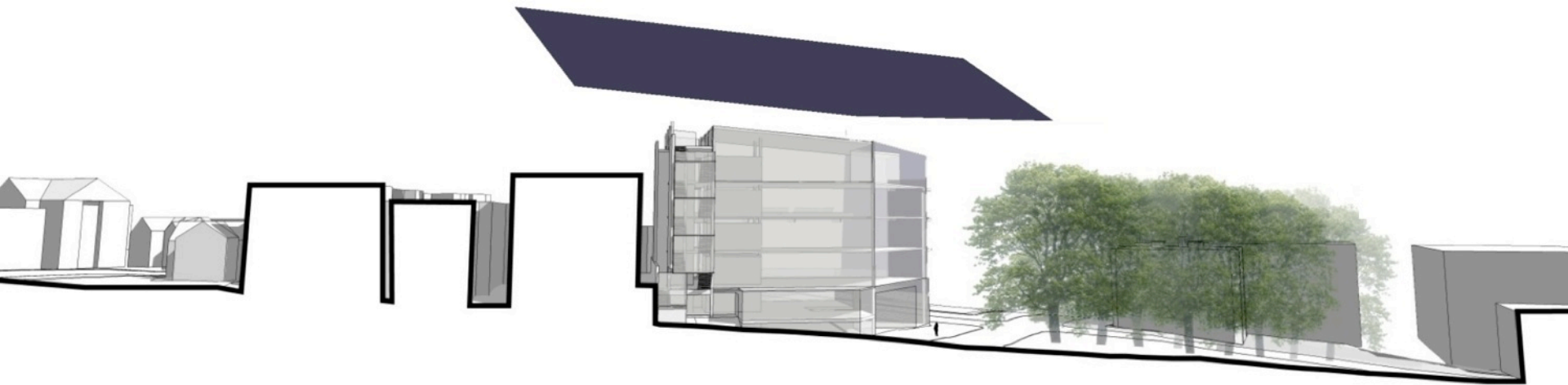
A PV array with an area of **44,752 ft²** is required to meet its energy needs.



BULLITT CENTER SEATTLE, WASHINGTON

A LEED Platinum certified building of this size has an **Energy Use Intensity of 32 kBtu/ft²/year**.

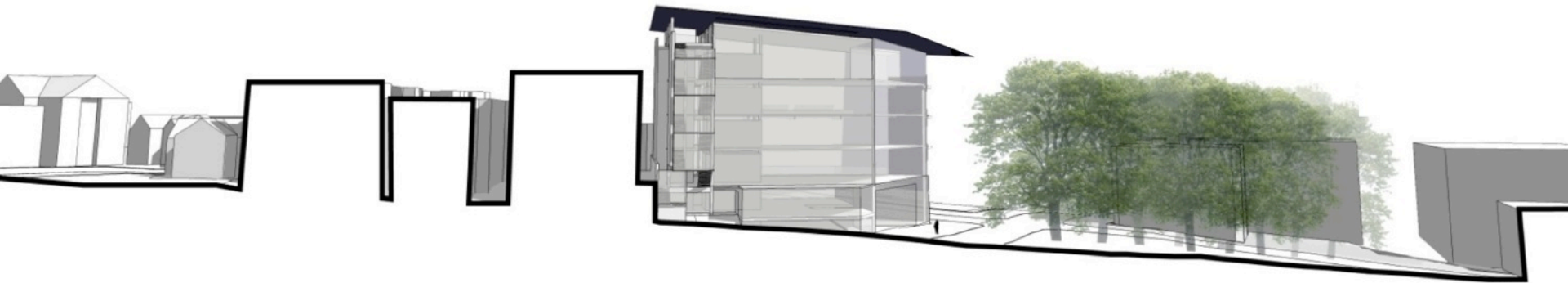
A PV array with an area of **28,599 ft²** is required to meet its energy needs.



