CARE Committee

From: Mark Deakos <deakos@3-pconsulting.com>
Sent: Tuesday, August 17, 2021 8:11 AM
To: CARE Committee
Subject: The subject line can simply say "CARE-48 presentation

Please see attached presentation for this morning's CARE Committee meeting.

https://www.dropbox.com/s/rs4i4tn47ik41es/Kelly_King_Net_Zero_Policy_Aug2021.pptx?dl=0

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LIVING FUTURE
INSTITUTE℠ *Ambassador*

BASICS OF THE

LIVING BUILDING CHALLENGE 4.0

A VISIONARY PATH TO A REGENERATIVE FUTURE

INTERNATIONAL LIVING FUTURE INSTITUTE

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Bad News

NEWS | 08 October 2018

IPCC says limiting global warming to 1.5 °C will require drastic action

Humanity has a limited window in which it can hope to avoid the worst effects of climate change, according to climate report.

Jeff Tollefson

Global carbon dioxide levels continued to rise despite pandemic

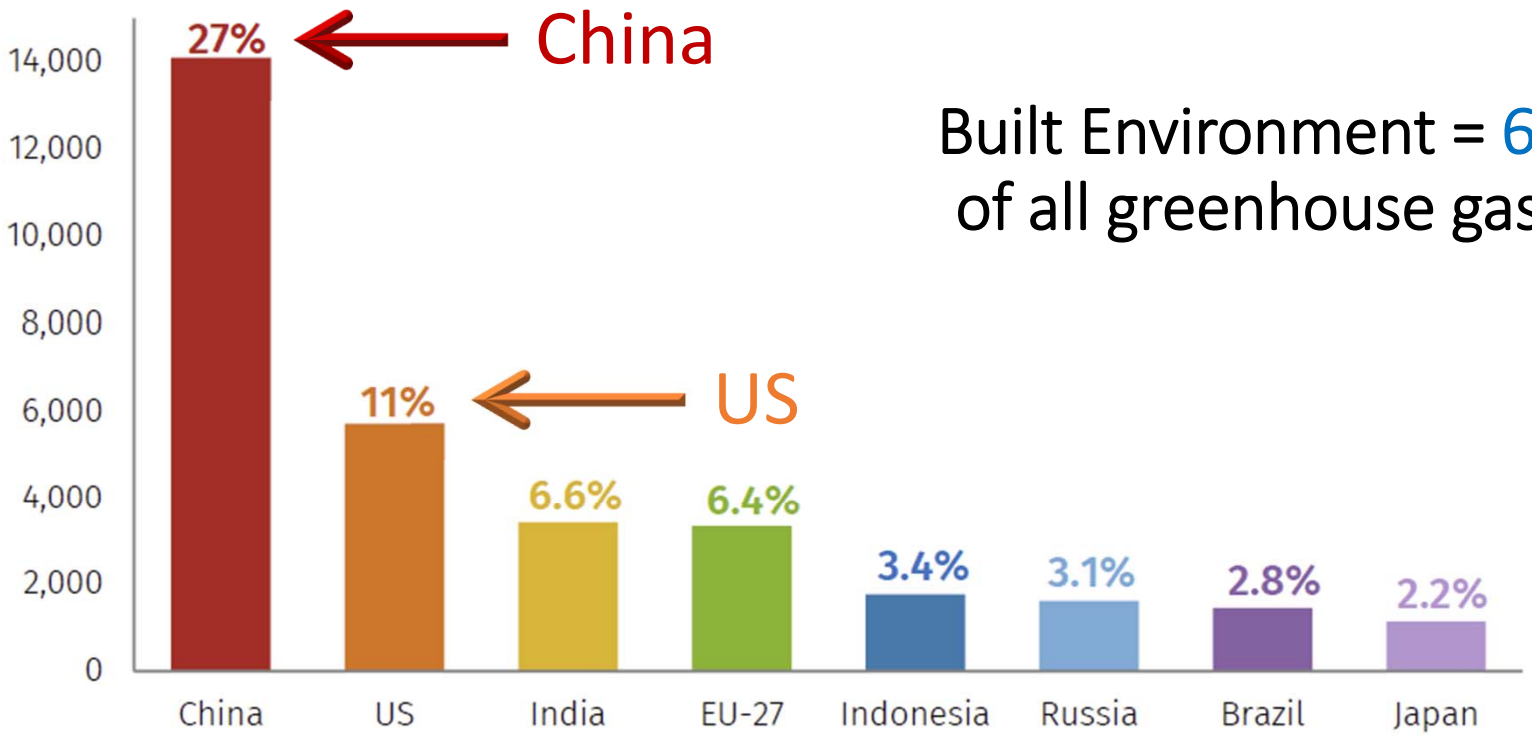
Emissions rose to 419 parts per million in May, the highest such measurement in the 63 years that the data has been recorded

▲ A coal-fired power plant sends off a plume of smoke in Independence, Missouri. Photograph: Charlie Riedel/AP

FIGURE 1

2019 net GHG emissions from the world's largest emitters

Million metric tons of CO_2e, including emissions and removals from land-use and forests and share of global total



Built Environment = 67% of all greenhouse gases

Source: Rhodium Group

Good News

1. We already have the solutions.
2. We know how to build affordable, green buildings.
3. We are building them all over the country.

