



Greenbuild

# **Beyond Box-Ticking: Leveraging Performance Data for Social and Financial Outcomes**



# Beyond Box-Ticking: Leveraging Performance Data for Social and Financial Outcomes

## Course Description:

The real estate industry plays a critical role in shaping public health and social equity, influencing everything from air quality and thermal comfort to mental well-being and community engagement. However, traditional ESG frameworks have struggled to quantify and report on health and social sustainability, leaving organizations reliant on intent-based, checklist-driven approaches rather than measurable performance outcomes.

As investor expectations, regulatory pressures, and tenant demands evolve, both standard makers and industry leaders are working to establish new ways to quantify, measure, and report social performance at both the asset and portfolio levels. This shift from intention to results is driving a new era of ESG accountability—one where people-centric building data is as critical as energy efficiency and carbon reduction.

This session will explore why health and social sustainability are gaining urgency, how they are being integrated into ESG frameworks, and what the latest industry data reveals. Experts from IWBI and GRESB will share insights into emerging ESG trends, investor expectations, and regulatory drivers shaping the future of social sustainability in real estate.

The discussion will then dive into real-world applications, showcasing how leading real estate companies are pioneering new methods to quantify social impact and report on performance metrics. A key case study will highlight Rudin's industry-leading approach to integrating health and building performance data into ESG reports, demonstrating how transparency builds trust and improves outcomes for occupants, employees, and investors.

This session is essential for real estate owners, asset managers, investors, and ESG professionals looking to navigate the next frontier of ESG performance measurement. Attendees will gain practical strategies for emphasizing social sustainability within ESG reporting, strengthening the business case for well-being in real estate, and driving measurable impact across portfolios.

# Beyond Box-Ticking: Leveraging Performance Data for Social and Financial Outcomes

## Presenters:



**Kelly Worden**

VP, Social Sustainability  
International WELL  
Building Institute



**Eric Corey Freed**

Principal, Director of  
Sustainability at  
CannonDesign



**Liam Bates**

Co-Founder & CEO  
Kaiterra



**Parag Cameron-Rastogi**

Director - Research  
GRESB

# Learning Objectives & Learning Level

Upon completion, participants will be able to:

- Articulate why ESG in real estate is shifting from intent-based commitments to performance-driven outcomes and how health-focused design drives financial value.
- Evaluate how real-time building performance data is being used to improve occupant well-being, asset value, and investor ESG expectations.
- Demonstrate how real estate firms are integrating people-centric ESG performance metrics into sustainability reporting to meet investor and regulatory demands.
- Utilize strategies from industry case studies to implement data-driven health and ESG initiatives that enhance tenant retention, leasing, and portfolio resilience.

Learning level: Intermediate



# The financial and social performance of real estate

Kelly Worden, MPH



# Market drivers

Why this matters now



## Health is material

Both financial  
and impact  
materiality



## Flight to quality

Demand for  
high-performing,  
healthy spaces



## Human connection

Buildings as  
platforms for  
belonging



## Resilience wins

Healthier spaces  
weather  
disruption

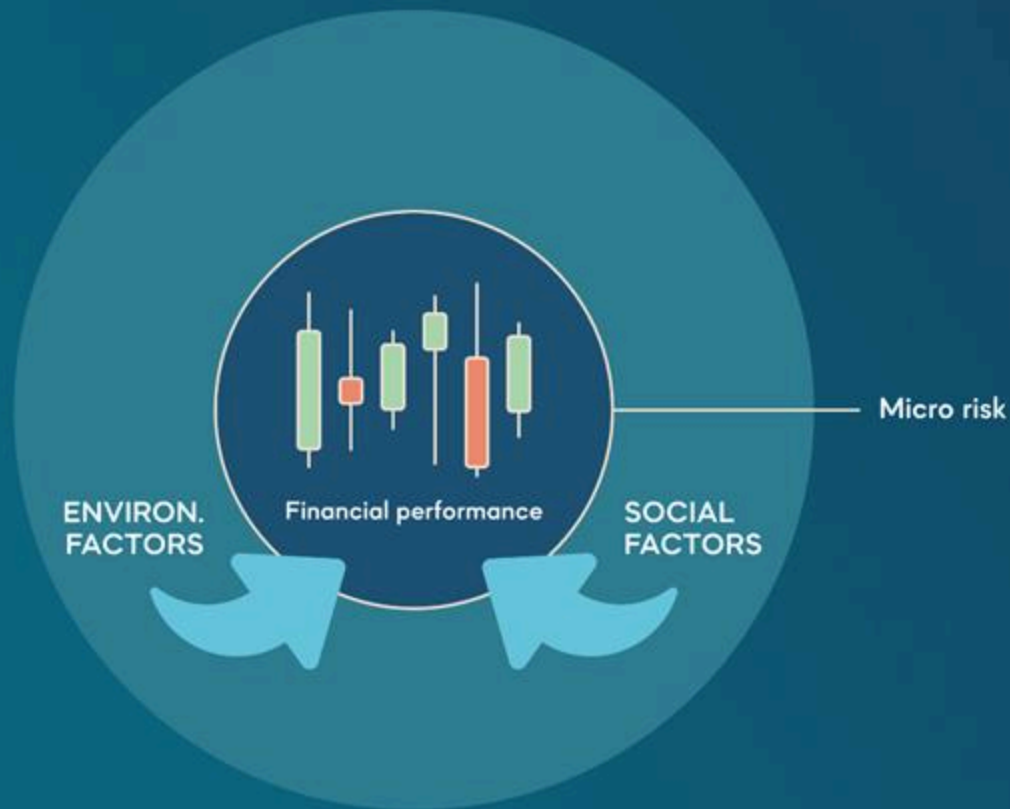


## Holistic approach

Environmental  
and social  
performance

# Single vs. double materiality

**Single materiality** considers the impact of environmental and social factors on financial performance ("**outside in**").



# Real Estate: Asset level social attributes & financial performance

Property type	Asset characteristic	Financial Performance indicator	
Office	Healthy building certification	Rent	Increases of 4.4% to 7.7% <sup>1</sup> and 4 to 6% <sup>2</sup>
Office	Healthy building certification	Longer lease terms	88.3 months compared to 75.3 months <sup>1</sup>
Office	Street level greenness	Rent	5.6% to 7.8% rent premium <sup>3</sup>
Office	Daylight	Rent	5% to 6% rent premium <sup>4</sup>
Office, retail, industrial	Walkability	Property value	Improves property values by up to 9% <sup>5</sup>
Office	Ventilation rates	Employee productivity	\$6,500 to \$7,500 per person per year <sup>6</sup>

Citations:

<sup>1</sup>Sadikin, N., Turan, I., & Chegut, A. (2021). The financial impact of healthy buildings: Rental prices and market dynamics in commercial office. MIT Center for Real Estate Research. <http://dx.doi.org/10.2139/ssrn.3784779>

<sup>2</sup>Minkow, K., Fuerst, F. (2025). Indoor and outdoor health factors in the pricing of commercial real estate: A hedonic analysis of U.S. office buildings. Journal of Environmental Management. <https://doi.org/10.1016/j.jenvman.2025.125312>

<sup>3</sup>Yang, J., Rong, H., Kang, Y., Zhang, F., & Chegut, A. (2020). The financial impact of street-level greenery on New York commercial buildings. MIT Center for Real Estate Research. <https://doi.org/10.2139/ssrn.3714859>

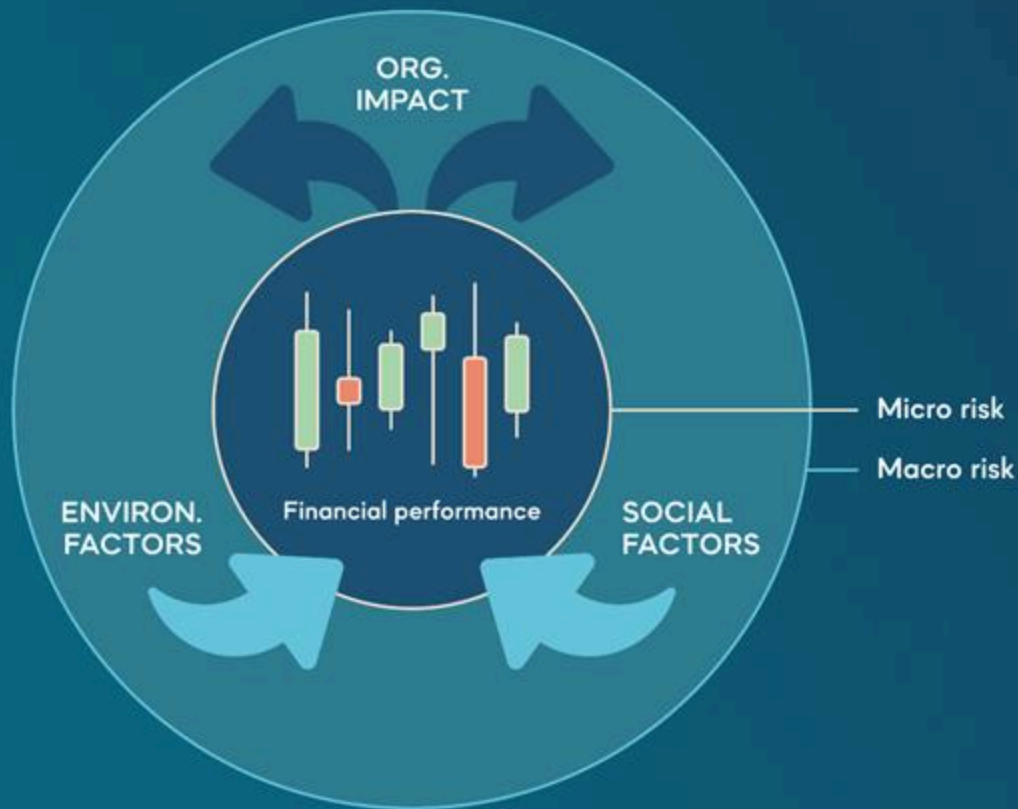
<sup>4</sup>Turan, I., Chegut, A., Fink, D., & Reinhart, C. (2020). The value of daylight in office spaces. Building and Environment, 168, Article 106503. <https://doi.org/10.1016/j.buildenv.2019.106503>

<sup>5</sup>Pivo, G., & Fisher, J. D. (2011). The walkability premium in commercial real estate investments. Real Estate Economics, 39(2), 185-219. <https://doi.org/10.1111/j.1540-6229.2010.00296.x>

<sup>6</sup>MacNaughton, P., Pegues, J., Safish, U., Santanam, S., Spengler, J., & Allen, J. (2015). Economic, environmental and health implications of enhanced ventilation in office buildings. International Journal of Environmental Research and Public Health, 12(11), 14709-14722. <https://doi.org/10.3390/ijerph121114709>

# Single vs. double materiality

**Double materiality** includes single materiality but also considers the impact that an organization has on environmental and social factors ("**inside out**").



# WELL can deliver improved performance and satisfaction



39% higher satisfaction with WELL Certified spaces compared to LEED buildings.

SOURCE: [National Library of Medicine](#)



A seminal study found that WELL Certified spaces improved occupant satisfaction by 30% compared to other buildings.

SOURCE: [Building and Environment](#)



10-point jump in median employee productivity scores working in a WELL Certified space.

SOURCE: [Building and Environment](#)



10% increase in mental health scores in WELL Certified workspaces.

SOURCE: [Building and Environment](#)



WELL Certified spaces had 12% fewer Sick Building Syndrome complaints.

SOURCE: [Building and Environment](#)

# Investing in health pays back

IWBI's Special Report reveals the powerful business case for prioritizing health and well-being. Discover how a strategic investment in your people can drive significant economic returns by boosting productivity, reducing operating costs and strengthening asset value.



Scan to download

SECOND EDITION  
An IWBI Special Report

# INVESTING IN HEALTH PAYS BACK

The Business Case for  
Healthy Buildings and  
Healthy Organizations



# Global adoption of WELL in sustainable finance

**84**

cases

**13**

financial instruments

**29**

countries

**5**

continents

**14**

industries



## China

- Swire Properties
- New World
- Champion REIT
- Link REIT
- China Overseas
- Hongkong Land
- Sino-Ocean
- Sino Land
- Agile
- Redco
- Minmetals
- Hang Lung
- Nan Feng
- Henderson Land
- Great Eagle Holdings
- Wuxi Jinyuan Industry Investment Development Group
- Kerry Properties
- White Peak
- ChinaChem Group
- SLG Office Trust

## APAC

- ASEAN Taxonomy Board
- Shimizu
- Obayashi
- Kajima
- Yanlord
- MUFG
- Lendlease
- Arthaland
- Frasers
- CBUS Property
- Sime Darby Property
- UEM Sunrise
- Pelaburan Hartanah Berhad
- Mitsubishi Estate
- The Victoria State Government, Australia
- Central Pattana
- Oxford Properties
- Urban Development Authority
- KPJ Healthcare Berhad
- Keihan Holdings
- Mori Building
- CapitaLand Development
- Investa
- One Bangkok
- Keppel REIT

## Europe

- Prologis
- Aviva Investors
- Jernhusen
- AXA
- Lamda
- Gecina
- CNP Assurances
- Great Portland Estates
- Futereal
- CA Immo
- GMP
- Prodea Investments
- Vesteda
- HGR Property Partners
- HB Reavis
- Castellum
- Eaglestone
- Platzer
- Tatra banka

## North America

- TD Bank
- Colliers
- Canadian Imperial Bank of Commerce
- California Infrastructure and Economic Development Bank
- Pfizer
- Mather
- Micron
- BMO Financial Group
- National Bank of Canada
- Starwood Property Trust
- USAA
- Ministry of Finance and Public Credit, Mexico

## Middle East & Africa

- First Abu Dhabi Bank
- Qatar National Bank (QNB)
- OMNIYAT
- Ghana Ministry of Finance
- FirstRand Bank
- Redefine Properties
- Majid Al Futtaim
- Growthpoint Properties

# Global Adoption of WELL in Sustainable Finance



“We are glad to partner with CLD on this ground-breaking sustainability-linked loan tied to both WELL and Green Mark certifications. It reflects the holistic approach that we take to supporting our clients’ ESG ambitions.”