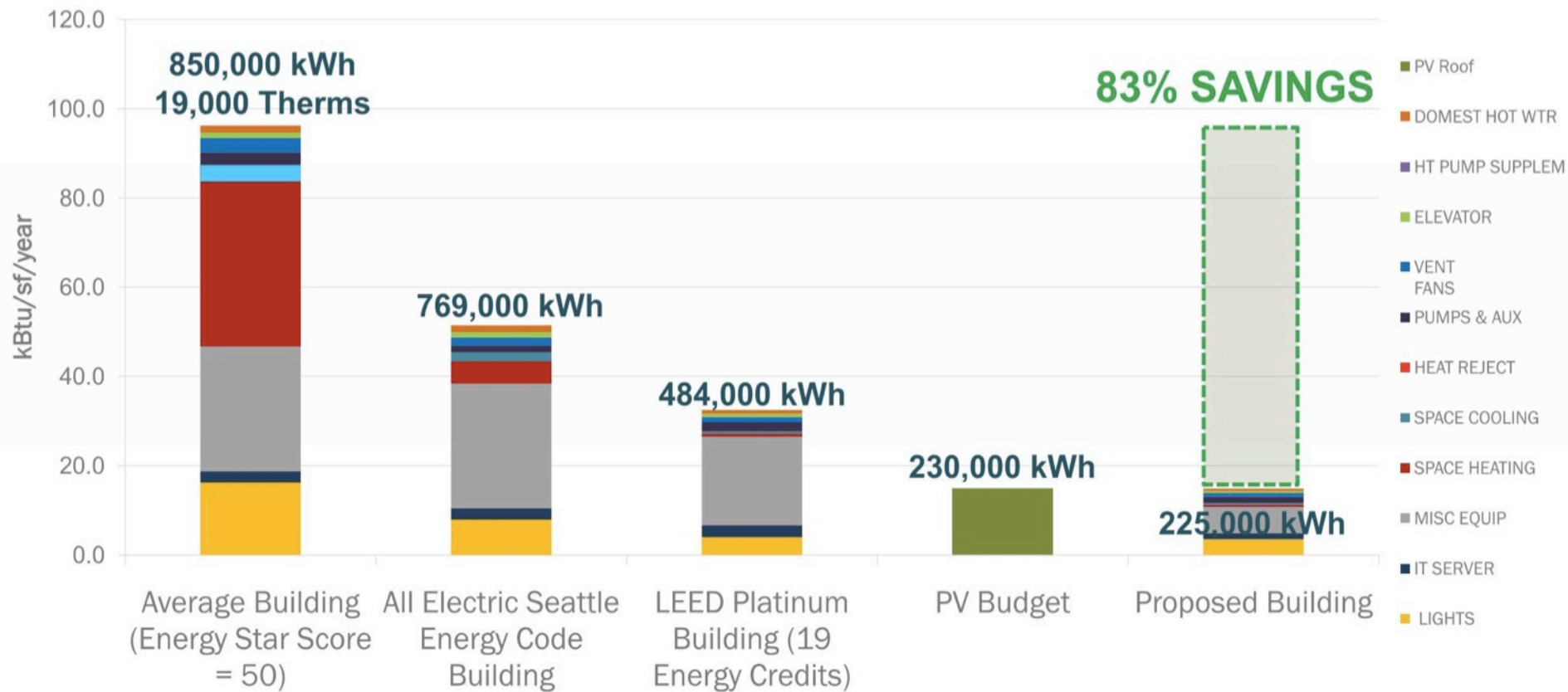
BULLITT CENTER SEATTLE, WASHINGTON

The proposed building, meeting the Living Building Challenge has an **Energy Use Intensity of 16** kBtu/ft²/year.

A PV array with an area of **14,303 ft²** is required to meet its energy needs.

