services

We Eat Carbon for Lunch

WHY CARBON REDUCTION ALONE IS NOT ENOUGH

Martin Brown
@Fairsnape

FUTURESTORATIVE

WORKING TOWARDS A NEW SUSTAINABILITY

MARTIN BROWN @fairsnape

DO NOTHING TODAY

THAT COMPROMISES TOMORROWS GENERATION

Brundtland 1987

‘SOLASTALAGIA’ - DISTRESS AND ILLNESS FROM ENVIRONMENTAL CHANGE

pexels.com

@Fairsnape
#FutuREstorative


a sense of urgency
2.0 > 1.5
Paris Agreement 2015
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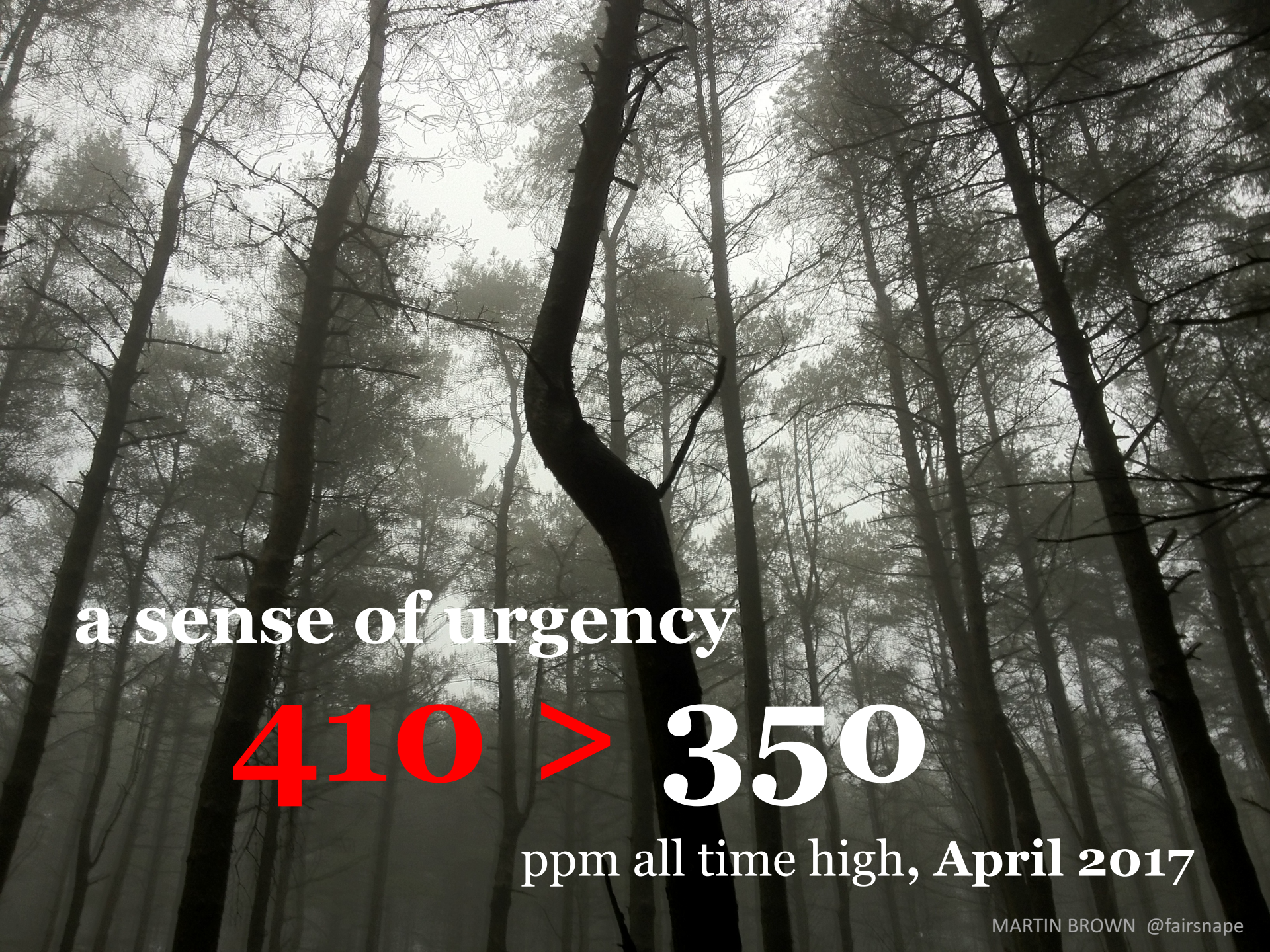
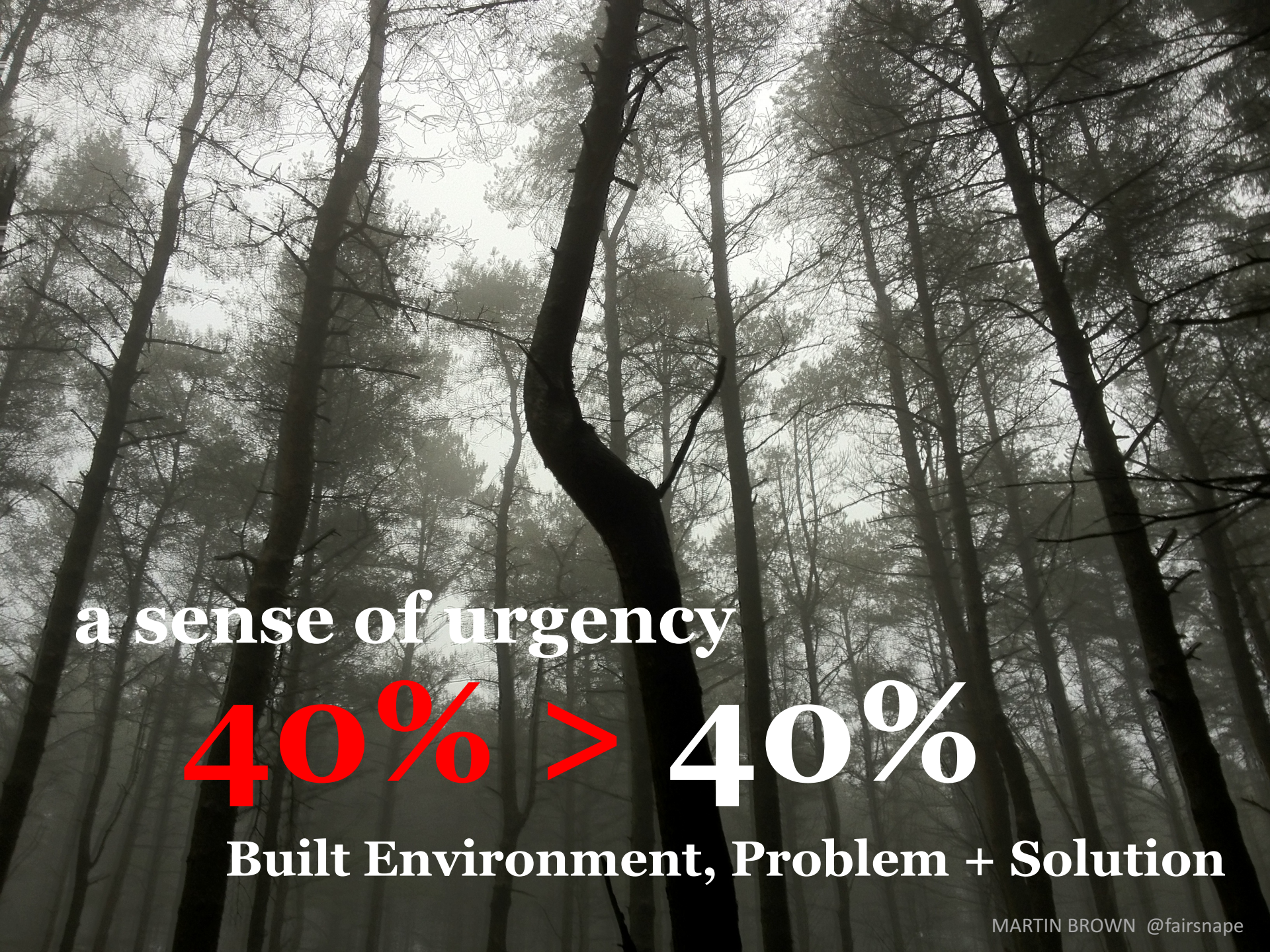