— Elaine Lam

Head of Global Corporate Banking, OCBC

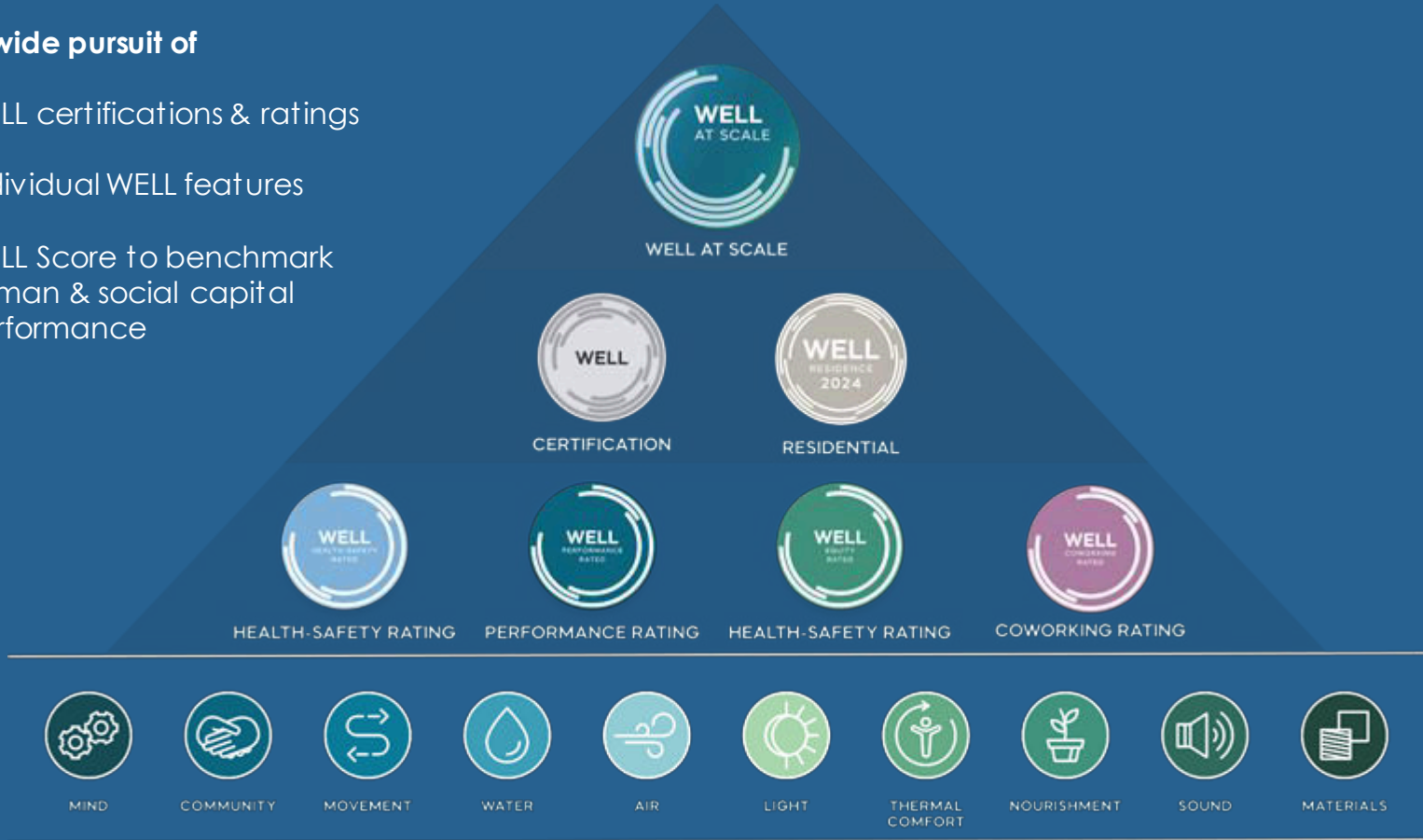
## CapitaLand Development

- Secured two pioneering bilateral sustainability-linked loans (SLLs) totalling **\$600 million** with DBS Bank Ltd. (DBS) and Oversea-Chinese Banking Corporation Limited (OCBC).
- First SLL to be aligned with a company’s commitment to **WELL Certification** and Green Mark Certification.

# Portfolio wide action with WELL at scale

## Portfolio wide pursuit of

- WELL certifications & ratings
- Individual WELL features
- WELL Score to benchmark human & social capital performance



# WELL & GRESB

The WELL Building Standard aligns with **41%** of the 2025 GRESB Real Estate Assessment.

Within the GRESB Building Certification Aspect:

- WELL Certification and WELL for residential are each with **a full point**
- The WELL Health-Safety Rating, the WELL Equity Rating and the WELL Performance Rating are each classified as **a partial point (.6 points)**

WELL is the **3rd** most utilized building certification program within GRESB

## Alignment with GRESB Components



### Management Component

WELL aligns with 24 GRESB indicators



### Performance Component

WELL aligns with 14 GRESB indicators



### Development Component

WELL aligns with 15 GRESB indicators

# WELL at scale locations within portfolios that report to GRESB

**38**

Portfolios

**7,200+**

Locations

**65**

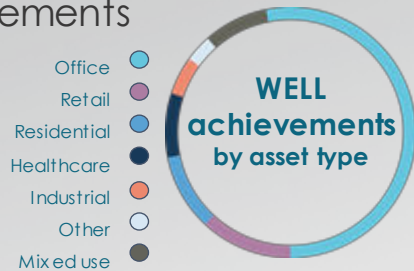
Countries

**2.5M+**

People

**7,000+**

WELL achievements



\*Based on 2024 data

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# Average WELL achievements per portfolio for portfolios that report to GRESB



**17%+**

Locations WELL Certified



**55%+**

Locations WELL Health-Safety Rated



**9%+**

Locations Precertified



**10%+**

Locations WELL Equity Rated



**2%+**

Locations WELL Performance Rated

\*Based on 2024 data

# Nucleus Office Parks excels with the WELL Performance Rating

Nucleus Office Parks became the first and the largest WELL at scale portfolio globally to achieve the WELL Performance Rating.

[Read more](#)



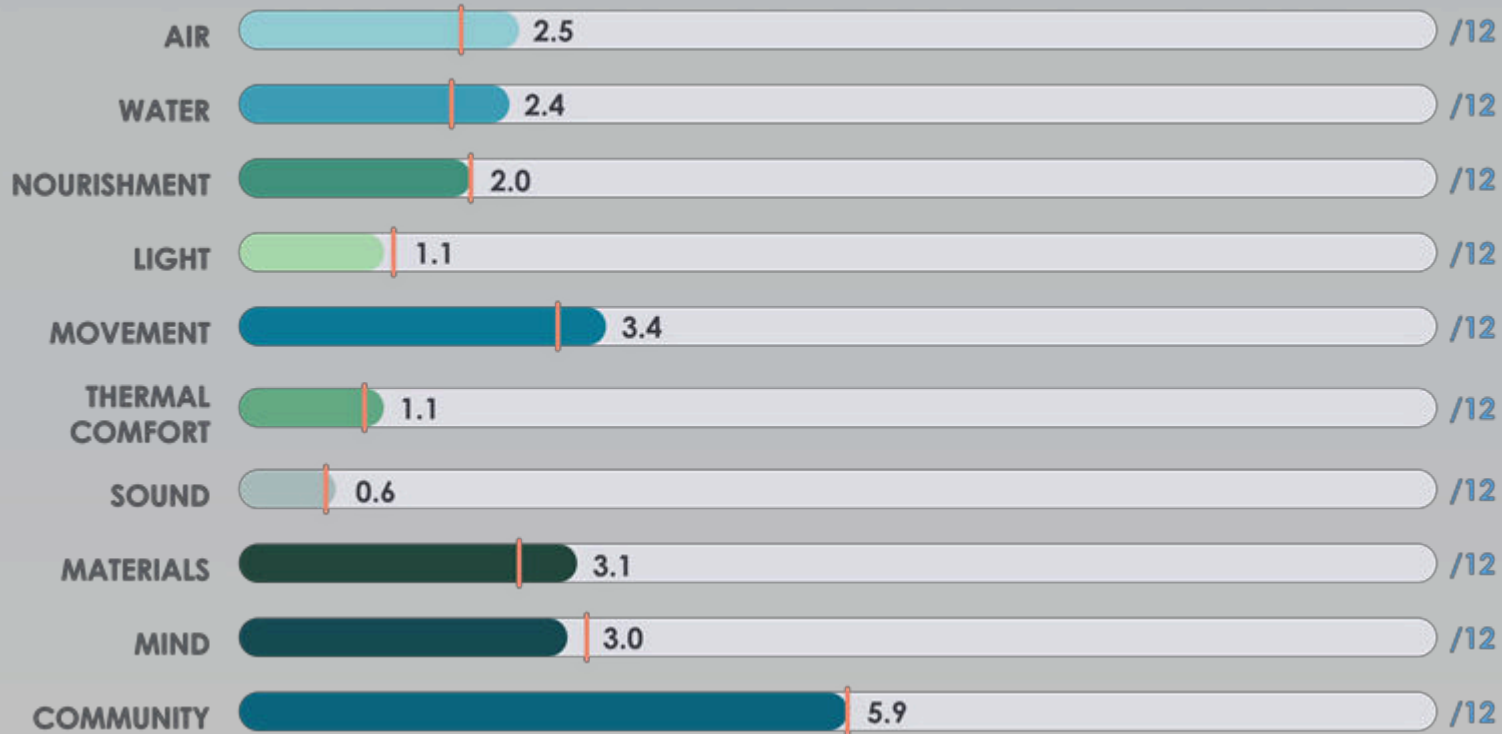
**Air Quality Management:** By giving our occupiers cleaner, healthier air to breathe, we have been able to improve their overall health. We achieve this by ensuring air filtration systems and tracking indoor air quality levels.



**Physical Fitness and Movement:** Our offering of on-site fitness facilities, encouraging active commuting and physical activity during work hours has led to propagating active lifestyle choices by our occupiers.

# WELL Concept achievements by average points

Global average points achieved per WELL Concept



# Piloting the WELL Rating for Real Estate

(name TBC)

- focus on the built characteristics of assets
- flexible entry point to the WELL Standard
- no prerequisites or performance testing requirements



[kelly.worden@wellcertified.com](mailto:kelly.worden@wellcertified.com)



Real estate that is better for people is better for investors

# ERIC COREY

# FREE

   [ericcoreyfreed](#)

DIRECTOR OF SUSTAINABILITY  
**CANNONDESIGN**





**NET ZERO IS  
DEAD.**



**OUR WORLD HAS  
CHANGED.**



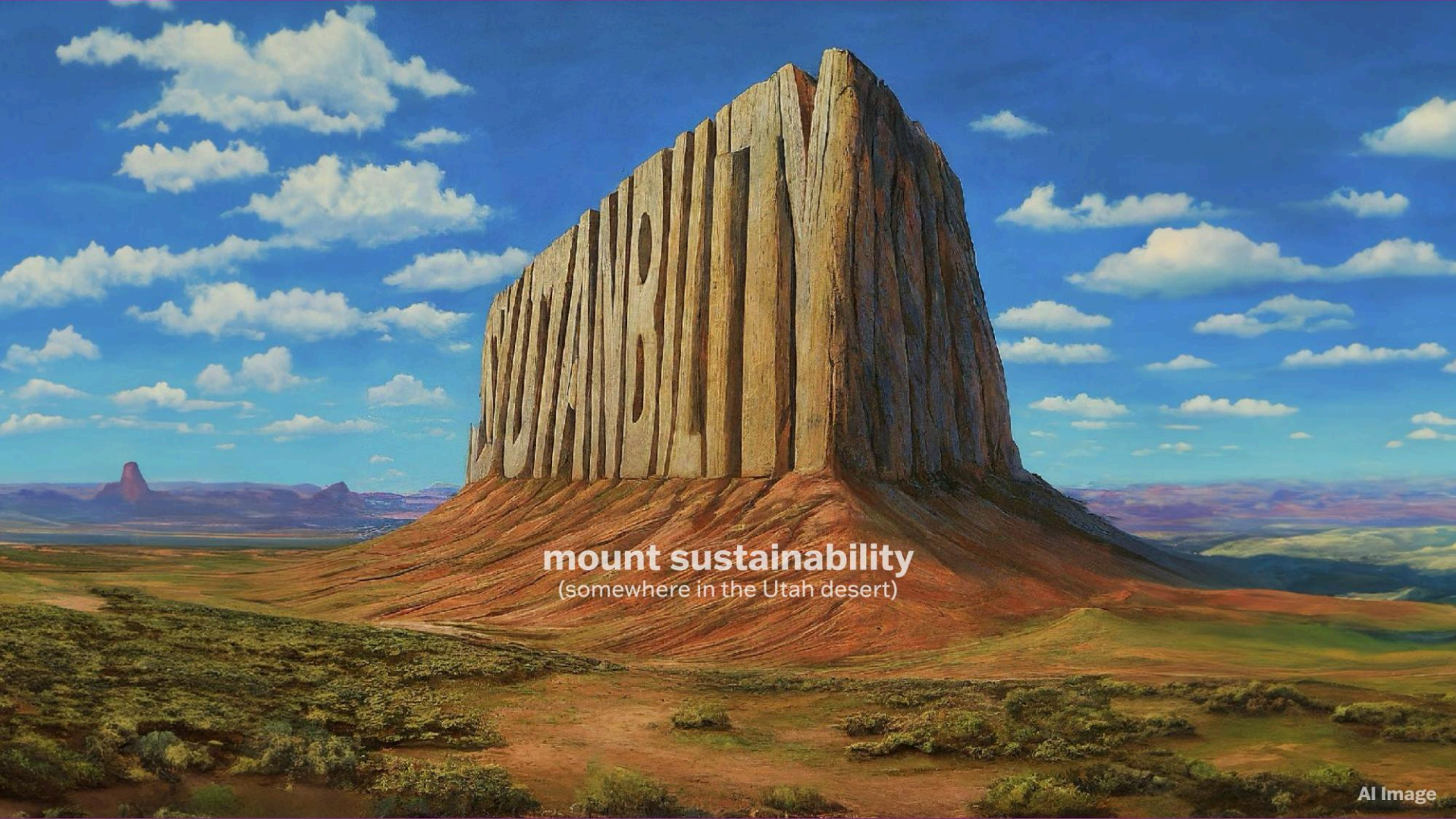
**WE NEED TO  
PIVOT.**

worse/guilt  
**use less**





paper straws are  
**terrible!**



**mount sustainability**  
(somewhere in the Utah desert)

selling the  
**BROWNIE**  
(not the recipe)





we did it  
**WRONG!**





Your a idiot

**DO NOT EAT THIS WRAPPER**



Contains at least 20% recycled fiber. Please recycle or compost this wrapper.