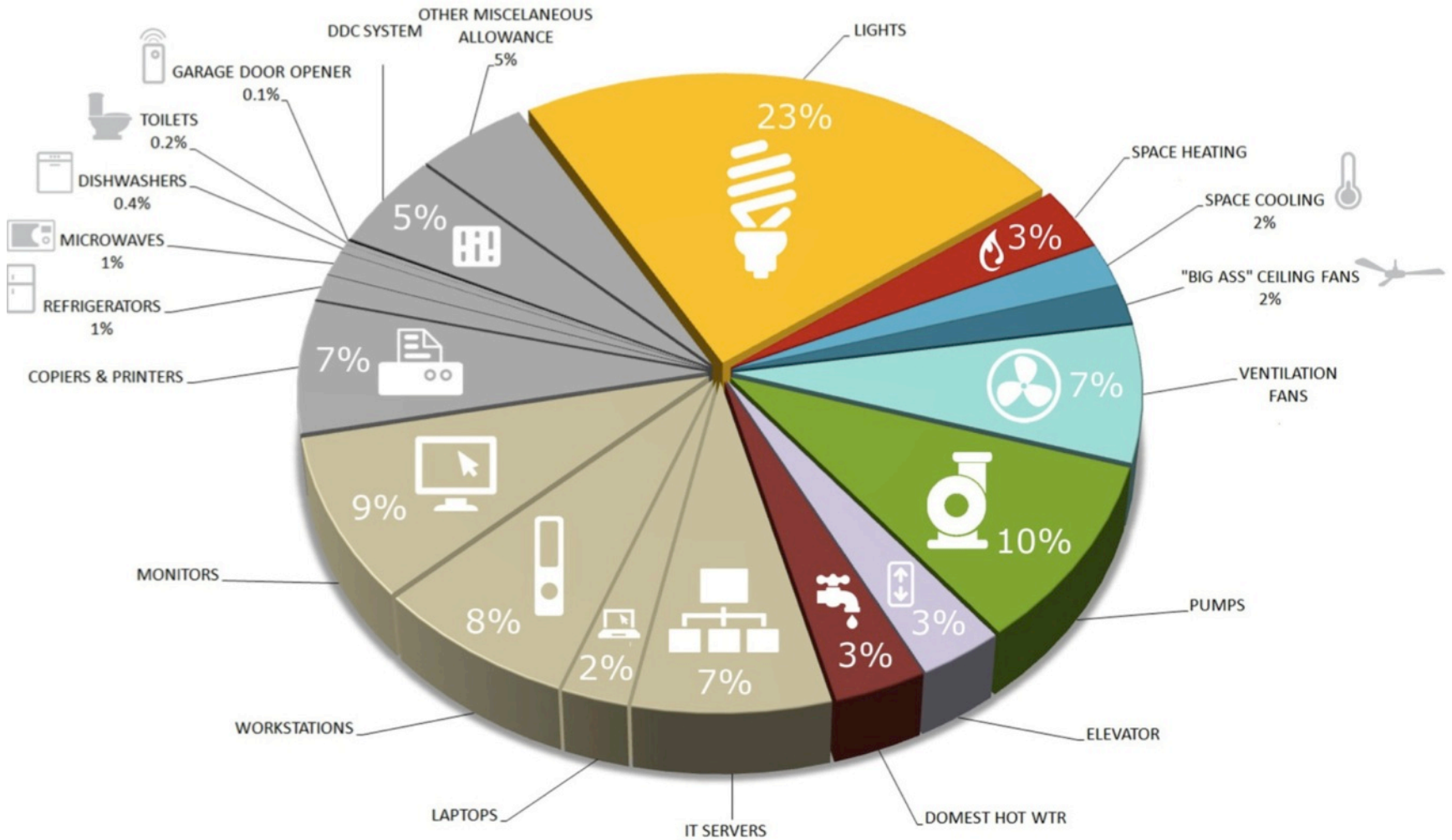


BULLITT CENTER
SEATTLE, WASHINGTON



PAE Consulting Engineers, Inc.

BULLITT CENTER SEATTLE, WASHINGTON



PAE Consulting Engineers, Inc.

BULLITT CENTER SEATTLE, WASHINGTON

OMEGA CENTER FOR
SUSTAINABLE LIVING
RHINEBECK, NEW YORK

COMPLETED: 2009

PRIMARY BUILDING TYPE:
EDUCATION CENTER +
WASTEWATER
TREATMENT FACILITY

PROJECT SIZE: 6,250 SF

certified
'LIVING'



HAWAII PREPARATORY
ACADEMY ENERGY LAB
WAIMEA, HAWAII

COMPLETED: JANUARY 2010

PRIMARY BUILDING TYPE:
K-12 EDUCATION

PROJECT SIZE: 6,110 SF



certified
'LIVING'