a sense of urgency
410 > 350
ppm all time high, April 2017
MARTIN BROWN @fairsnape


a sense of urgency
40% > 40%
Built Environment, Problem + Solution
MARTIN BROWN @fairsnape

A sense of urgency

There are no non-radical approaches left before us in addressing climate change

Namoi Klein, This Changes Everything (2015)

Reducing built environment carbon emissions by 50% by 2025 is now out of reach with current practice.

UK Green Construction Board (2015)

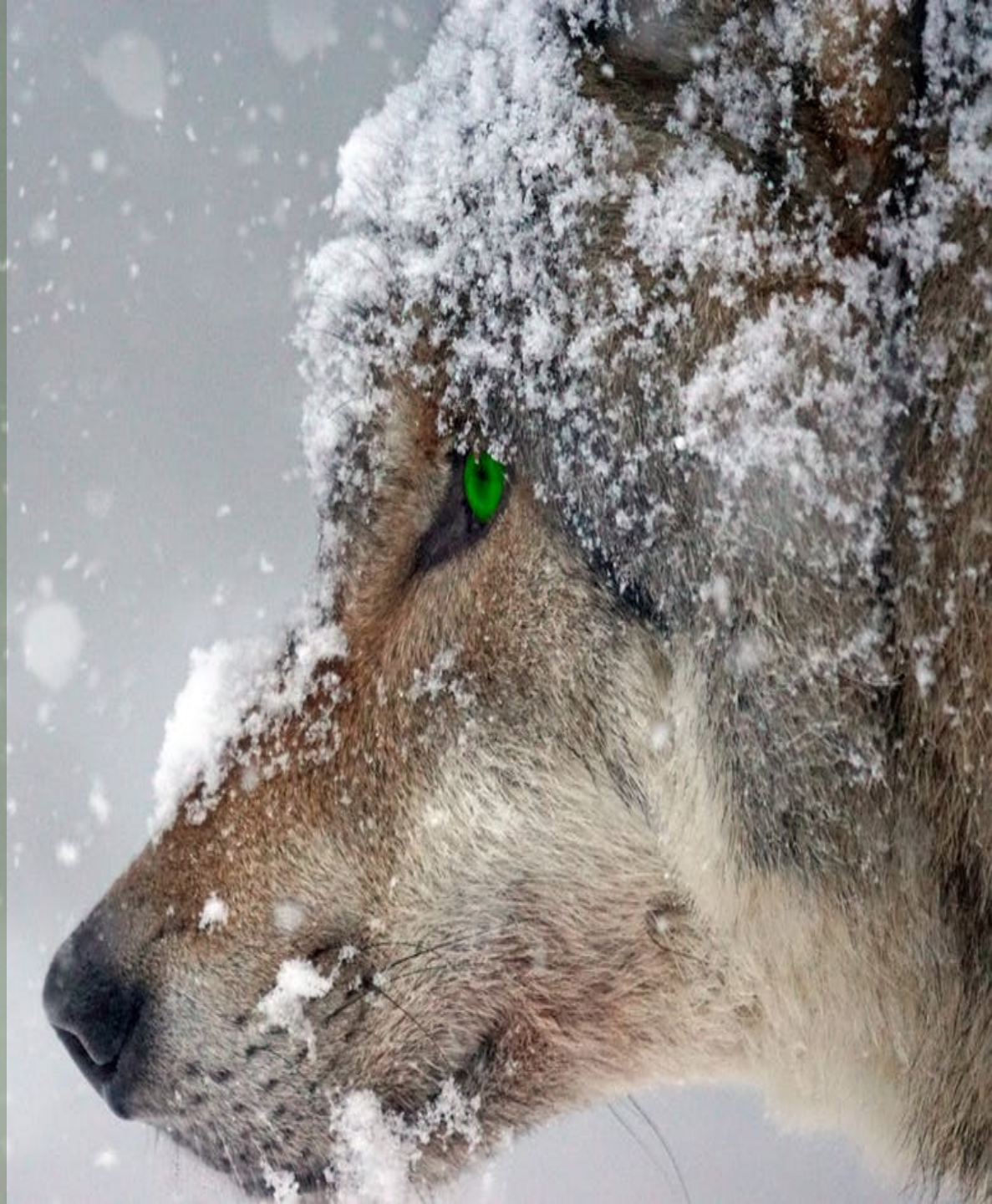
We no longer have luxury of just being less bad.