**HELLO**  
my name is  
**LEED AP**

BROWN vs WHITE RICE



**bad?**



**good?**

BROWN vs WHITE RICE



**good?**



**bad?**



**nuances**



Excel

File

Edit

View

Insert

Format

Tools



Insert

Page Layout

Formulas

Tools

Help



Cut



Copy



Format

Calibri (Body)

12

**B**

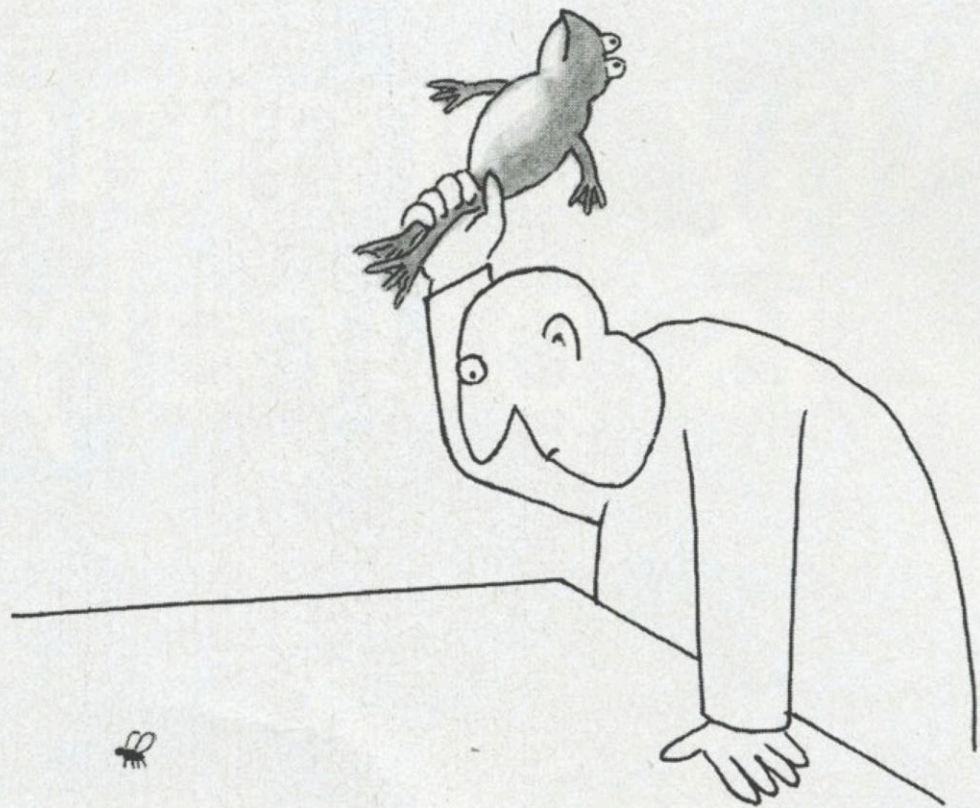
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U