© 2010 Matthew Millman Photography, courtesy of Flansburgh Architects

CENTRE FOR INTERACTIVE
RESEARCH ON SUSTAINABILITY
VANCOUVER, BC, CANADA

COMPLETED: 2011

PRIMARY BUILDING TYPE:
RESEARCH FACILITY

PROJECT SIZE: 59,000 SF



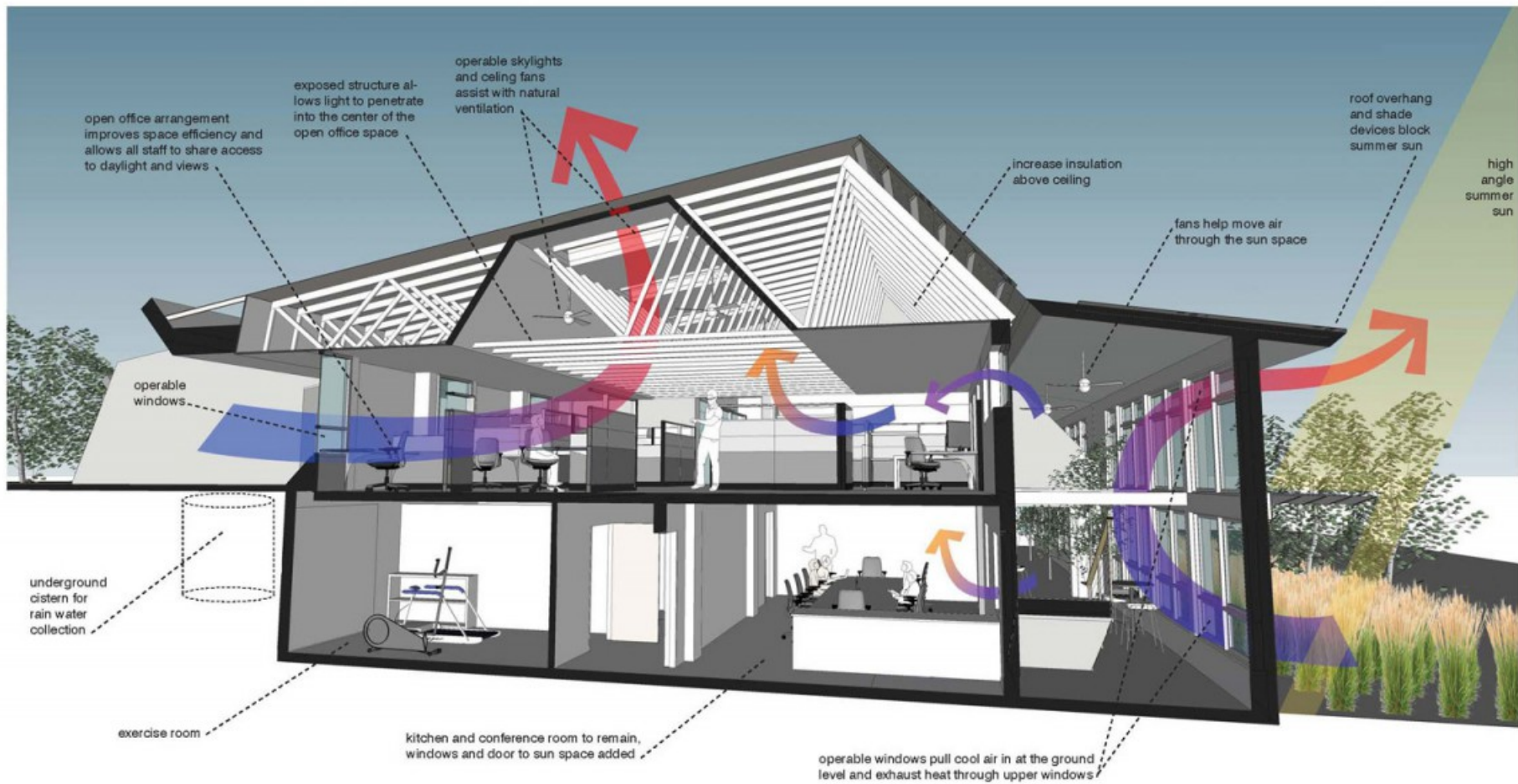
OKANAGAN COLLEGE CENTER
OF EXCELLENCE
PENTICTON, BC, CANADA

COMPLETED: 2011

PRIMARY BUILDING TYPE:
UNIVERSITY CLASSROOM

PROJECT SIZE: 75,000 SF





MUSTANG CONCEPT - WEST WING SECTION - THROUGH OFFICE

cal s. taggart bighorn canyon visitor center

lovell, wyoming

schematic design

june 2012

cta architects engineers



BIGHORN CANYON VISITOR CENTER

	GG NC	LEED NC	LBC NC
Robustness - Others			
Integrated Design			
Commissioning			
Robustness - Water			
Indoor Water			
Process Water			
Outdoor Water			
Storm Water			
Water-Efficient Products			
Robustness - Energy			
Energy Efficiency			
On-Site Renewable Energy			
Measurement and Verification			
Benchmarking			
Robustness - Materials			
Recycled Content			
Biobased Content			
Environmentally Preferable Products			
Waste and Materials Management			
Ozone Depleting Compounds			
Low-Emitting Material			
Robustness - Indoor Environment			
Ventilation			
Thermal Comfort			
Daylighting			
Environmental Tobacco Smoke Control			
Moisture Control			
Protect Indoor Air Quality during Construction			
Robustness - Not in GP			
Acoustic (Not in GP)			
Building System Controls (Not in GP)			
Siting (Not in GP)			
Greenhouse Gas (Not in GP)			



A CALL TO ACTION:

living.
building.
challenge.

www.livingbuildingchallenge.org