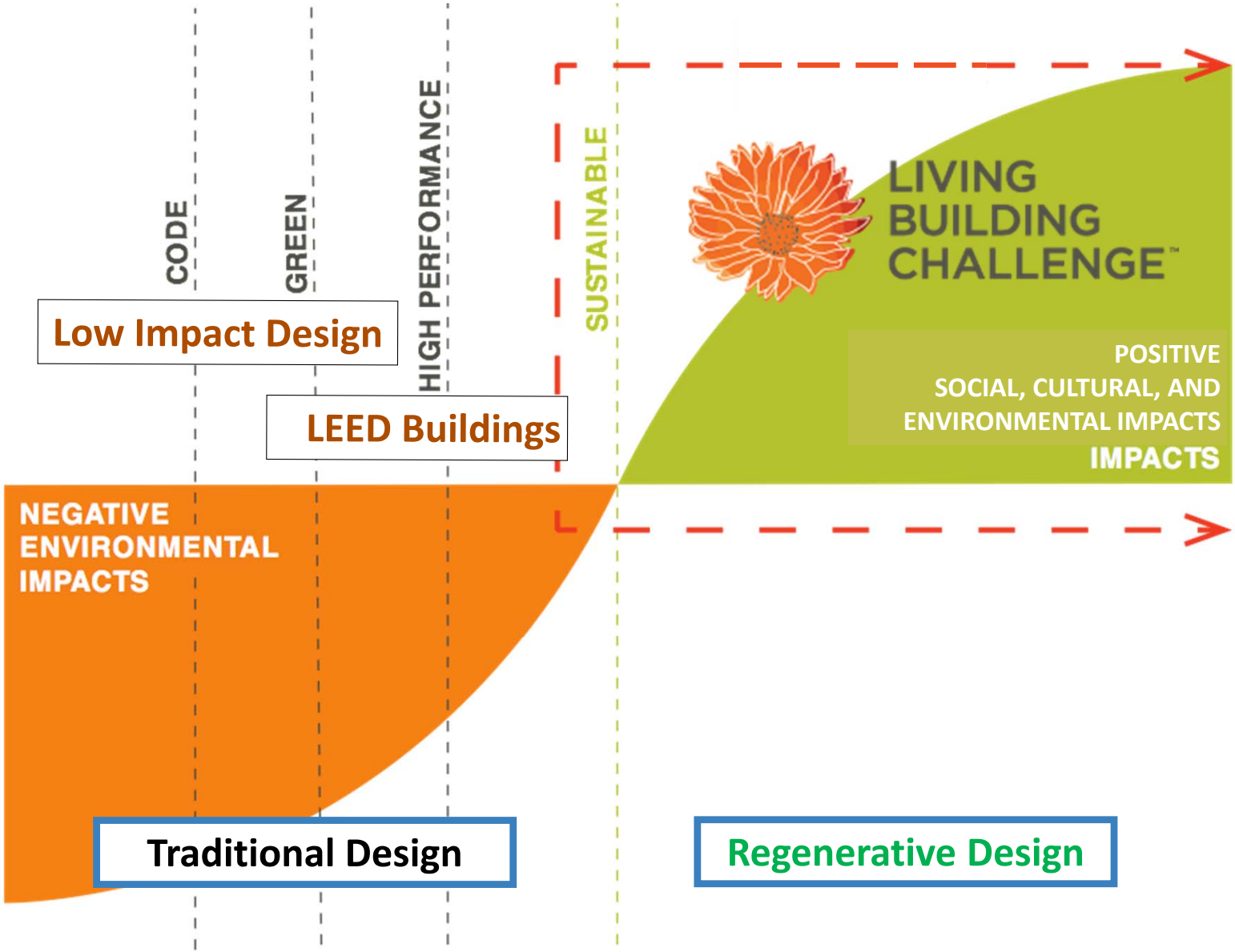
What is a green building?

Benefits of LEED Certification

- Higher occupancy rates
- Respect human health
- Increased project value
- Water efficient
- Energy efficient
- Money savings
- Environmentally friendly
- Less problems during the building operations
- Great marketing tool
- Increased occupant satisfaction
- Increased occupant productivity