Martin Brown Future Restorative 2016

Sustainability:

are we just managing deer,

or enabling a regenerative future



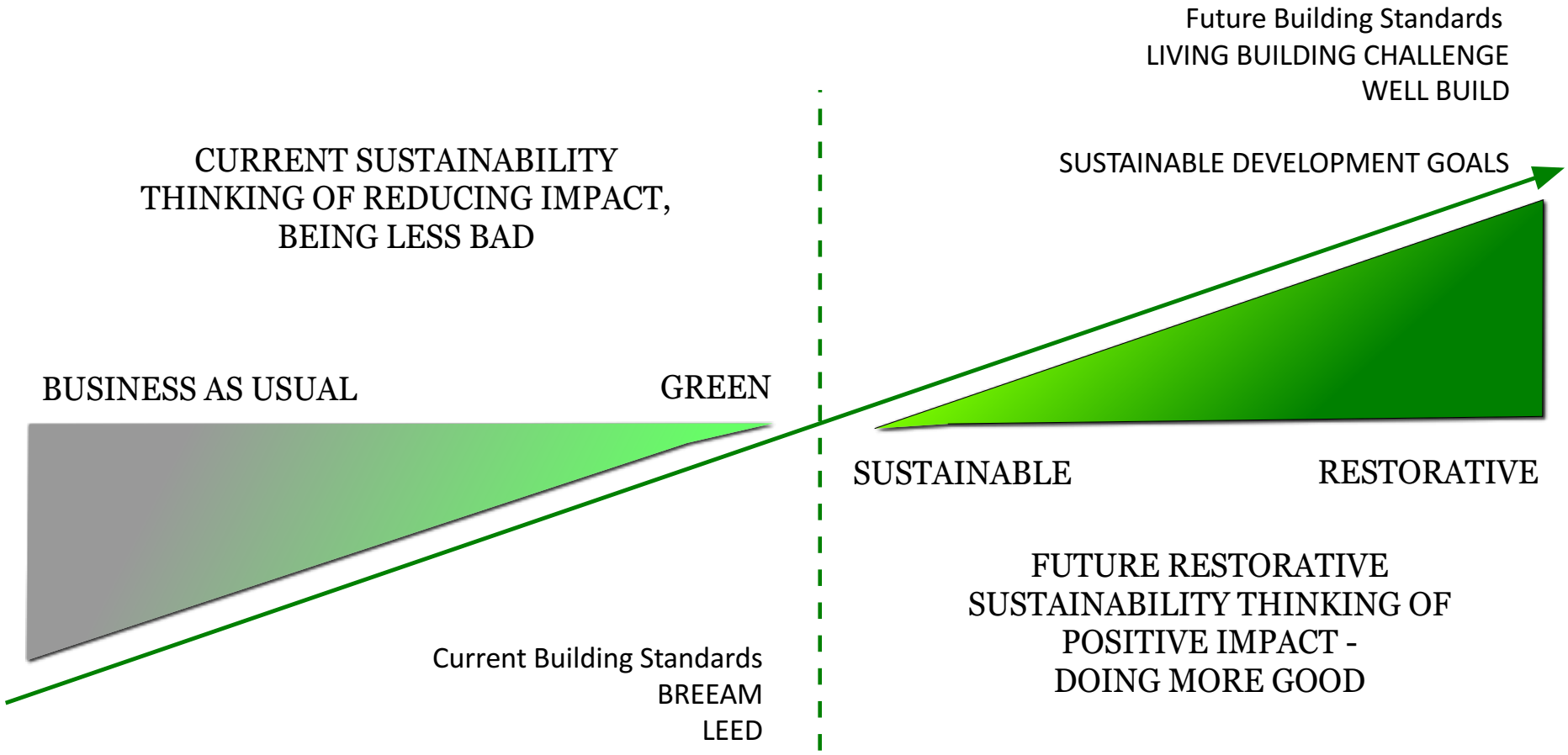
”WE SHOULD N0T USE THE WORD SUSTAINABLE UNTIL …

WE GIVE AS MUCH BACK AS WE TAKE.”