death by

**EXCEL**



S. GROSS

# A Game of **Substitution**



that's not  
**MEAT!**

# A Game of **Substitution**



that's not  
**MEAT!**



that's not  
**LEATHER!**

# A Game of **Substitution**



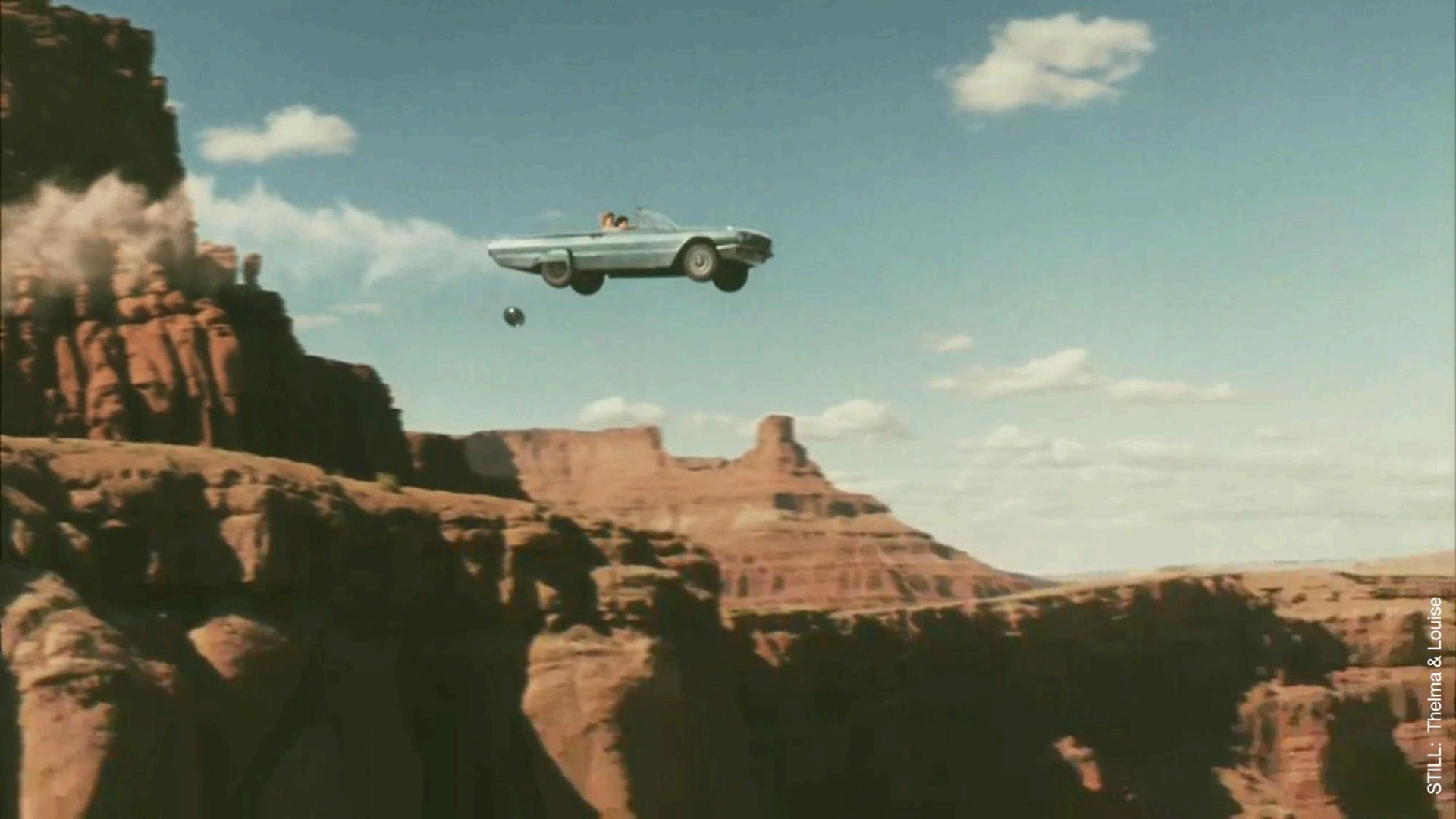
that's not  
**MEAT!**



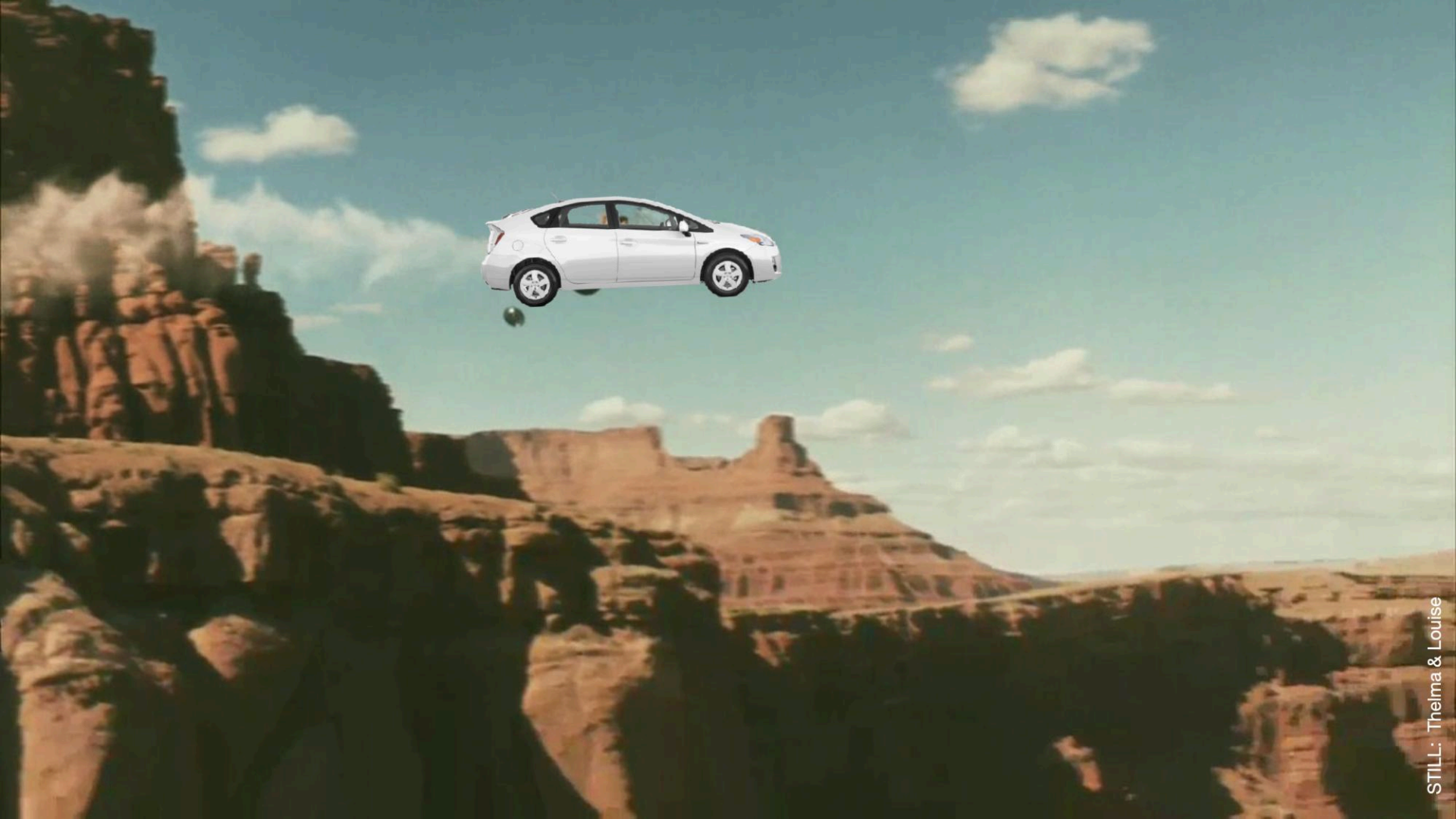
that's not  
**LEATHER!**



that's not  
**CONCRETE!**



STILL: Thelma & Louise



STILL: Thelma & Louise

→ Planet 2100



→ Healthier Humans



→ Equity Now



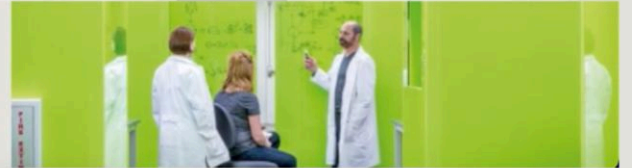
→ The Big Rethink



→ Future Economies

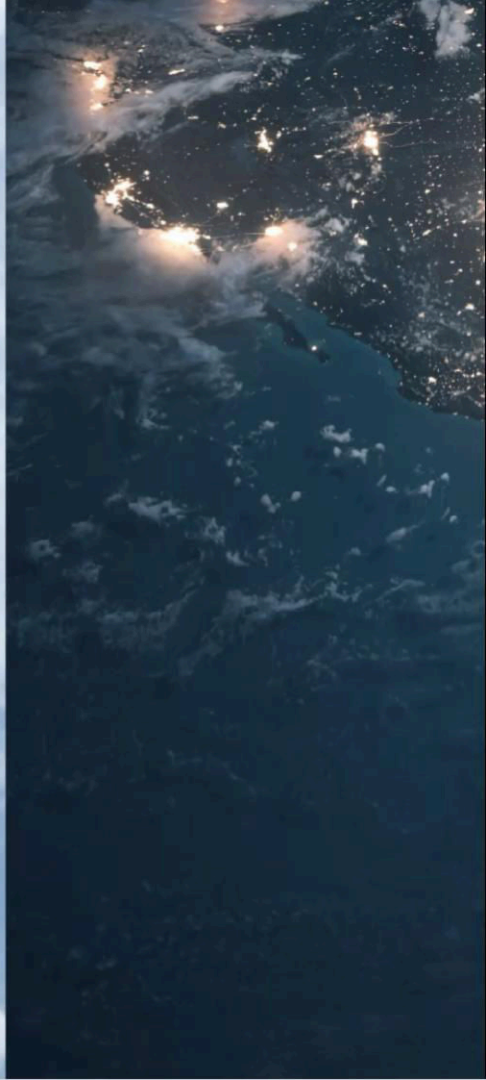


→ Chasing Discovery





# Planet 2100



# Our 2024 Impact Report!

Released 2025

**NEW RELEASE**

Impact is our Business



READ THE REPORT

**BREAKING  
NEWS**

# 2025 FORTUNE CHANGE THE WORLD



September 2025



**EVERY CLIENT  
HAS TARGETS**



**SELLING  
OUTCOMES**



**DON'T WAIT TO  
BE ASKED**

2

3

**SUSTAINABILITY  
DOESN'T COST YOU  
MONEY,  
IT MAKES YOU MONEY!**



A hand is holding a black card against a dark grey background. The card features the Netflix logo in orange and the text 'Total Hours Streamed' in white. The card is slightly tilted.

**NETFLIX**

Total Hours Streamed

# Finding your **North Star Metric**



NOT: **# of Subscribers**  
**Time Spent Listening**



NOT: **Revenue**  
**Orders per Month**



NOT: **Products Sold**  
**Steps Taken**

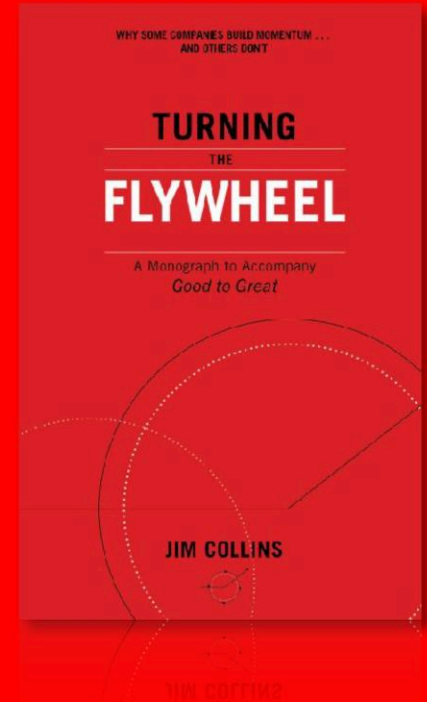
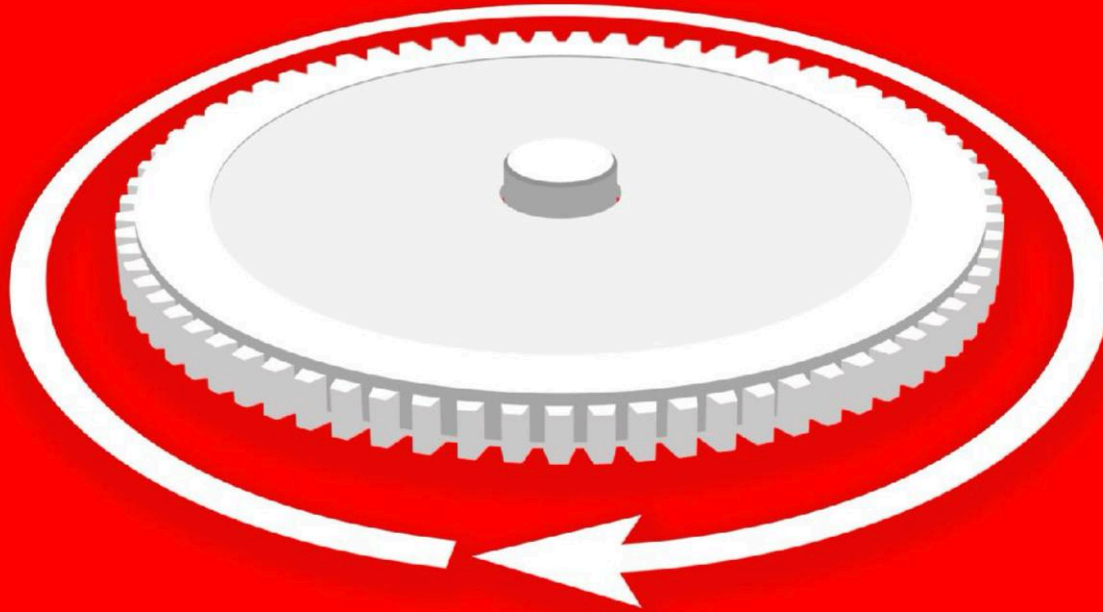
# Finding our **North Star Metric**



Sustainability

NOT: **Net Signed Fee**  
**Touch 100% of Projects**

# The Flywheel Concept



# Amazon's Flywheel



# Our Flywheel





WEEKS  
to  
DAYS

DAYS  
to  
HOURS

HOURS  
to  
MINUTES

***"MODEL at the SPEED of DESIGN."***



progress **NOT** perfection

## Climate Risks



Source: ClimateCheck

## Sustainability Plan



Valid: April 18, 2026



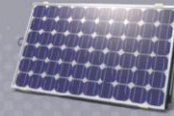
**By 2025**  
Founding Signatory!



Times Higher Education  
**Impact Rankings**

**#1 in the U.S.**  
**#6 Globally**

## Energy Production



On-Site **23** mW  
 Off-Site **33.7** mW  
**34.7** M kWh



## LEED® Certifications: 78



## Awards



**#3 in the U.S.**

**Arizona Forward Environmental Excellence Awards**



## BUILDING PERFORMANCE:

# Climate Analysis

## REGIONAL INFLUENCES

### Climate Zone 4A – Mixed

#### Temperature + Humidity

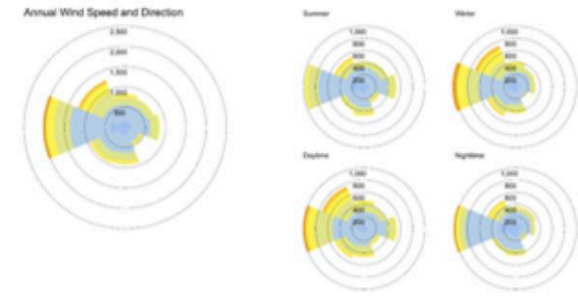
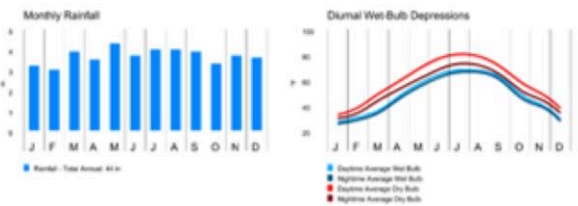
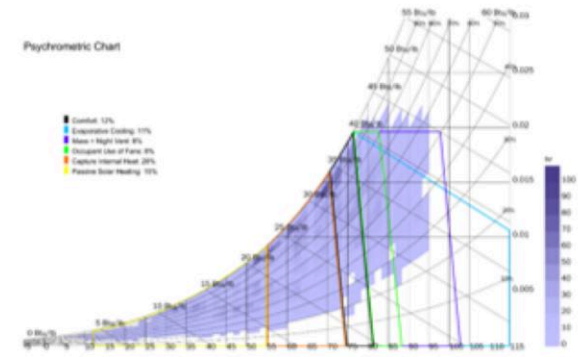
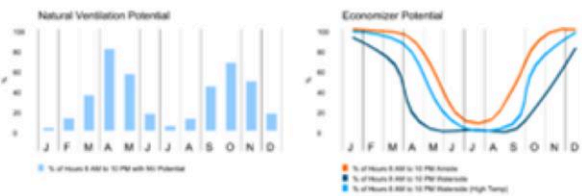
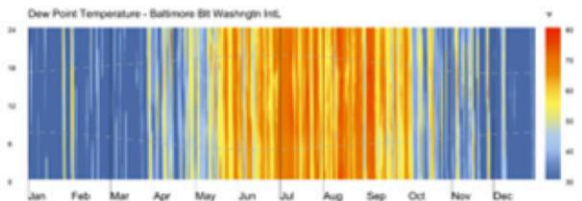
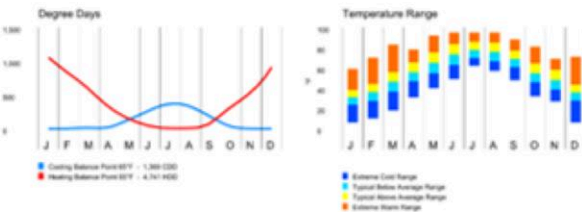
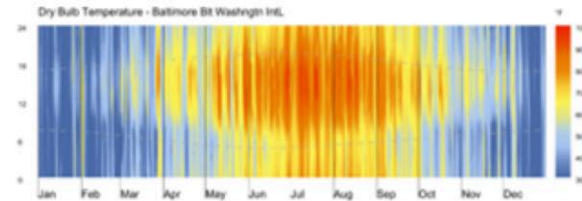
- Mixed climate with hot/humid summers, cold winters, must respond to both conditions
- Well insulated envelope with appropriately orientated windows can offset heating demand
- Provide some solar shading to prevent overheating in summer
- Decent potential for NV during shoulder seasons

#### Rainfall

- Consistent rainfall throughout the year, potential for rainwater collection to offset building water use

#### Wind

- Predominantly from the west in both winter and summer. Can help promote Natural Ventilation/cooling in shoulder seasons through early summer