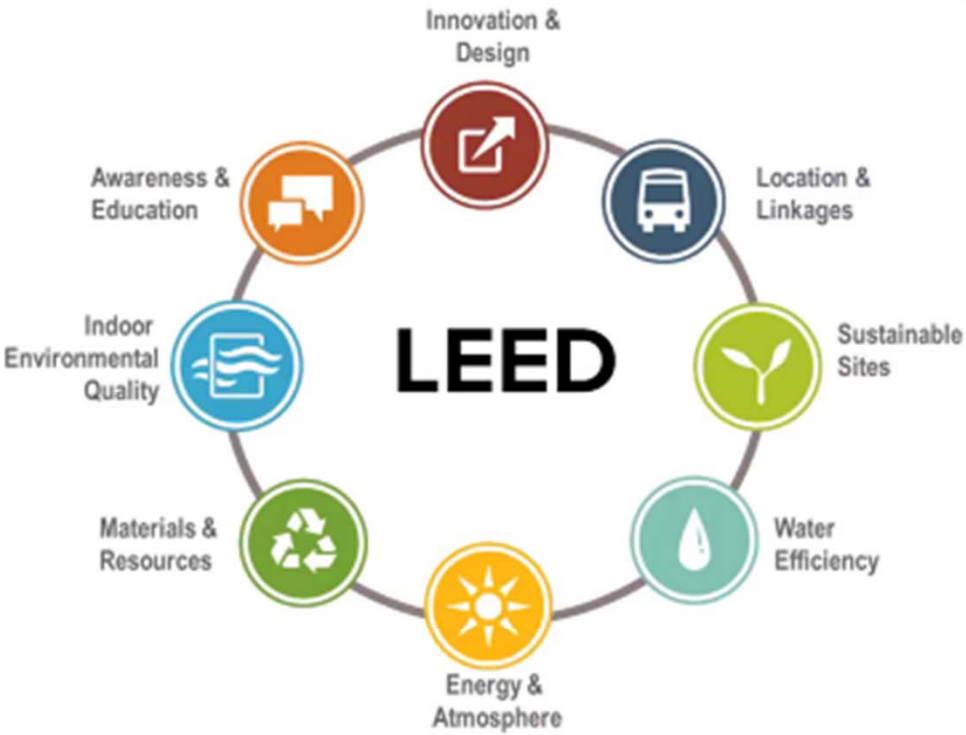
LEED Certifications

Ecosystems
~~CO_2~~
~~Water~~
Traffic
Food
~~Health~~
Equity



Doing Less Harm

Doing Good



PETALS 7

Imagine communities that function like a forest ecosystem. The Living Community Challenge is organized into seven performance areas.

PLACE

Restoring a healthy coexistence with nature .

WATER

Creating water independent sites, buildings and communities.

ENERGY

Relying only on current solar income.

(20 imperatives)

HEALTH + HAPPINESS

Maximizing physical and psychological health and well being.

MATERIALS

Endorsing products and processes that are safe for all species through time.

EQUITY

Supporting a Just, equitable World.

BEAUTY

Celebrating plans that purpose transformative change.