YVON CHOUINARD @PATAGONIA

#FutuREstorative

We no longer have luxury of just being less bad.



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RESTORATIVE
APPROACHES

BUILDINGS AND CITIES

BIKE INFRASTRUCTURE

Infrastructure is essential for supporting safe, pleasant, and abundant bicycle use–which can relieve city congestion, improve public health, and reduce emissions from cars.

FOOD

BIOCHAR

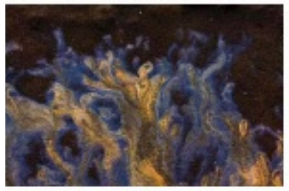
Biochar results from slowly baking biomass in the absence of oxygen. Retaining most of the feedstock's carbon, biochar can be buried for sequestration, while enriching soil.

ENERGY

BIOMASS

Biomass energy is a "bridge" solution for transitioning to 100 percent clean, renewable energy. Using sustainable feedstock–waste biomass or perennial crops–is crucial.

COMING ATTRACTIONS



MICROBIAL FARMING

Microbes have the potential to dramatically reduce the need for synthetic fertilizers, pesticides, and herbicides, while improving crop yields and plant health.

ENERGY

MICROGRIDS

A microgrid is a localized grouping of distributed energy sources, like solar and wind, together with energy storage or backup generation and load management tools.

FOOD

MULTISTRATA AGROFORESTRY

Multistrata agroforestry blends taller trees and one or more layers of crops. It achieves high rates of carbon sequestration, similar to forests, while producing food.

MATERIALS

BIOPLASTIC

Ninety percent of plastics could be derived from plants instead of fossil fuels. Bio- plastics can be biodegradable and often have lower

BUILDINGS AND CITIES

BUILDING AUTOMATION

Building automation systems serve as the "brain" of large commercial buildings. Controlling temperature, lighting, and more, they can nergy efficiency and comfort.

COMING ATTRACTIONS

BUILDING WITH WOOD

High-performance wood materials are transforming construction. They can reduce emissions by (1) sequestering and storing carbon and (2) avoiding emissions of cement and steel.

BUILDINGS AND CITIES

NET ZERO BUILDINGS

A net zero building is one that has zero net energy consumption, producing as much energy, through onsite renewables, as it uses in a year.

ENERGY

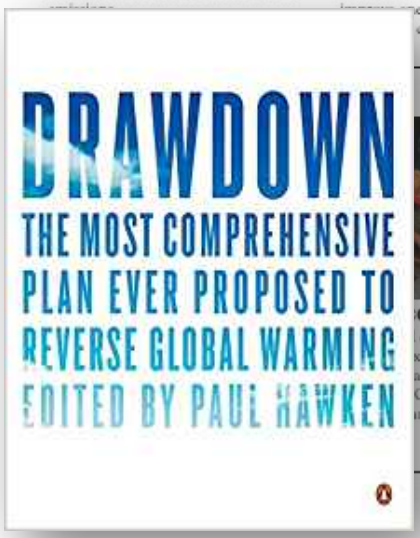
NUCLEAR

Nuclear power is complex, expensive, and risky, but it has the potential to avoid emissions from fossil fuel electricity. We consider it a "regrets solution."

FOOD

NUTRIENT MANAGEMENT

When overused, nitrogen fertilizers destroy soil organic matter, pollute waterways, and create nitrous oxide. They can be more efficiently managed to reduce these negative impacts.



OOKSTOVES

cooking practices
ic smoke and 2 to 5
annual greenhouse gas
Clean cookstoves reduce
nd protect human

LAND USE

COASTAL WETLANDS

The world's salt marshes, mangroves, and sea grasses provide vital habitat, flood protection, and water filtration, and sequester huge amounts of carbon in plants and soil.

COMING ATTRACTIONS

OCEAN FARMING

Small-scale ocean farms have the potential to provide sustainable food and biofuel, while oysters filter nitrogen pollution and seaweed sequesters carbon dioxide.

COMING ATTRACTIONS

PASTURE CROPPING

In a pasture cropping system, annual crops are grown in a perennial pasture. Double-cropping grains and animals sequesters carbon and improves farm health and productivity.

LAND USE

PEATLANDS

Although peatlands cover just 3 percent of the earth's land area, they are second only to oceans in the amount of carbon they store.