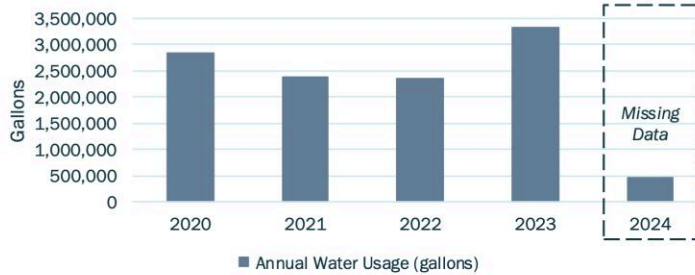


OVERVIEW

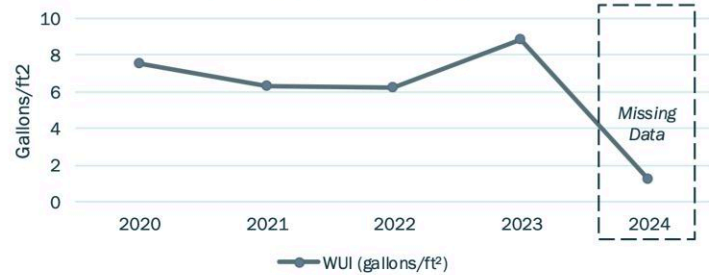
# Existing Water Consumption

Data Source: Building Utility Data – 2020-2024; Bellevue City Hall

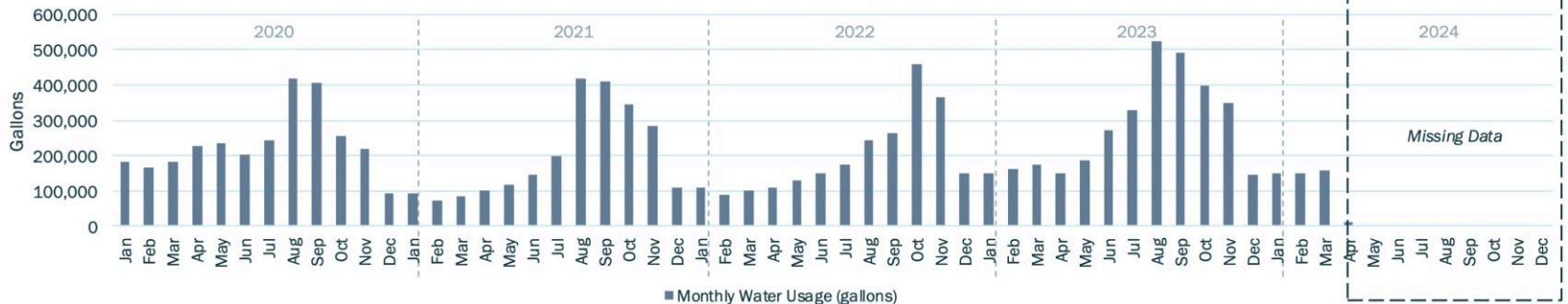
### Annual Water Usage



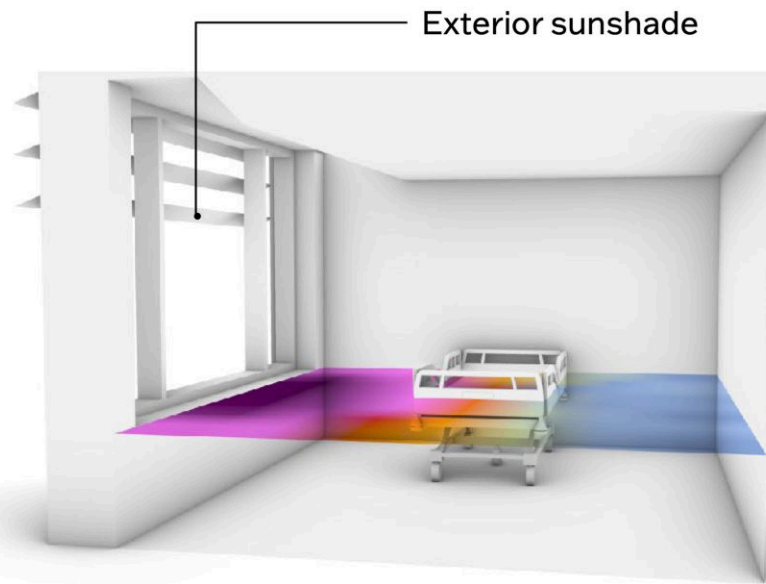
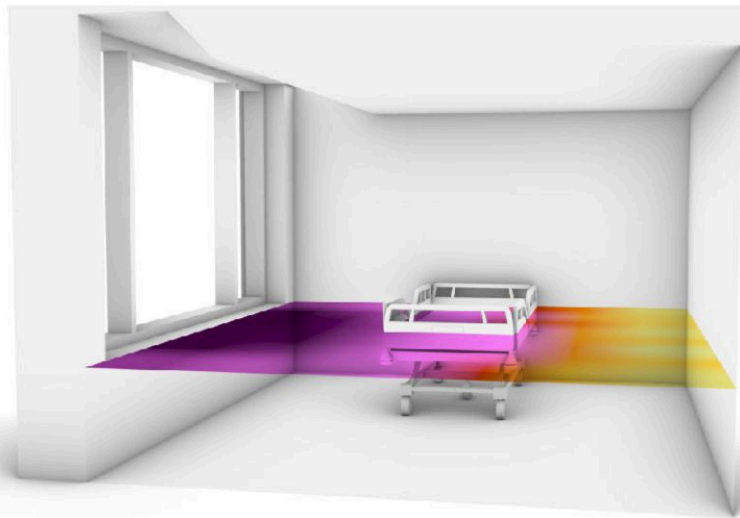
### Water Use Intensity (WUI)



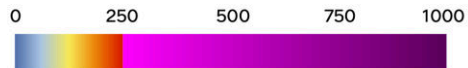
### Monthly Water Usage



# Patient Experience Hours of Direct Sun



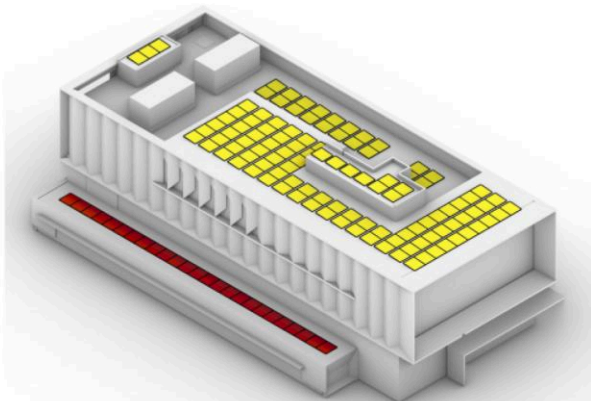
Annual Sunlight Exposure  
Hours/yr direct sun > 1000 lux



# Getting to Zero Net Energy



Offset:  
35.2%

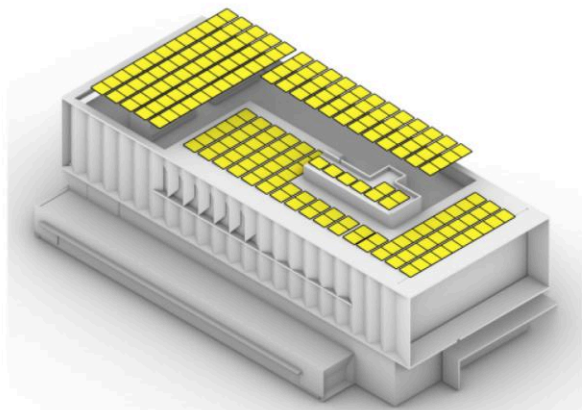


**Proposed Design (Base Case)**

PV Production Potential: 208,696 kWh/year

PV DC Capacity: 143.9 kW

Offset:  
57.1%

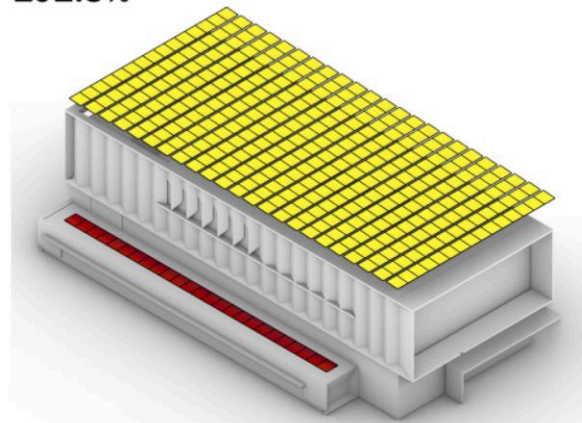


**Alternate 1A – 50% Offset**

PV Production Potential: 338,354 kWh/year

PV DC Capacity: 212.1 kW

Offset:  
102.3%



**Alternate 1B – 100% Offset**

PV Production Potential: 606,275 kWh/year

PV DC Capacity: 388.5 kW

## Assumptions:

PV Efficiency: 22.0%

Building Energy Use (EUI 27): 592,618 kWh/year

T24 requirement (+15%):  $1.63 \text{ W/sf} \times 74,904 \text{ sf} = 122,088.5 \text{ W} = 122.09 \text{ kW} (1.15) = 140.4 \text{ kW}$

Check your  
indoor air  
quality  
here

Open Office



15:45 📶 🔋

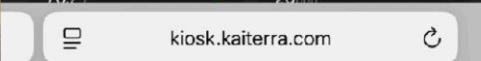
**CANNONDESIGN** 3:45 PM


CHICAGO OPEN OFFICE 11027 - IAQ001

## Indoor air quality is excellent

Enjoy the clean air!

Correlated Color Temperature	Carbon Dioxide
3454k -	519ppm -
Humidity	Light
59% -	45lx -
Large Particles	Small Particles
1 $\mu\text{g}/\text{m}^3$ -	1 $\mu\text{g}/\text{m}^3$ -
Temperature	TVOC
70.7 $^{\circ}\text{F}$ -	20ppb -