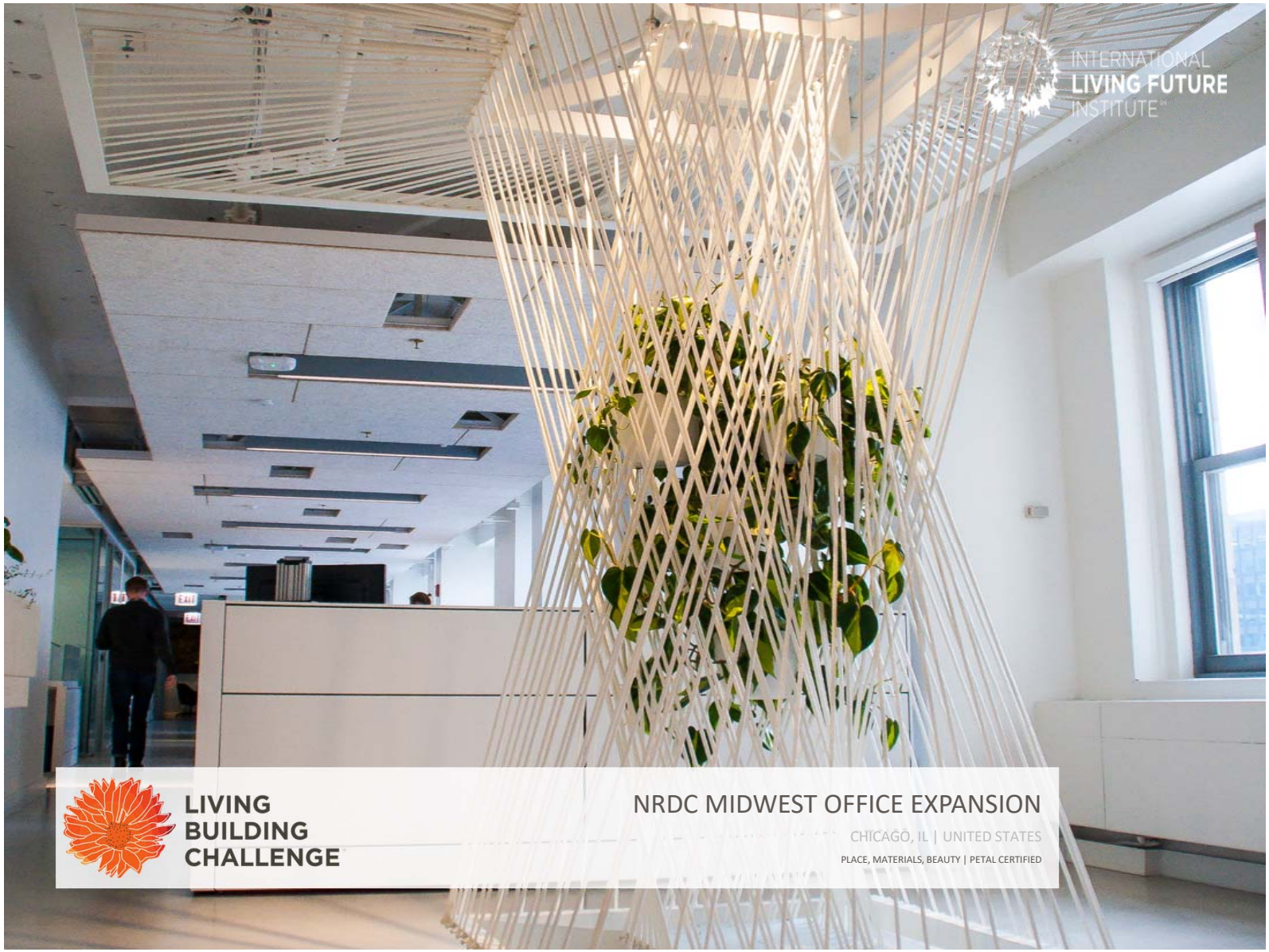
INTERNATIONAL LIVING FUTURE INSTITUTE

LIVING BUILDING CHALLENGE

UNIVERCITY CHILDCARE

BURNABY, BC | CANADA

SITE, MATERIALS, HEALTH, BEAUTY | PETAL CERTIFIED



LIVING
BUILDING
CHALLENGE

NRDC MIDWEST OFFICE EXPANSION

CHICAGO, IL | UNITED STATES

PLACE, MATERIALS, BEAUTY | PETAL CERTIFIED

LIVING BUILDING CHALLENGE 2.1

ENERGY CASE STUDY I Bullitt Center

Seattle, Washington, USA

LIVING BUILDING CERTIFIED

LIVING
BUILDING
CHALLENGE
1.3

WATER CASE STUDY Omega Center

Rhinebeck, NY, USA

LIVING BUILDING CERTIFIED

Te Kura Whare

LIVING
BUILDING
CHALLENGE

HAWAI'I PREPATORY ACADEMY
ENERGY LAB | KAMUELA, HI

LIVING CERTIFIED 1.3

Doing Less Harm

Doing Good

ZERO CARBON CERTIFICATION

Carbon neutral with top tier efficiency.

- 100% building energy load offset with on- or off-site renewables
- For existing buildings, combustion allowed
- Embodied carbon reduction and offset

ZERO ENERGY CERTIFICATION

World class efficiency and characteristics, reinforcing a fossil fuel free future.

- 100% building energy load offset with on-site renewables, driving efficiency
- Pathway for premium off-site renewables for certain project types

CORE GREEN BUILDING CERTIFICATION

Responding to climate change with holistic high performance.

Required Imperatives:

C1	01	Ecology of Place
C2	04	Human Scaled Living
C3	05	Responsible Water Use
C4	07	Energy + Carbon Reduction
C5	09	Healthy Interior Environment
C6	12	Responsible Materials
C7	17	Universal Access
C8	18	Inclusion
C9	19	Beauty + Biophilia
C10	20	Education + Inspiration

LIVING BUILDING CHALLENGE™ PETAL CERTIFICATION

One pillar of deep regenerative design built on a robust high-performance foundation.

All Core Imperatives are required, plus the remaining Imperatives to complete either the Water, or Energy or Materials Petal.

ALL CORE IMPERATIVES

Water

06	Net Positive Water

Energy

08	Net Positive Carbon

Materials

13	Red List
14	Responsible Sourcing
15	Living Economy Sourcing
16	Net Positive Waste

LIVING BUILDING CHALLENGE™ LIVING CERTIFICATION

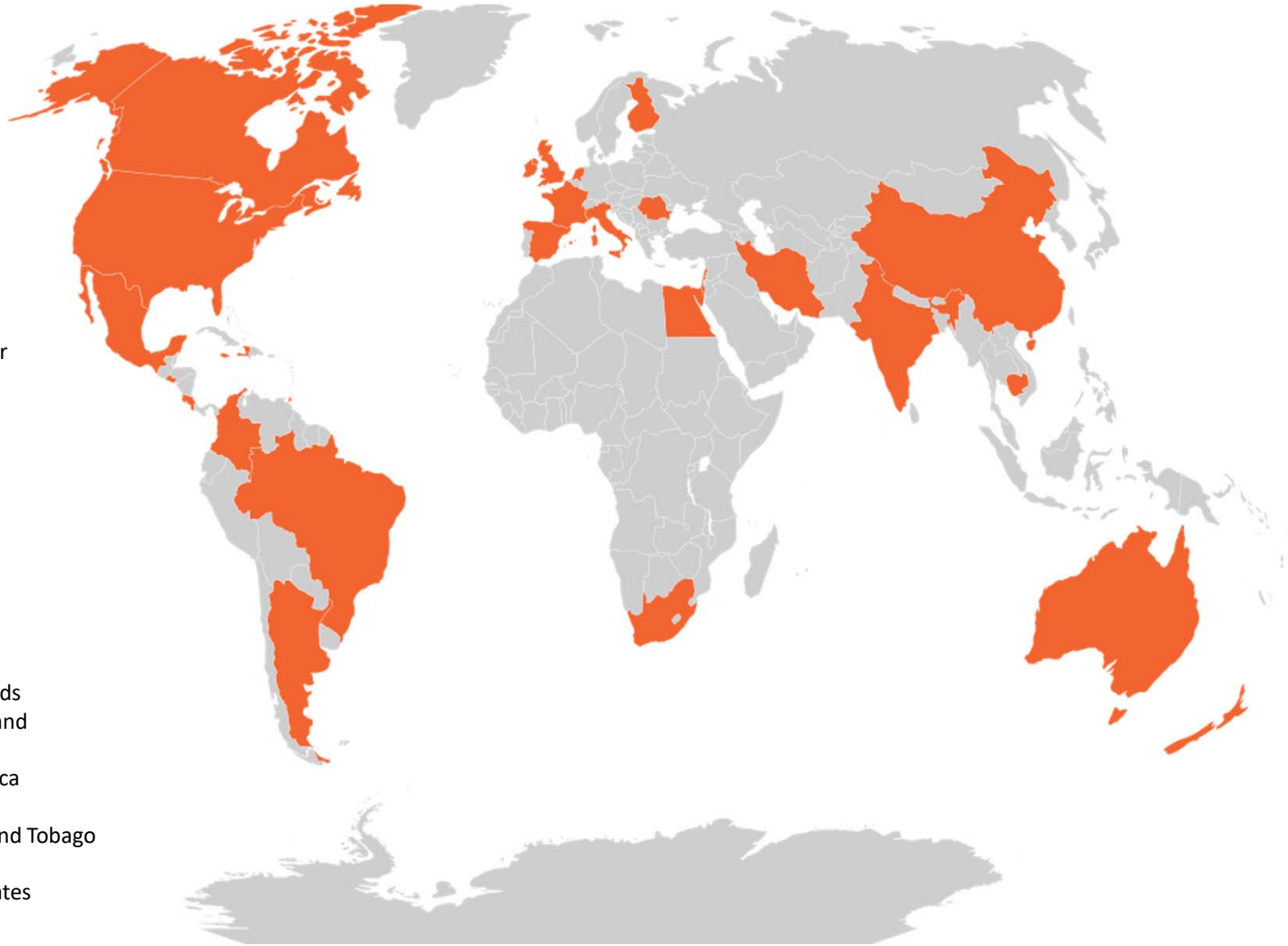
Summit of holistic aspiration and attainment; fully restorative.