NEW POSITIVE THINKING & GOALS
FOR SUSTAINABLE DEVELOPMENT

EVERY BUILDING SHOULD POSITIVELY CONTRIBUTE TO THE SUSTAINABLE DEVELOPMENT GOALS

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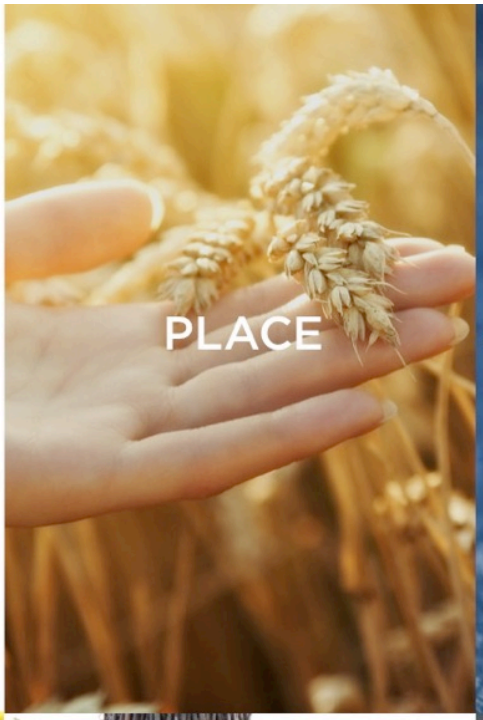
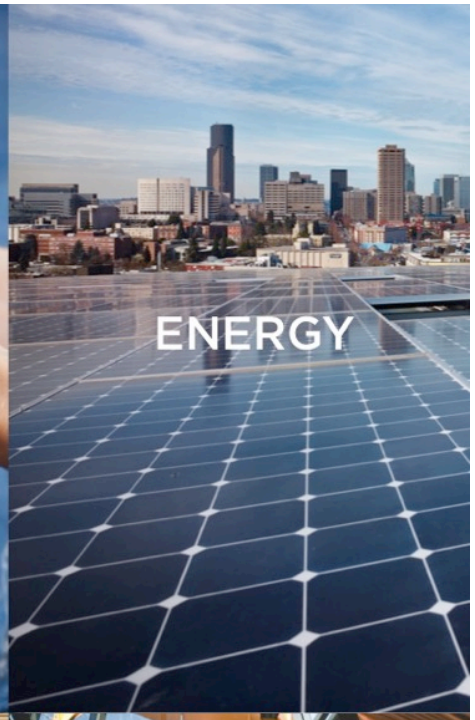
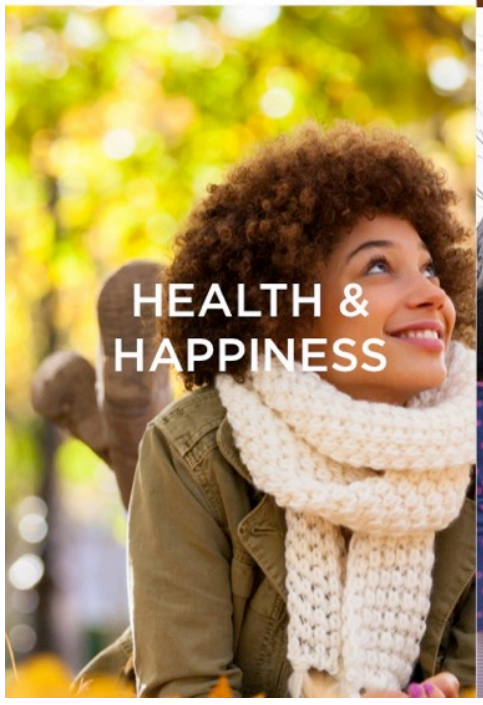
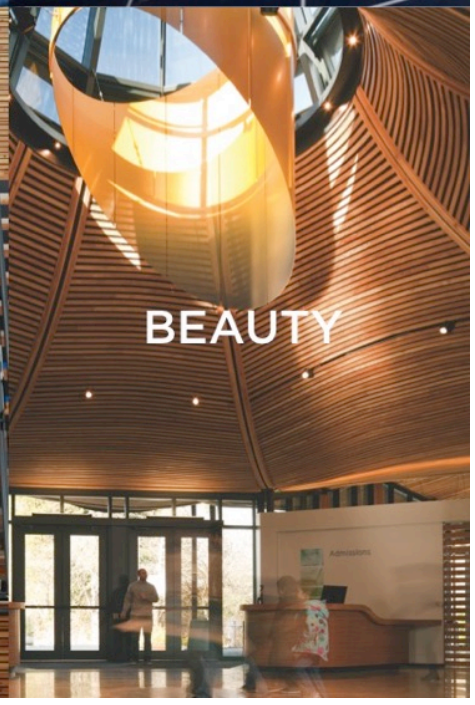
LIVING BUILDING CHALLENGE™









Imagine if every act of construction, every product made the world a better place … socially, culturally, economically and ecologically

LIVING BUILDING CHALLENGE

#imaginebetter


LIVING
BUILDING
CHALLENGE™
NO PERFORMANCE GAP?
CERTIFICATION ONLY AFTER 12 MONTH PROVING PERIOD
WATER / ENERGY / AIR (HEALTH)
FORCES COLLABORATION WITH BUILDING OPERATIONS (FM) / CONSTRUCTION / DESIGN

‘The materials we build with can affect our wellbeing as much as the food we eat, the water we drink and the air we breathe.’