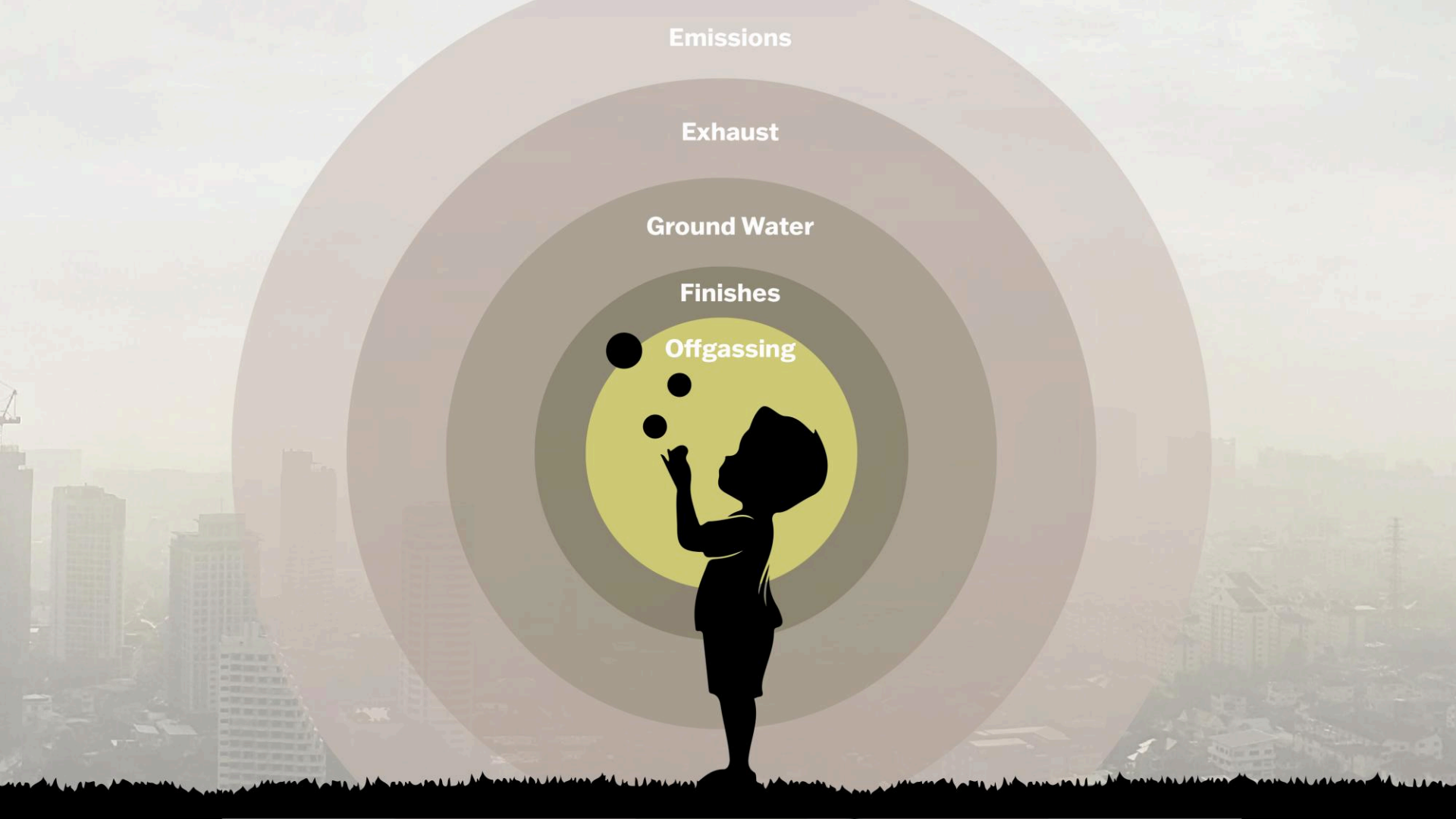
Emissions

Exhaust

Ground Water

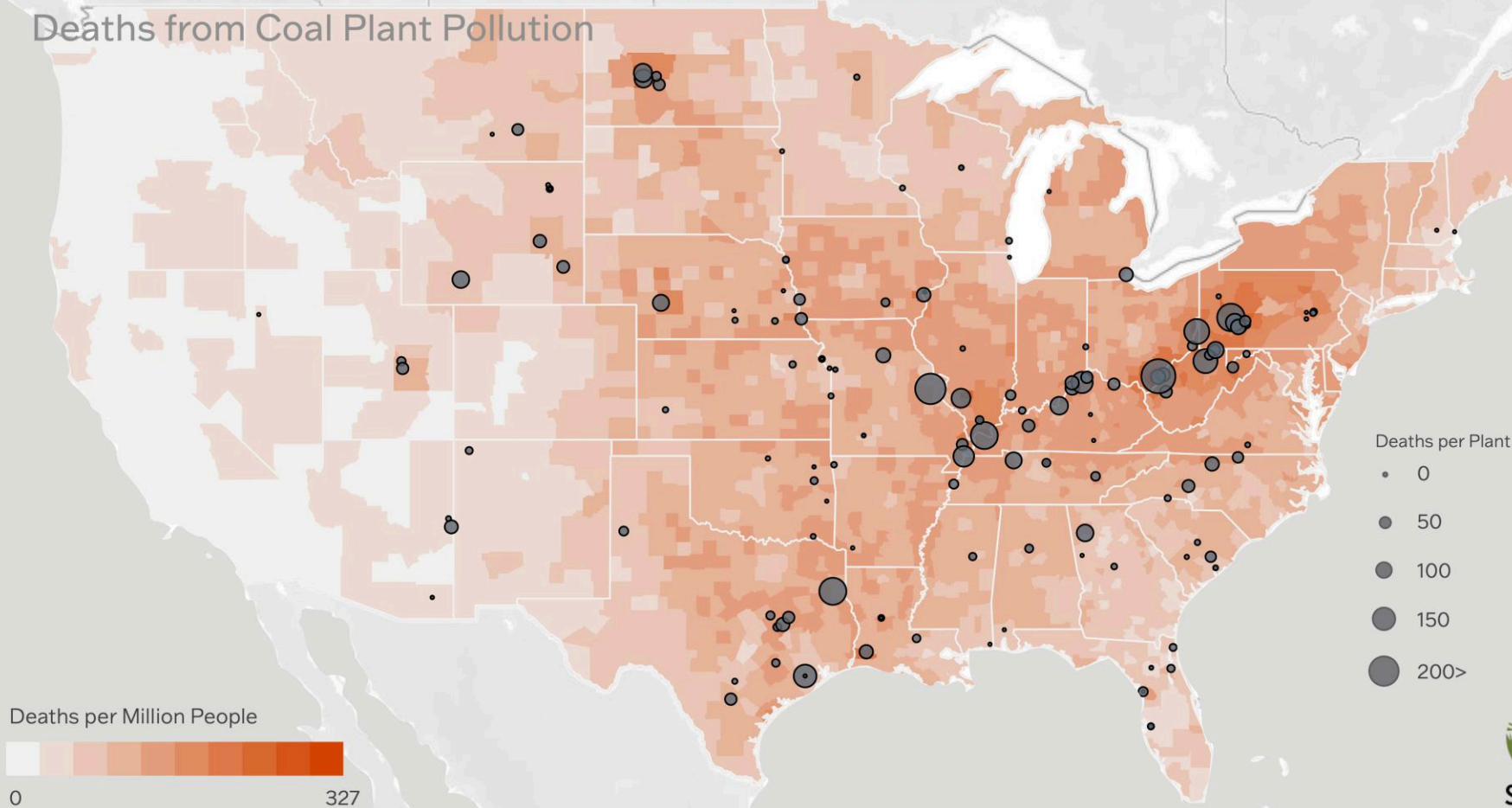
Finishes

Offgassing




# The Climate Crisis is a Health Crisis

## Deaths from Coal Plant Pollution



Source: Sierra Club Out of Control coal mortality report

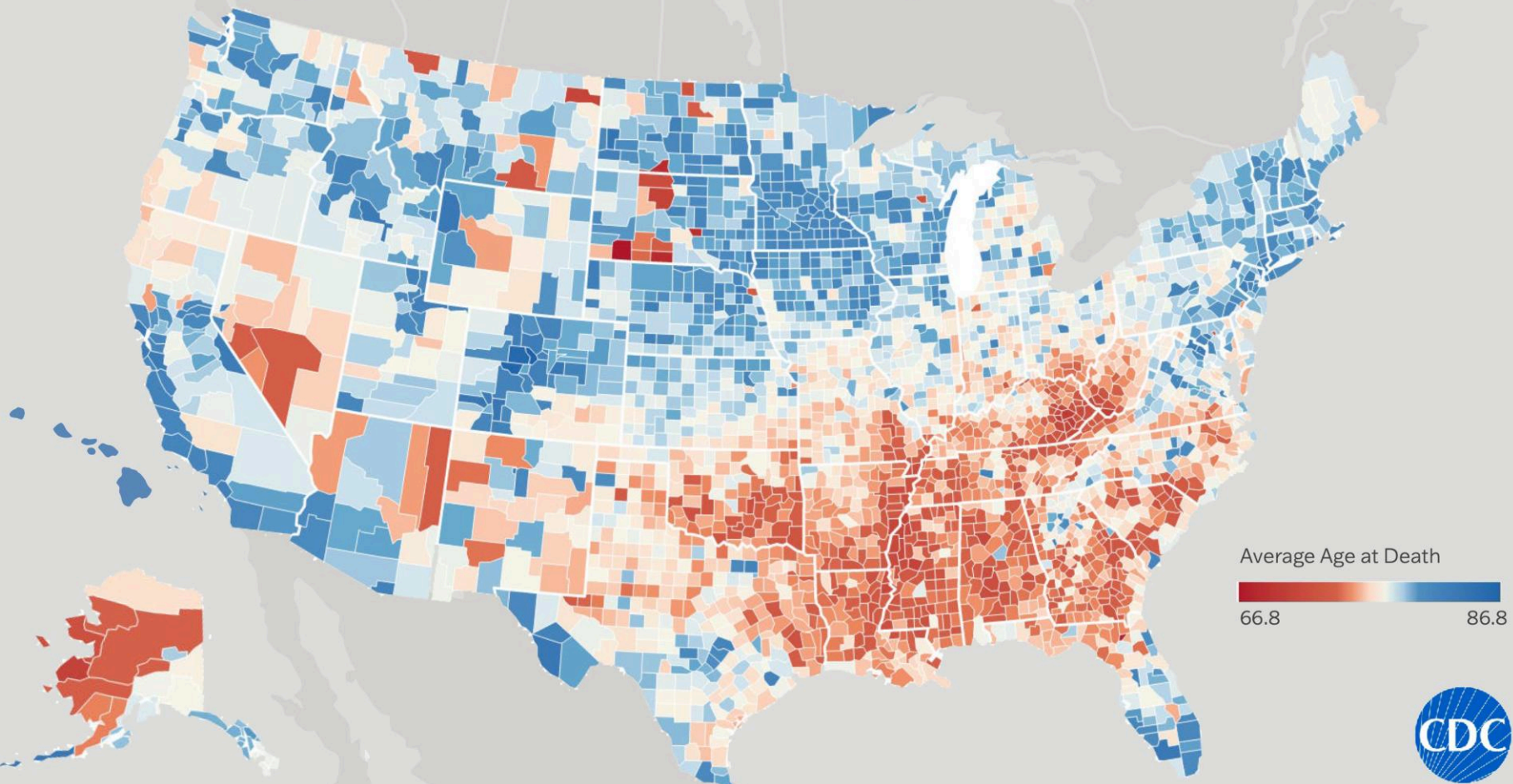




decarbonize for free:

# HEALTH BENEFITS

# 20 Year Disparity in Life Expectancy



Source: CDC Death Records

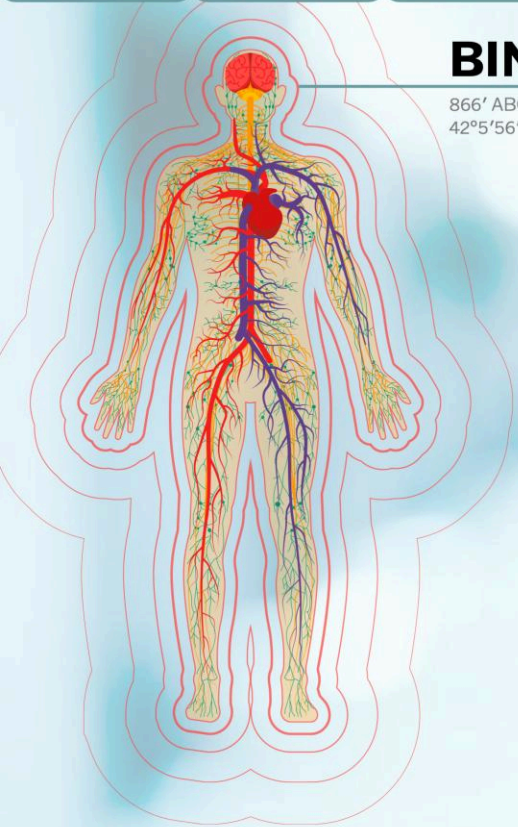
COMMUNITY HEALTH INDICATORS

Life Expectancy	Infant Mortality	Maternal Mortality	Obesity	Chronic Conditions	Diabetes Rates	Hypertension Rates	Vaccination Rates	Dental Health	Physical Activity
Mental Health	Substance Abuse	High School Graduation Rates	Secondhand Smoke Exposure	Homicide Rates	Injury Deaths	Vector-Borne Infections	Preventable Hospital Admissions	Nutrition Access	Access to Healthcare

# BINGHAMTON UNIVERSITY

Binghamton, NY 13902

866' ABOVE SEA LEVEL  
42°5'56"N / 75°54'39"W



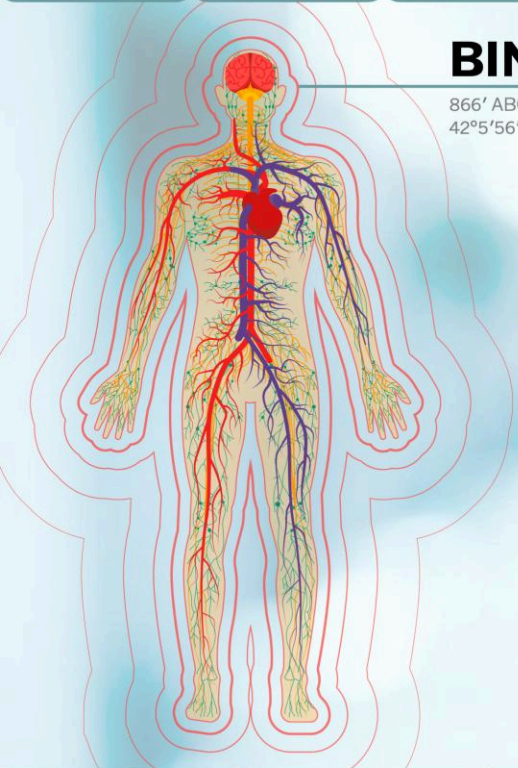
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Life Expectancy	Infant Mortality	Maternal Mortality	Obesity	Chronic Conditions	Diabetes Rates	Hypertension Rates	Vaccination Rates	Dental Health	Physical Activity
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# BINGHAMTON UNIVERSITY

Binghamton, NY 13902

866' ABOVE SEA LEVEL  
42°5'56"N / 75°54'39"W



Walkability	Air Quality	Water Quality	Noise Pollution	Daylight	Views	Biodiversity	Nutrition
-------------	-------------	---------------	-----------------	----------	-------	--------------	-----------

ENVIRONMENTAL DETERMINANTS OF HEALTH

COMMUNITY HEALTH INDICATORS

Life Expectancy	Infant Mortality	Maternal Mortality	Obesity	Chronic Conditions	Diabetes Rates	Hypertension Rates	Vaccination Rates	Dental Health	Physical Activity
Mental Health	Substance Abuse	High School Graduation Rates	Secondhand Smoke Exposure	Homicide Rates	Injury Deaths	Vector-Borne Infections	Preventable Hospital Admissions	Nutrition Access	Access to Healthcare

# BINGHAMTON UNIVERSITY

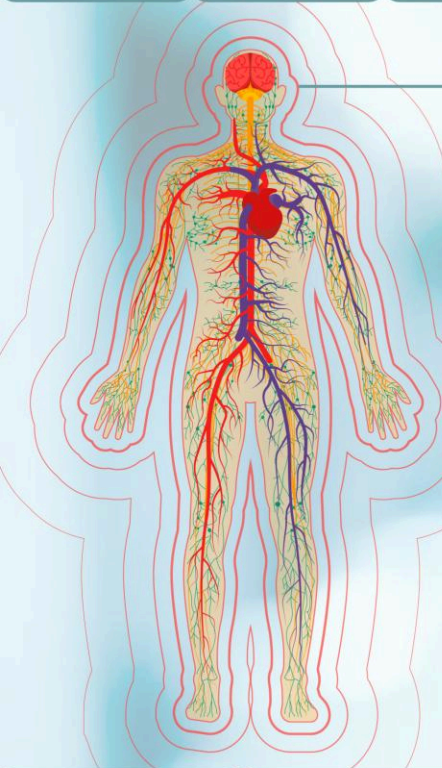
Binghamton, NY 13902

866' ABOVE SEA LEVEL  
42°5'56"N / 75°54'39"W

SYMPTOMS

Headaches	Nose Irritation	Mood
Dizziness	Throat Irritation	Blood Pressure
Fatigue	Respiratory Irritation	Sleep Quality
Nausea	Cough	Microbiome
Vomiting	Cardiovascular	Stress
Skin Rash	Asthma	Infections
Inflammation	Allergies	Immunosuppression
Eye Irritation	Onocological	Obesity

America's Health Ranking:  
Healthiest States Index:  
County Health Rankings  
Healthy Food Index:  
Age-adjusted death rate:  
per 100,000 people



Walkability	Air Quality	Water Quality	Noise Pollution	Daylight	Views	Biodiversity	Nutrition
-------------	-------------	---------------	-----------------	----------	-------	--------------	-----------

ENVIRONMENTAL DETERMINANTS OF HEALTH

Life Expectancy	Infant Mortality	Maternal Mortality	Obesity	Chronic Conditions	Diabetes Rates	Hypertension Rates	Vaccination Rates	Dental Health	Physical Activity
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# BINGHAMTON UNIVERSITY

Binghamton, NY 13902

Resiliency Risk Score: **48/100**

866' ABOVE SEA LEVEL  
42°5'56"N / 75°54'39"W

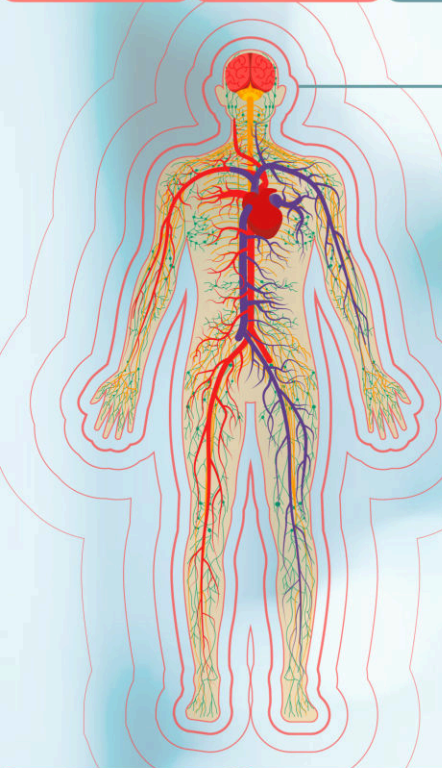
## SYMPTOMS

Headaches	Nose Irritation	Mood
Dizziness	Throat Irritation	Blood Pressure
Fatigue	Respiratory Irritation	Sleep Quality
Nausea	Cough	Microbiome
Vomiting	Cardiovascular	Stress
Skin Rash	Asthma	Infections
Inflammation	Allergies	Immunosuppression
Eye Irritation	Onocological	Obesity