All Imperatives must be achieved to certify:

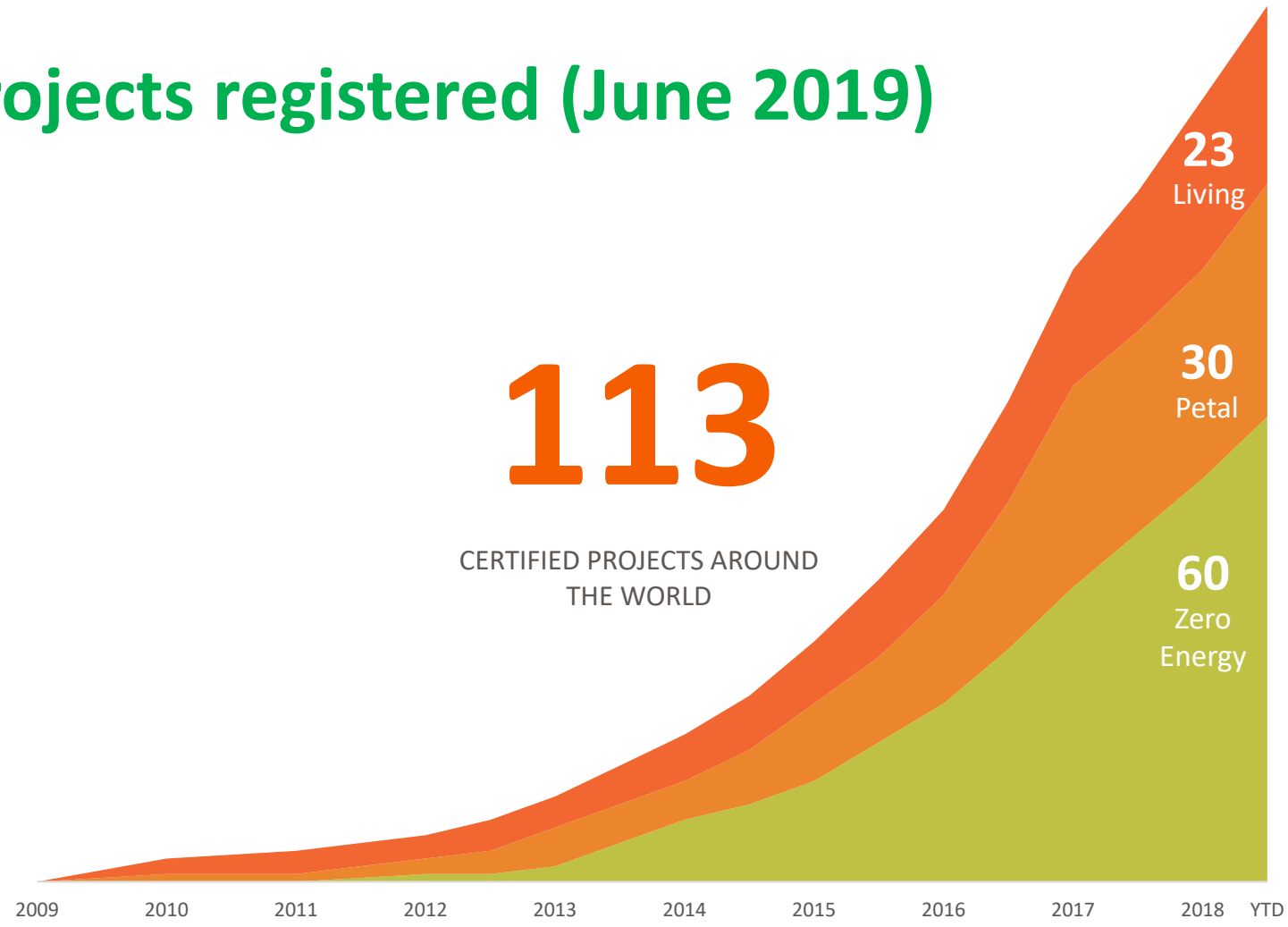
01	Ecology of Place
02	Urban Agriculture
03	Habitat Exchange
04	Human Scaled Living
05	Responsible Water Use
06	Net Positive Water
07	Energy + Carbon Reduction
08	Net Positive Carbon
09	Healthy Interior Environment
10	Healthy Interior Performance
11	Access to Nature
12	Responsible Materials
13	Red List
14	Responsible Sourcing
15	Living Economy Sourcing
16	Net Positive Waste
17	Universal Access
18	Inclusion
19	Beauty + Biophilia
20	Education + Inspiration