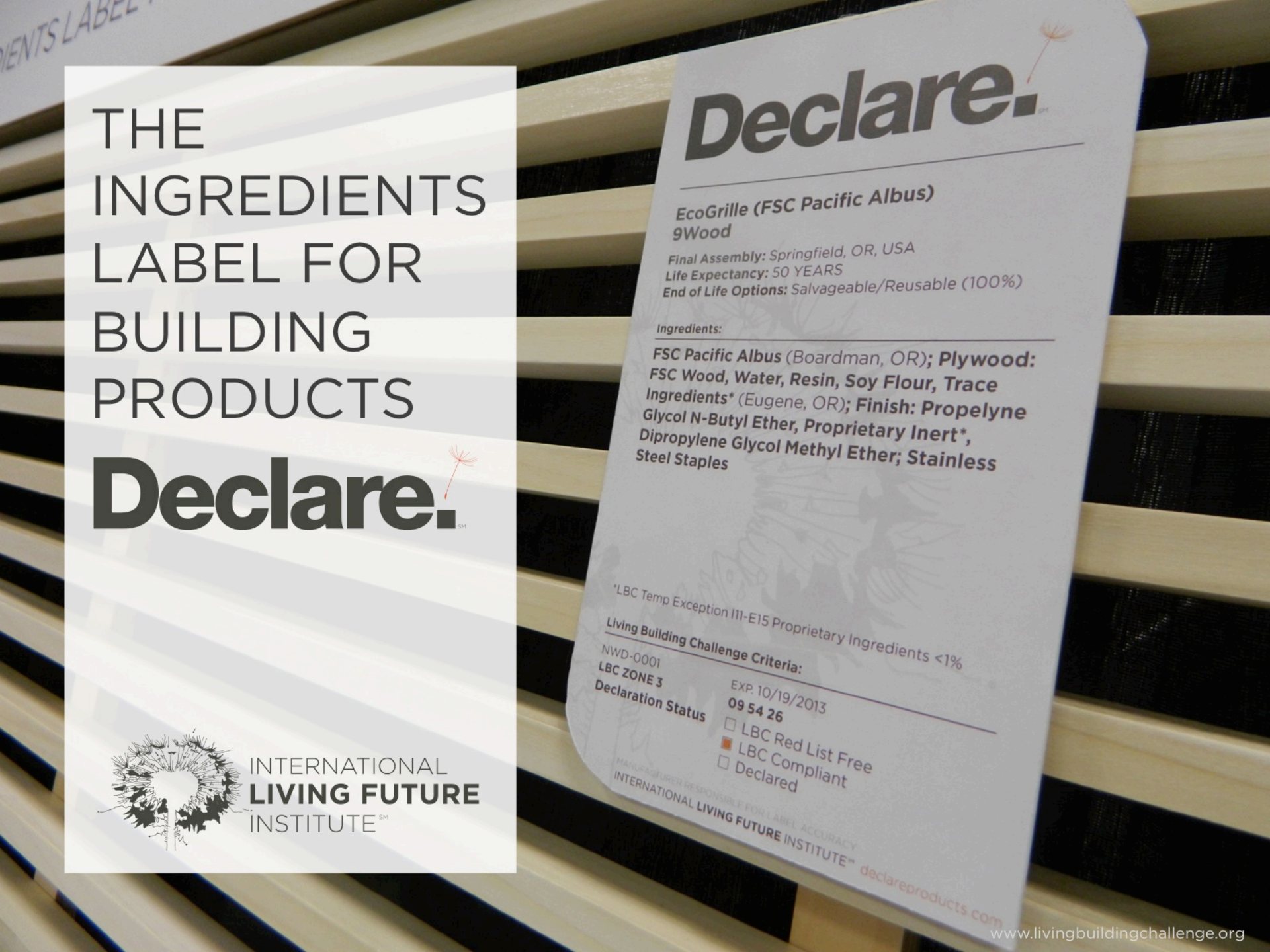
Healthy Buildings Network

#FutuREstorative

THE INGREDIENTS LABEL FOR BUILDING PRODUCTS

Declare.℠

INTERNATIONAL LIVING FUTURE INSTITUTE℠



www.livingbuildingchallenge.org

The Red List contains the worst in class materials prevalent in the building industry.

These commonly-used chemicals on the Red List are:

- Polluting the environment
- Bio-accumulating up the food chain until they reach toxic concentrations
- Harming construction and factory workers

A DECLARE LABEL ANSWERS THREE QUESTIONS:

Where does a product come from?

What is it made of?

Where does it go at the end of its life?

What would the label on your product tell me?