## FACILITY AS TREATMENT

Biophilia	Mass Timber
Thermal Comfort	Local Food
Acoustics	Resiliency
Daylighting / Views	Universal Design
Healthy Materials	Radiant Systems
Green Roof	Geothermal
Fresh Air	Living Machines
Electrification	Passive Design
Circadian Lighting	Visual Healing
Air Monitoring	Thermal Comfort
Active Design	Toxic-Free Cleaning
Areas of Respite	Healing Gardens

America's Health Ranking: **27/50**  
 Healthiest States Index: **19/100**  
 County Health Rankings: **49/62 Broome**  
 Healthy Food Index: **Low**  
 Age-adjusted death rate: **1130**  
 per 100,000 people **Significantly Higher**



Walkability	Air Quality	Water Quality	Noise Pollution	Daylight	Views	Biodiversity	Nutrition
-------------	-------------	---------------	-----------------	----------	-------	--------------	-----------

Life Expectancy	Infant Mortality	Maternal Mortality	Obesity	Chronic Conditions	Diabetes Rates	Hypertension Rates	Vaccination Rates	Dental Health	Physical Activity
Mental Health	Substance Abuse	High School Graduation Rates	Secondhand Smoke Exposure	Homicide Rates	Injury Deaths	Vector-Borne Infections	Preventable Hospital Admissions	Nutrition Access	Access to Healthcare

# USC KECK SCHOOL OF MEDICINE

Los Angeles, CA 90033

Resiliency Risk Score: **30/100**

305' ABOVE SEA LEVEL  
34° 3' 44.57" N / 118° 12' 7.19" W

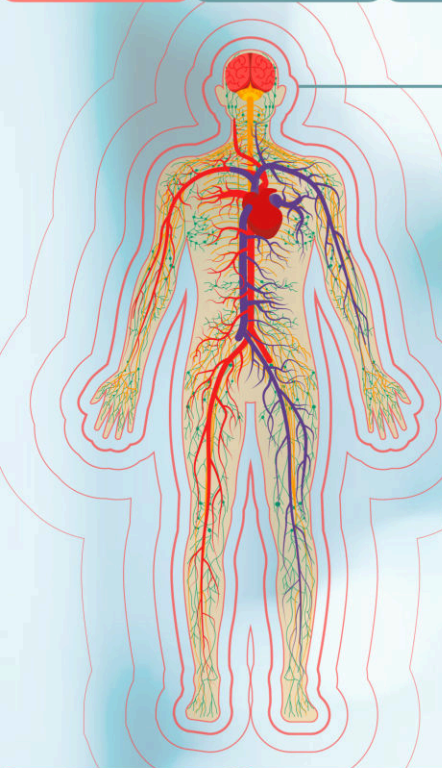
## SYMPTOMS

Headaches	Nose Irritation	Mood
Dizziness	Throat Irritation	Blood Pressure
Fatigue	Respiratory Irritation	Sleep Quality
Nausea	Cough	Microbiome
Vomiting	Cardiovascular	Stress
Skin Rash	Asthma	Infections
Inflammation	Allergies	Immunosuppression
Eye Irritation	Onocological	Obesity

## FACILITY AS TREATMENT

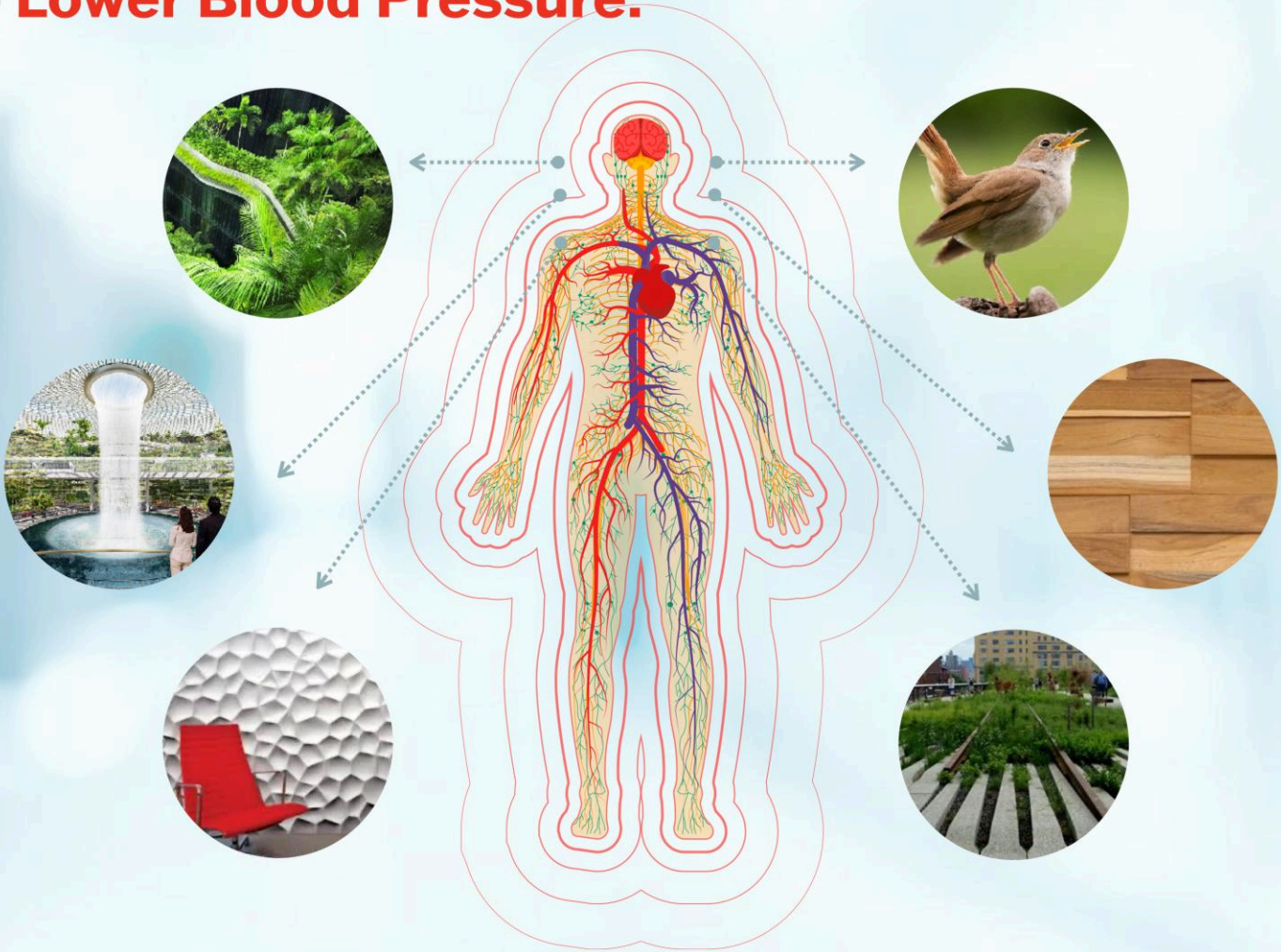
Biophilia	Mass Timber
Thermal Comfort	Local Food
Acoustics	Resiliency
Daylighting / Views	Universal Design
Healthy Materials	Radiant Systems
Green Roof	Geothermal
Fresh Air	Living Machines
Electrification	Passive Design
Circadian Lighting	Visual Healing
Air Monitoring	IAQ Monitoring
Active Design	Toxic-Free Cleaning
Areas of Respite	Healing Gardens

America's Health Ranking: **26/50**  
 Healthiest States Index: **3/100**  
 County Health Rankings: **24/58 LA County**  
 Healthy Food Index: **Poor**  
 Age-adjusted death rate: **633.2**  
 per 100,000 people **Significantly Lower than US**

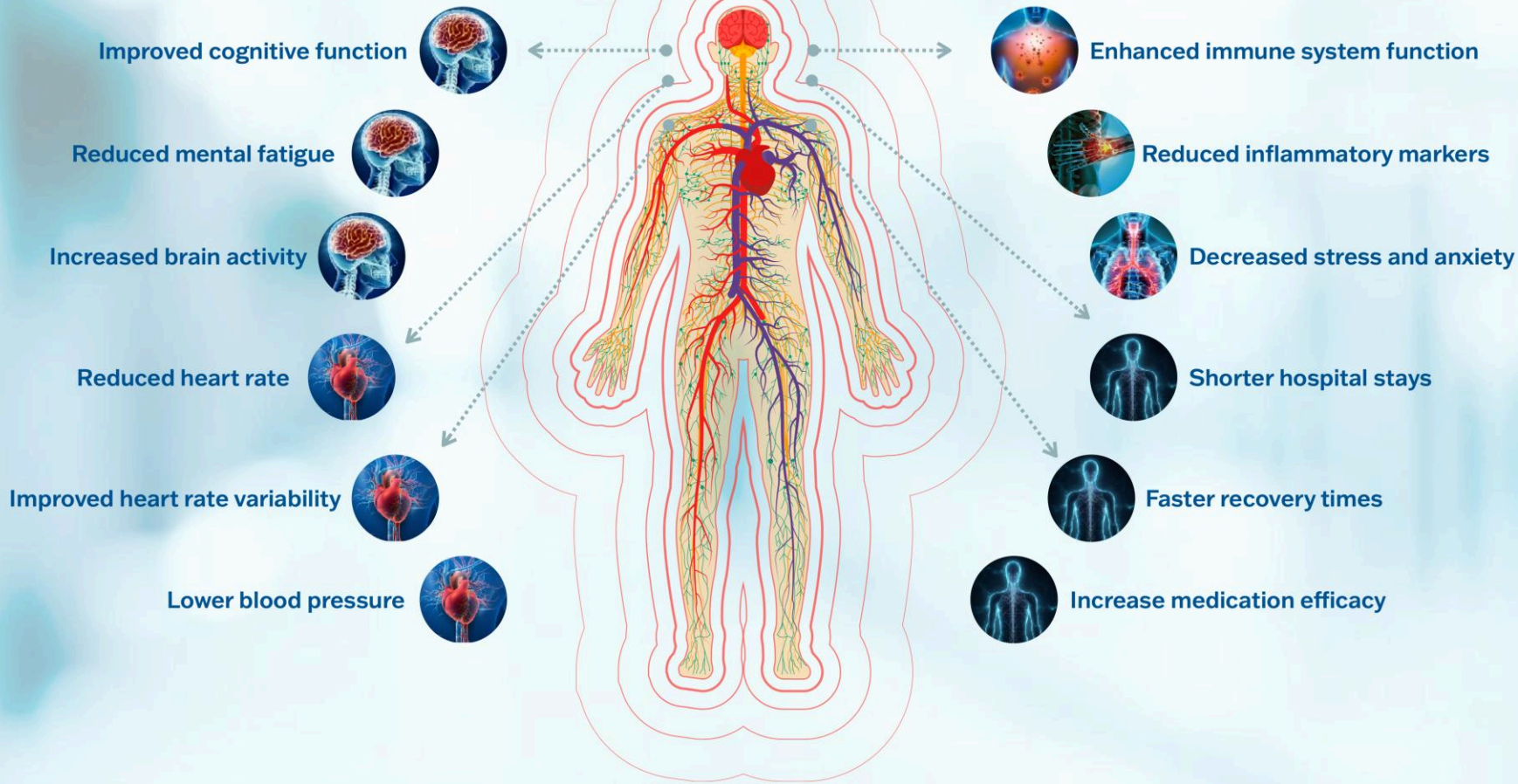


Walkability	Air Quality	Water Quality	Noise Pollution	Daylight	Views	Biodiversity	Nutrition
-------------	-------------	---------------	-----------------	----------	-------	--------------	-----------

# How to Lower Blood Pressure.



# We can **Improve Patient Outcomes.**



# Operating Conditions for **Human Body.**

## ENVIRONMENTAL FACTORS

**Temperature** 68–75°F

**Relative Humidity** 40–50%

**Air Flow** < 0.15 m/s (30 fpm)

**Air Quality** CO<sub>2</sub> / PM2.5 / TVOC

**Circadian Light** 250–1000 melanopic lux

**Acoustics** Comfort: < 30 dBA

**Barometric Pressure** ~1013 hPa

**Visual Comfort** 75% direct to outside

**Contrast** Ratio: 3:1

**Biophilic Factors** 15 Patterns



## PHYSIOLOGICAL FACTORS

**Blood Pressure** 90/60 to 120/80 mmHg

**Pulse** 60–100 bpm

**Body Temperature** 97.8–99.1°F

**Respiration Rate** 12–18 breaths/min

**Oxygenation (SpO<sub>2</sub>)** 95–100%

**Blood Sugar** 70–99 mg/dL

**Cholesterol** <200 mg/dL

**Triglycerides** <150 mg/dL

**Sodium** 135–145 mEq/L

**Potassium** 3.5–5.1 mEq/L

A vibrant, modern campus courtyard. A large, mature tree with a thick trunk and dense green foliage dominates the left side. In the foreground, a man in a grey sweater sits on a large rock, while a woman in a striped dress stands nearby. A man in a light-colored jacket walks away from the camera. The courtyard is filled with people sitting at tables, some under a large, open-sided pavilion with a green roof. The background features a modern building with large glass windows and a wooden facade. The overall atmosphere is bright and lively, with lush greenery and a mix of natural and architectural elements.