As of June 2019, there are 598 Living Building Challenge projects registered throughout 29 countries.

Argentina
Australia
Brazil
Cambodia
Canada
China
Colombia
Costa Rica
Egypt
El Salvador
Finland
France
Haiti
India
Iran
Ireland
Israel
Italy
Jamaica
Lebanon
Mexico
Netherlands
New Zealand
Romania
South Africa
Spain
Trinidad and Tobago
UK
United States



594 projects registered (June 2019)



113

CERTIFIED PROJECTS AROUND THE WORLD

Affordable Housing Projects Meeting Net Zero Energy or Better (46 examples)

	Project	Location	Size Building Type	Building Type	Target AMI	Certification Pursuing	Start	Completed	Cost/SF
	2020 – 2023								
1	699 YGNACIO	Walnut Creek, CA	37,590 SF	Mid-Rise Multi-Family	60%				
2	KITE CROSSING	Los Angeles, CA	195,584 SF	Low-Rise Multi-Family	50%	Core			
3	350 CHINA BASIN	San Francisco, CA	179,940 SF	Mid-rise Multi-family	75% - 120%				
4	681 FLORIDA	San Francisco, CA	135,000 SF	Mid-rise Multi-family	50% - 70%	Zero Carbon			
5	4200 GEARY	San Francisco, CA	81,880 SF	Mid-rise Multi-family	15-80%	Materials Petal			
6	180 JONES	San Francisco, CA	9 Stories	Mid-rise Multi-family	30-85%				
7	TIMBER RIDGE	LaGrande, OR	118,000 SF	Low-Rise Multi-family	60%				
8	BAKER HEIGHTS PHASE 2	Everett, WA	100,000 SF	Mid-rise Multi-family	60%	Petal			
9	PROVIDENCE GENERATIONS SUPPORTIVE HOUSING	Issaquah, WA		Mid-Rise Multi-Family	60%				
10	CONSERVATORY APARTMENTS	Chicago, IL	24,900 SF	Mid-rise Multi-family	30%				
11	337 CUMBERLAND	Portland, ME	64,905 SF	Mid-Rise Multi-family	50-60%	Core			
12	THE SEVENTY-SIX	Albany, NY	77,609 SF	Mid-Rise Multi-family	50-60%	Zero Energy or Energy Petal			
13	E + HIGHLAND	Boston, MA	37,676 SF	Mid-Rise Multi-family		Zero Energy			
14	31 TUFTS STREET	Somerville, MA	11,823 SF	Low-rise Multi-family	50-110%	Zero Carbon			
15	OLD FIRST HOUSE	Philadelphia, PA	27,125 SF	Mid-Rise Multi-family	60%				
16	HAZELWOOD COMMUNITY LAND TRUST	Pittsburgh, PA	TBD	Duplexes	80%				
17	2301 ENSLEY	Birmingham, AL		Learning Center		Core			
18	ALMA STREET COMMONS	Durham, NC	12-16 units (600-1,200 sq ft)	Single-family, Duplex, Accessory Dwelling Unit	60-80%	Core			
19	**THE KELSEY**								
20	**CONFIDENTIAL PROJECT**								

		Project	Location	Size Building Type	Building Type	Target AMI	Certification Pursuing	Start	Completed	Cost/SF
		2018 – 2019								
21	PDF	PROJECTS AT MILL CREEK	Moab, Utah	985 SF/HOME, 2-3 Bedroom Homes	5 SINGLE FAMILY UNITS	30%-80%	Materials	2019		TBD
22	AHF	BROADWAY LOFTS	Gary, IN	45,000 square feet, 35 units	Low-Rise + Townhomes	60%	Energy and/or Materials Petal	2019		$212
23	AHF	GILA RIVER INDIAN COMMUNITY	Sacaton, Gila River Indian Community	2-3 Bedroom house	Prototype Detached House	60%	Living	TBD		$100
24		THE CANOPY	Bloomington, IN	15,000 SF, 57 units	Mid-Rise	70% AMI, 20% affordable units	Energy Petal	TBD		TBD
25	AHF	**SUN VALLEY ECO DISTRICT PHASE I: MORE INFORMATION COMING SOON**	Denver, CO	190,000 SF, 138 units			Energy Petal	TBD		$184
26	AHF	FIFTH AVENUE APARTMENTS	Maywood, IL	76,950 SF, 72 units	Mid-Rise	30-60%	Energy Petal	2019		$183
27		UNIVERSITY SQUARE	St. Louis County, MO	46,000 square feet, 40 units	Mid-Rise	80% AMI, 75% affordable units	Energy Petal	TBD		TBD
28	PDF	OTHELLO SQUARE	Seattle, WA	71,000 square feet, 68 units	Mid-Rise	80% AMI	Materials Petal	2019		TBD
29		GREENWAY MEADOWS	Santa Monica, CA	39 units	Mid-Rise	30-60%	Energy Petal	2019		$587
30		ALDER PLACE	East Chicago, IN	40,000 square feet, 40 units	Low-Rise + Townhomes	30-60%	Energy Petal	2019		TBD
31		VERIDIAN AT COUNTY FARM	Ann Arbor, MI	Community Center	Surrounding development includes homes at 30-60% AMI and market-rate		Energy Petal	2020		TBD