#FutuREstorative

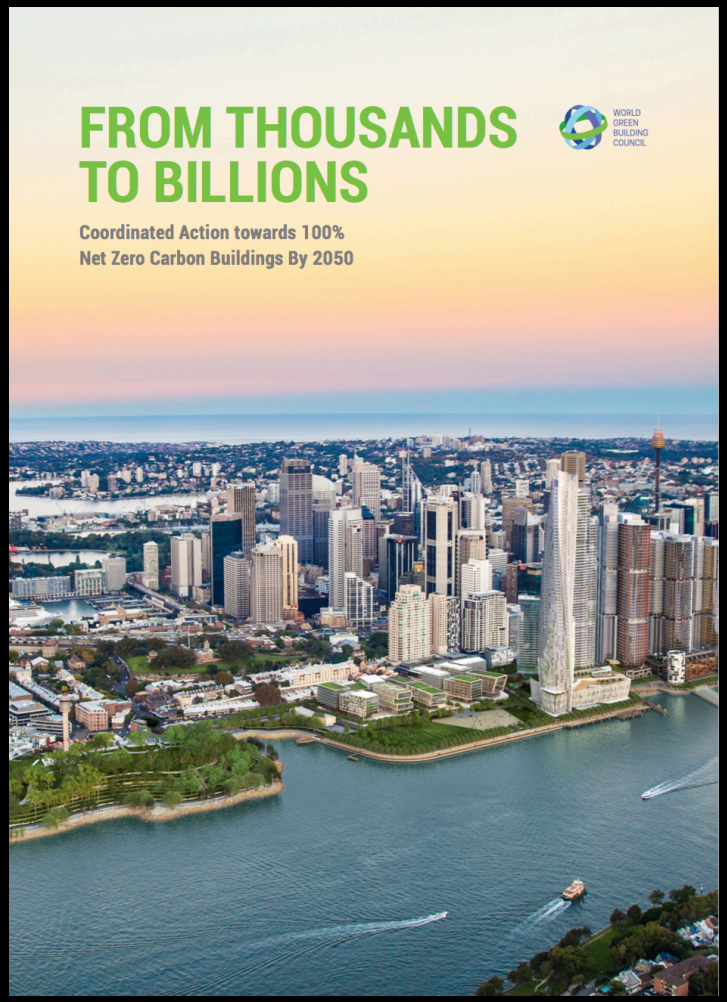
The New Carbon

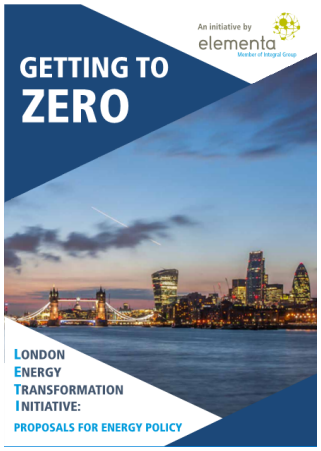
#reimaginecarbon

To meet the Paris Accord, WorldGBC calls for a dramatic and ambitious transformation towards a completely zero carbon built environment:

- **All new buildings must be net zero carbon from 2030**

- **100% of buildings must be net zero carbon by 2050**





London Energy Transformation Initiative

THE NEW LANGUAGE OF CARBON

Too much carbon in the atmosphere is damaging. Instead, it should be retained in durable forms such as plastic and wood or in living organisms. Recycling materials and nurturing the soil ensure that carbon ends up in the right places in the right amounts.

FUGITIVE CARBON

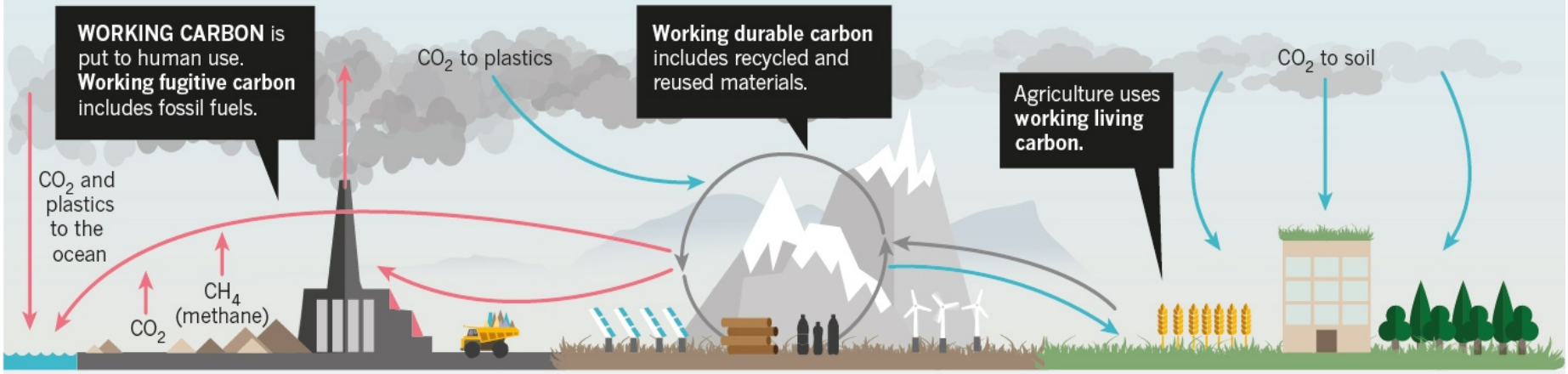
Has ended up somewhere unwanted and can be toxic. It includes carbon dioxide released into the atmosphere by burning fossil fuels, 'waste to energy' plants, methane leaks, deforestation, much industrial agriculture and urban development. Plastic in the ocean is fugitive carbon.

DURABLE CARBON

Locked in stable solids such as coal and limestone, or in recyclable polymers that are used and reused. It ranges from reusable fibre, such as paper and cloth, to building and infrastructure elements that can last for generations and then be reused.

LIVING CARBON

Organic, flowing in biological cycles, providing fresh food, healthy forests and fertile soil. It is something we want to cultivate and grow. Soil includes living carbon in the form of fungi, microbes, humus, legumes and grasses.



MANAGEMENT STRATEGIES

CARBON NEGATIVE

Actions that pollute the land, water and atmosphere with various forms of carbon. For example, releasing methane into the atmosphere or plastic waste into the ocean is carbon negative.

CARBON NEUTRAL

Actions that transform or maintain carbon in durable earthbound forms and cycles for use across generations; or renewable energy such as solar, wind and hydropower that do not release carbon.

CARBON POSITIVE

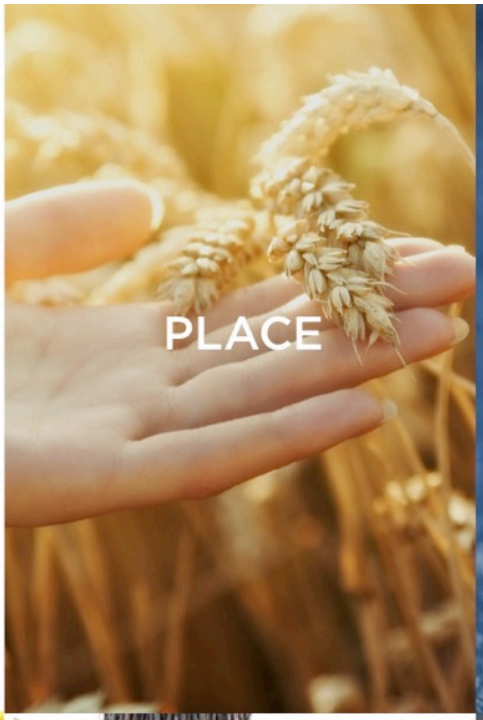
Actions that convert atmospheric carbon to forms that enhance soil nutrition or to durable forms such as polymers and solid aggregates. Also includes the recycling of carbon into soil nutrients from organic materials, food waste, compostable polymers and sewage.