		Project	Location	Size Building Type	Building Type	Target AMI	Certification Pursuing	Start	Completed	Cost/SF
		2015 – PRESENT								
34		DEANWOOD NEIGHBORHOOD DEVELOPMENT	Washington, D.C.	10-15 units	Rowhouse	80%	Living	TBD		TBD
35	AHF	MULDOON GARDEN	Anchorage, AK	21,600 square feet, 23 units	Low-Rise	60%	Materials Petal		2017	$238
36	AHF	LIBERTY LANE APARTMENTS	Redlands, CA	80 units	Low-Rise	60%	Energy Petal	TBD		TBD
37	AHF	SILVER STAR APARTMENTS	Los Angeles, CA	49 units	Low-Rise	60%	Energy Petal		2017	$296
38	AHF	CEDAR SPRINGS	La Verne, CA	36 units	Low-Rise	30-50%	Energy Petal		2017	$209
39	AHF	HOPEWORKS STATION, PHASE II	Everett, WA	67,000 square feet, 65 units	Mid-Rise	60%	Energy Petal	2019		$323
40	AHF	LAWSON HOUSE YMCA RENOVATION	Chicago, IL	400 units	High-Rise	60%	Living	2020		$296
41	AHF	LAKELINE LEARNING CENTER	Austin, TX	6,000 SF	Community Center	Surrounding apartments serve 30-60% AMI	Zero Energy		2017	$295
42	AHF	ORCHARD GARDENS	Sunnyvale, CA	86 units	Mid-Rise	30-60%	Energy Petal		Spring 2022	$410
43	AHF	COLISEUM PLACE	Oakland, CA	59 units	Mid-Rise	30-60%	Living	2019		$400
		2011 – 2014								
44	AHF	THE ROSE	Minneapolis, MN	150,000 SF, 90 units	Mid-Rise	50% AMI, 50% affordable units			2015	$151
45	AHF	SOUTH SECOND STREET STUDIOS	San Jose, CA	135,421 SF, 134 units	Mid-Rise	30-50%			2017	$350
46	AHF	CAPITAL STUDIOS	Austin, TX	78,045 SF, 135 units	Mid-Rise	60%			2014	$205

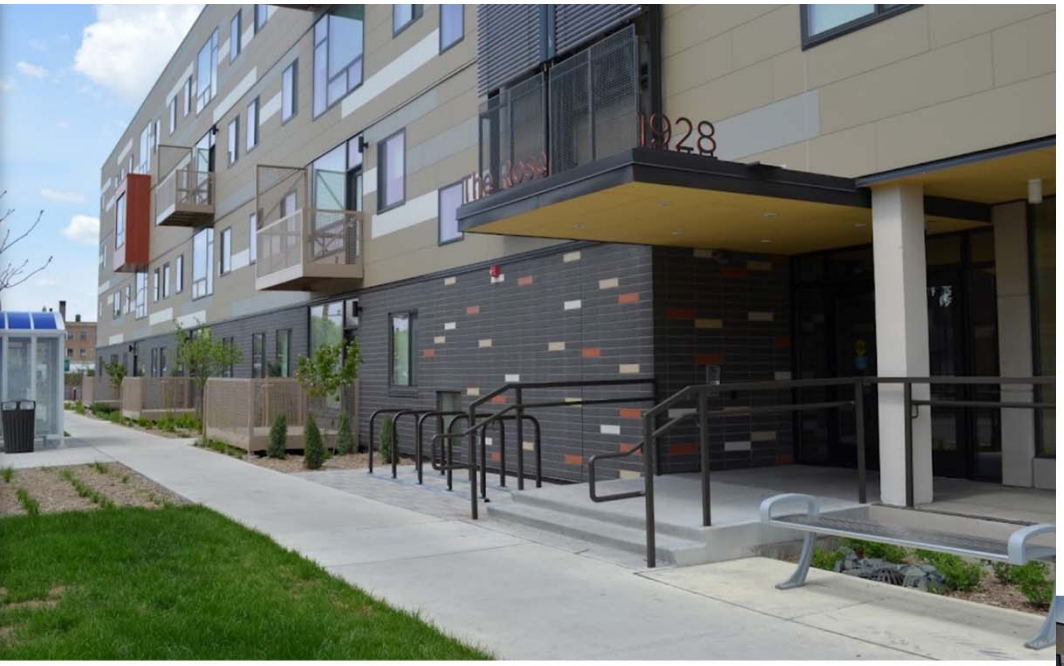
Silver Star Apartments

Los Angele, CA

49 units
60% AMI
$296/SF

Coliseum Connect
Oakland, CA

59 units
30 - 60% AMI
Living Certified
$400/SF



The Rose Apartments
Minneapolis, MN

90 units
50% AMI
$151/SF

Living Home

- ☑ No electric bill
- ☑ No water/sewer bill/wastewater
- ☑ No car needed for work/school/store
- ☑ Fresh, healthy food in your backyard
- ☑ No toxins in your landscaping
- ☑ No toxic materials inside the house
- ☑ Natural light, fresh air in all rooms

Without "affordable living" affordable housing is not really affordable

How were these communities successful at bringing change?

Ordinances that incentivize green building design

ORDINANCE ESTABLISHING INCENTIVES AND PROCEDURES FOR REGENERATIVE DESIGN

WHEREAS, County of Maui recognizes its responsibility to implement, continue, and promote new construction and renovation that protects human health and the quality of the air, water, and other natural resources; decrease solid waste; reduce construction practices that negatively impact native fish, vegetation, forests, wildlife, and other ecosystems; and

WHEREAS, County of Maui desires to promote sound environmental practices in the built environment to support the County of Maui economic, resilience, livability, health, and equity goals, and regenerative design complements existing policies related to development and natural resource conservation including:

[list any relevant ordinances in specific jurisdiction such as:]

- Alternative transportation policies
- Stormwater, green roof policies
- Habitat, green space, parks and urban forestry policies
- Resilience policies
- Climate policies (see below)
- Energy policies (see below)
- Sustainable procurement policies
- Solid waste, recycling, and composting policies
- Social equity policies
- Art policies

WHEREAS, County of Maui has adopted ambitious climate and energy targets to be zero carbon and running on 100% renewable electricity by [date] for municipal operations and by [date] community wide; and

WHEREAS, buildings and facilities currently account for ____ percent of carbon emissions citywide [include any current municipal operations and/or citywide emissions information]; and

WHEREAS, in 19## the City Council accepted the [Name of Program] to implement green building standards for all [City] design, construction, operation, and maintenance practices; and

- Increased Building Height
- Increased Building Density

CHOOSING YOUR INCENTIVES, CONT'D

Expedited permit review without additional fee
Example: Gainesville, FL; Hamilton, OH; Shoreline, WA; Los Angeles, CA

Reduced or waived fees
Suggested fees: building permit fee, plan check fee, transportation fee, sewer + water connection fees, stormwater fee, energy interconnection fee
Example: Chicago, IL; San Diego County, CA; Gainesville, FL; Shoreline, WA; Bothell, WA; Hamilton, OH; San Luis Obispo, CA

Tax abatement rebate as a percentage of tax assessed value
Suggested Range: 0.1 percent to 100% over 10 - 15 years depending on certification level and building type
Example: Baltimore County, MD; Houston, TX: Nevada, USA; Lincoln County, NC; Cincinnati, OH

Cash Rebate
Cover registration and certification costs of certification from ILFI
Example: Seattle, WA (partnership between Seattle Public Uitilities + Seattle City Light, 2001 – 2005); Energy Trust of Oregon; Anaheim, CA; Burbank, CA

Fee-bate
All developers pay into Sustainability Fund, rebate given according to tier
Example: Miami Beach, FL

Parking Reduction
Example: Shoreline, WA

Municipal Advocate / Permitting Assistance
Some municipalities will be able to offer a dedicated staff person that understands the LBC and LCC programs to assist the project through entitlements and design review.

Rezone Incentive
Example: Vancouver, BC

Where have these policies been implemented?

Incentive	Description	Example
1. Increased Density / Additional FAR		Shoreline, WA; Seattle, WA; Arlington, VA; Newcastle, WA; Champaign, IL; Ossining, NY; Pittsburgh, PA; Philadelphia, PA
2. Increased Height	Suggested range: 10 – 25 feet depending on zone (one to two stories)	Seattle, WA
3. Expedited permit review without additional fee		Gainesville, FL; Hamilton, OH; Shoreline, WA; Los Angeles, CA
4. Reduced or waived fees	Suggested fees: building permit fee, plan check fee, transportation fee, sewer + water connection fees, stormwater fee, energy interconnection fee	Chicago, IL; San Diego County, CA; Gainesville, FL; Shoreline, WA; Bothell, WA; Hamilton, OH; San Luis Obispo, CA
5. Tax abatement rebate as a percentage of tax assessed value	Suggested Range: 0.1 percent to 100% over 10 - 15 years depending on certification level and building type	Baltimore County, MD; Houston, TX: Nevada, USA; Lincoln County, NC; Cincinnati, OH
6. Cash Rebate	Cover registration and certification costs of certification from ILFI	Seattle, WA (partnership between Seattle Public Utilities + Seattle City Light, 2001 – 2005); Energy Trust of Oregon; Anaheim, CA; Burbank, CA
7. Fee-bate	All developers pay into Sustainability Fund, rebate given according to tier	Miami Beach, FL
8. Parking Reduction		Shoreline, WA
9. Municipal Advocate / Permitting Assistance	Some municipalities will be able to offer a dedicated staff person that understands the LBC and LCC programs to assist the project through entitlements and design review.	
10. Rezone Incentive		Vancouver, BC

Take Home:

Let’s try to implement what is already working successfully elsewhere.

THANK YOU!

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