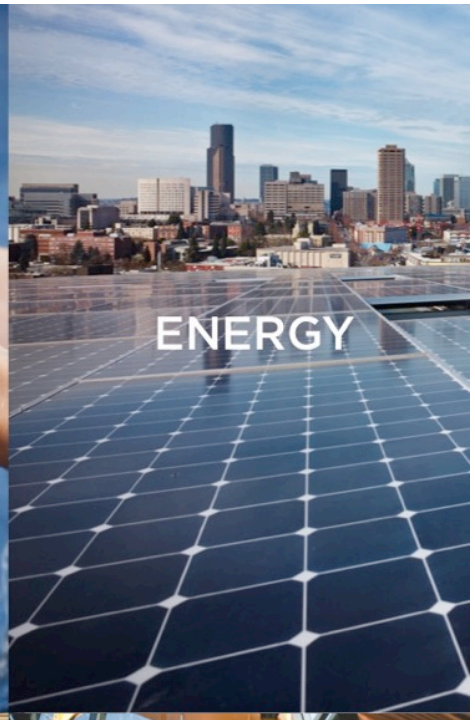

Fugitive Carbon:
Remove Carbon in the Wrong Place
#ReimagineCarbon

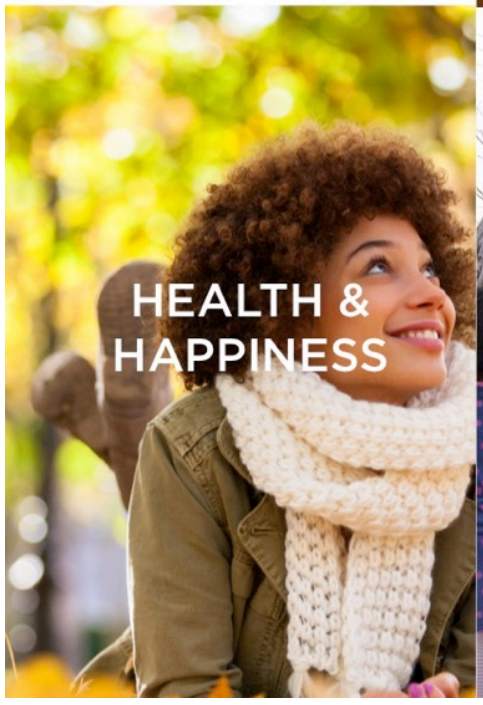

Durable Carbon:
Lock-in Circular Economy
#ReimagineCarbon

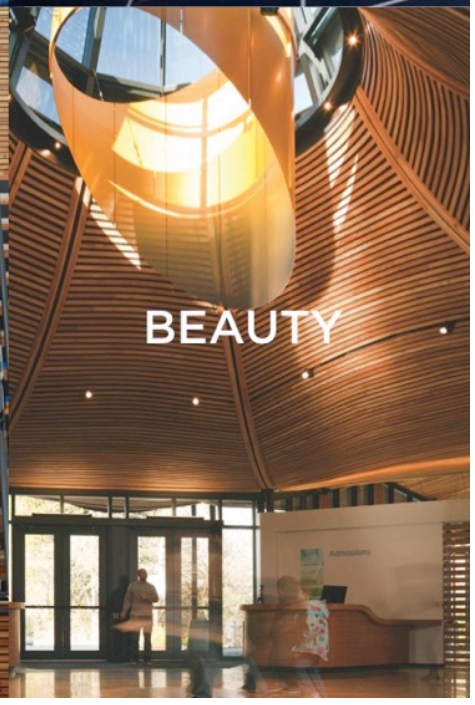

Living Carbon:
Restorative Sustainability
#ReimagineCarbon

LIVING BUILDING CHALLENGE™









Once something exists, we can no longer say it is impossible
Denis Hayes, Bullitt Foundation

Bullitt Centre Seattle

Biophilic Design,
Net Positive Water
Energy
Functions as a Tree
Chemical Free
Health and Happiness,
Constructed Wetlands

MARTIN BROWN @fairsnape

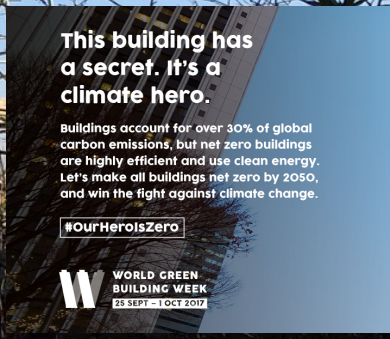
Cuerdon Valley Park Visitor Centre

Lancashire UK

LBC Registered (1st UK)

Zero Cement
Zero Harmful Materials
Natural Materials
Locally Grown Timber
Restorative Education
Net Zero Energy
Biophilic Design
Carbon Positive
Climate Hero

UNITED KINGDOM COLLABORATIVE



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UNITED KINGDOM COLLABORATIVE

#ImagineBetter

How will **you**,
get beyond zero?

#specifilondon

WORKING TOWARDS A NEW
SUSTAINABILITY

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