**Regenerative, nature positive campus  
where all users can thrive**

# Sustainability Vision

Initial metrics are complex and difficult to track



Carbon Negative



Climate Adapted



Smart Mobility



Closed Loop



Restore Ecology



People x Nature



People x Community

Renewable Energy	●	●	●	○	○	○	○
Electrification	●	●	○	○	○	○	○
Energy Storage	●	●	●	●	○	○	●
Bio-Based Materials	●	○	○	●	●	●	○
Biophilic Design	○	○	○	○	●	●	●
Passive Cooling	●	●	●	○	●	●	●
District/Micro Grid	●	●	○	○	○	○	●
Design through 2100	●	●	○	○	●	○	●
Backup/Redundancy	○	●	●	○	○	○	○
Active Design/Walkability	○	●	●	○	●	●	●
Permeable Site	●	●	○	○	●	●	○
Circular Economy	○	●	○	●	○	○	○
Water Reclamation	○	●	○	●	●	○	●
Water Treatment	○	●	○	●	●	●	○
Water Reuse	●	●	○	●	●	○	○
Deconstruction/Reuse	●	●	○	●	○	●	○
Density	●	○	●	○	●	○	●
Ecosystem Services	○	●	○	●	●	●	●



# of BUTTERFLIES

None

Some

Lots



# of BUTTERFLIES

None

Some

Lots



# of OUTDOOR MEETINGS

- None
- Some
- Lots



# of OUTDOOR MEETINGS



None



Some



Lots

San Mateo County  
Cordilleras Mental Health Center



dB of LAUGHTER

- None
- Some
- Lots



dB of LAUGHTER

None

Some

Lots



dB of LAUGHTER

**None**

**Some**

**Lots**




dB of LAUGHTER

None

Some

Lots



“Everybody goes looking for hope. Hope is where there’s action, so look for action and **hope will come.**”

**GRETA THUNBERG**  
CLIMATE ACTIVIST



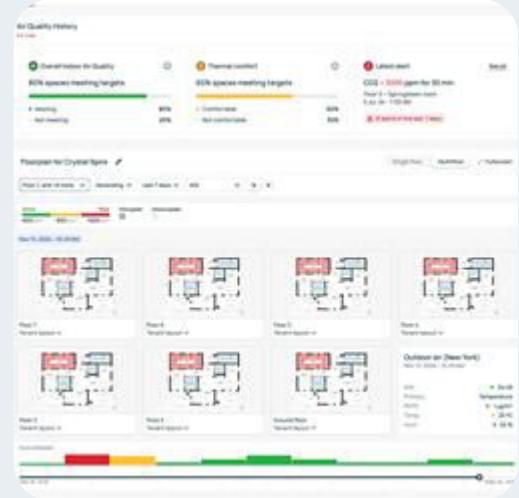
# Quantifying Health Impact: How Leading Portfolios Use IAQ as a Key ESG Metric

Liam Bates, Kaiterra

# The Age of Box-Ticking: How We Used to Manage Health in Buildings




# The Shift is Happening: A Performance-Driven Approach to Building Health

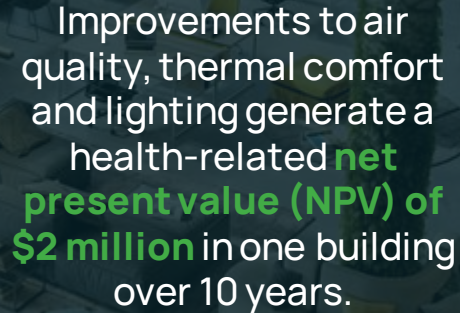


# Why Investing in IAQ?


Healthy indoor air quality mitigates absenteeism, improves productivity, and enhance occupant satisfaction- ultimately leading to a healthy organization.

A photograph of three business professionals sitting around a table in a meeting room, looking at documents. The image is darkened to serve as a background for the text.

Enhanced indoor environmental quality improves cognitive function by **61% to 101%**.

A photograph of a modern office interior with desks, computers, and office chairs. The image is darkened to serve as a background for the text.

Improvements to air quality, thermal comfort and lighting generate a health-related **net present value (NPV) of \$2 million** in one building over 10 years.

A photograph of a person with glasses reading a document. The image is darkened to serve as a background for the text.

Improvements in health and well-being lead to significantly enhanced job satisfaction with a **2% reduction in the prevalence of sick leave.**

# Why Now? The New Chain of Demand



**Employee**  
Expectations



**Occupier (Tenant)**  
Demand



**Landlord (Owner)**  
Action

# Real Estate Companies Can No Longer Afford to Ignore IAQ

- Air quality has moved **from a “nice-to-have” to a core factor** in tenant and investor decisions.
- Tenants are **actively seeking healthier spaces** and switching to buildings that provide them.
- It’s harder than ever to **win or keep premium leases** in a highly competitive, occupant-driven market.
- Rent potential stays capped without **a clear point of differentiation.**
- **Declining retention and satisfaction** metrics are undermining both market perception and investor confidence.



# The Good News: Technology Has Made the Unsolvable Solvable for Real Estate

**In the past, real estate companies were held back by:**

- Limited visibility into the actual quality of air across their portfolios
- Little or no access to tenant spaces once leased
- Reactive responses to air quality complaints, as well as expensive and slow fixes

**Today, technology has made it possible to:**

- Gain a clear, portfolio-wide understanding of the air quality experienced by tenants
- Measure air quality remotely - without accessing tenant spaces
- Leverage real-time insights to proactively manage air quality risks and optimize building performance

# What Leading Portfolios Are Doing: Measuring Performance

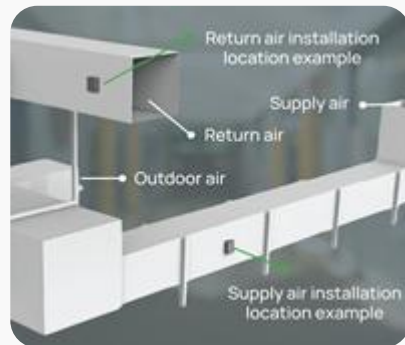
Leading real estate companies are using technology to monitor air quality across their portfolios, with or without access to tenant spaces, enabling a deeper understanding of performance and operational flexibility.



**Indoor Air Quality  
in Tenant Spaces**



**Indoor Air Quality in  
Non-leased Spaces**



**Air Quality in Supply  
and Return Ducts**



**Outdoor Air Quality on the  
Exterior of the Building**

# Best Practices From the Field: Optimize Operations based on Performance, Not Checklist

Having a comprehensive set of air quality data allows real estate companies to unlock new operational use cases that improve efficiency and performance.



## Increased visibility and accountability

- Know exactly the air quality going into the tenant spaces
- See the difference between supplied air and returned air
- Have a full picture of the air from beginning to end to hold each other accountable



## Proactively foresee risks and fix issues faster

- Proactively identify patterns and risk areas in the portfolio
- Discover issues before tenant complains or notices
- Pinpoint root causes and implement fixes faster than ever



## Use data to inform maintenance schedules

- Execute filter replacement based on filtration efficiency data
- Align ventilation schedules based on usage patterns
- Prioritize HVAC upgrades based on ventilation performance

# Best Practices From the Field: Create Win-Win on WELL Certification

Both premium corporate tenants and leading real estate companies are motivated to achieve WELL certification.

There's an increased interest for landlords monitor the air quality in non-leased spaces, and work with anchor tenants to monitor air quality in their leased space, with the goal of creating a win-win situation for both the landlord's and the tenant's WELL certification goals.

Landlord Monitoring  
Non-Leased Space

2~4 points for  
Landlord's WELL  
Core certification

---

Tenants don't get  
any benefits

Landlord and Tenant  
Collaboration to Monitor  
Non-Leased Space +  
Certain Leased Space

Up to 12 points for  
Landlord's WELL Core  
certification

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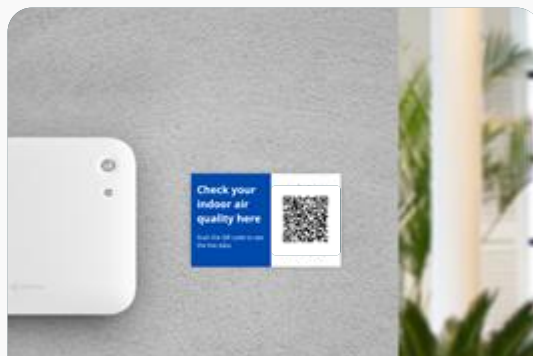
Up to 9 points for Tenant's  
WELL certification

# Best Practices From the Field: Evidence-Based Tenant Communications

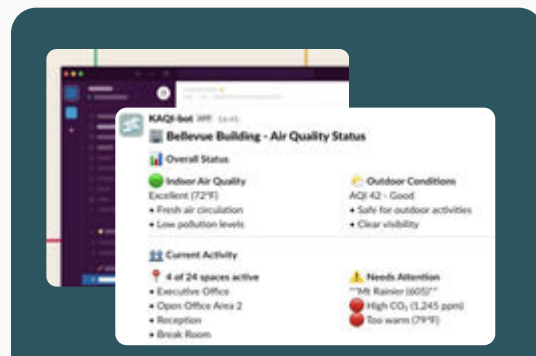
Air quality data is increasingly used in tenant communication to demonstrate landlord's commitment to health and wellbeing, which leads to increased tenant satisfaction and retention.



Display real-time data in non-leased spaces



Display QR code for tenants and visitors to check air quality



Engage with tenants in their existing workplace tools

# The Game-Changer: Turning Good Intentions into Measurable Outcomes

## BEFORE

---



### Intent-Based

Companies were evaluated by policies, commitments, and management practices, not outcomes.

Impact was difficult or even impossible to quantify, and progress was anecdotal.

## AFTER

---



### Performance-Based

Companies have quantifiable, auditable metrics for health performance - as reliable as financial data.

Impact is measurable, comparable, and trackable year over year.

## 2. CHANGING PARADIGMS: FROM REPORTING TO RISK MANAGEMENT

---

**Parag Cameron-Rastogi,  
Research Director, GRESB**

**November 05, 2025**

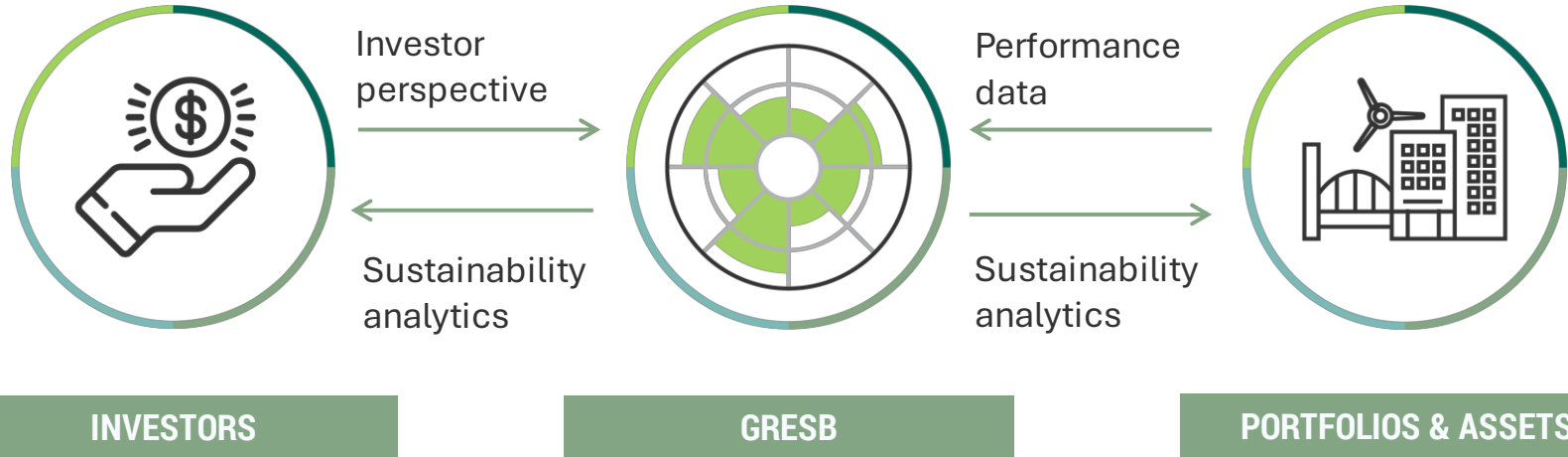




# PARADIGMS

---

# THE GRESB APPROACH: COMMUNICATION AND TRANSPARENCY



# TRANSPARENCY



**Management intentions**



**Development practices**



**Data coverage**



**Retrospective assessment**



# TRANSPARENCY



**Management intentions**

**Tell us your intentions**



**Development practices**

**Start as you mean to go on**



**Data coverage**

**Collect data**



**Retrospective assessment**

**Verify after the fact**



# MANAGEMENT INTENTIONS

Commitments, not necessarily “enforceable”

Validation means looking through PDFs

## Examples from GRESB 2025

- Has the entity performed social risk assessments within the last three years?
- Does the entity have a program for promoting health & wellbeing of tenants, customers, and local surrounding communities?



# DEVELOPMENT PRACTICES

**Construction and major renovations**

**Design right / Get it right at the start**

**Greenbuild world is very au fait with this approach**

**Examples from GRESB 2025**

- Does the entity have a policy requiring that the environmental and health attributes of building materials be considered for development projects?



IEC 82474-1

Edition 1.0 2025-05

**INTERNATIONAL  
STANDARD**

**NORME  
INTERNATIONALE**

HORIZONTAL PUBLICATION  
PUBLICATION HORIZONTALE

Material declaration –  
Part 1: General requirements

Déclaration de matières –  
Partie 1 : Exigences générales

IEC 82474-1:2025-05(en-1)

ICS 01.110, 13.020.01

ISBN 978-2-8327-0227-7



# DATA COVERAGE

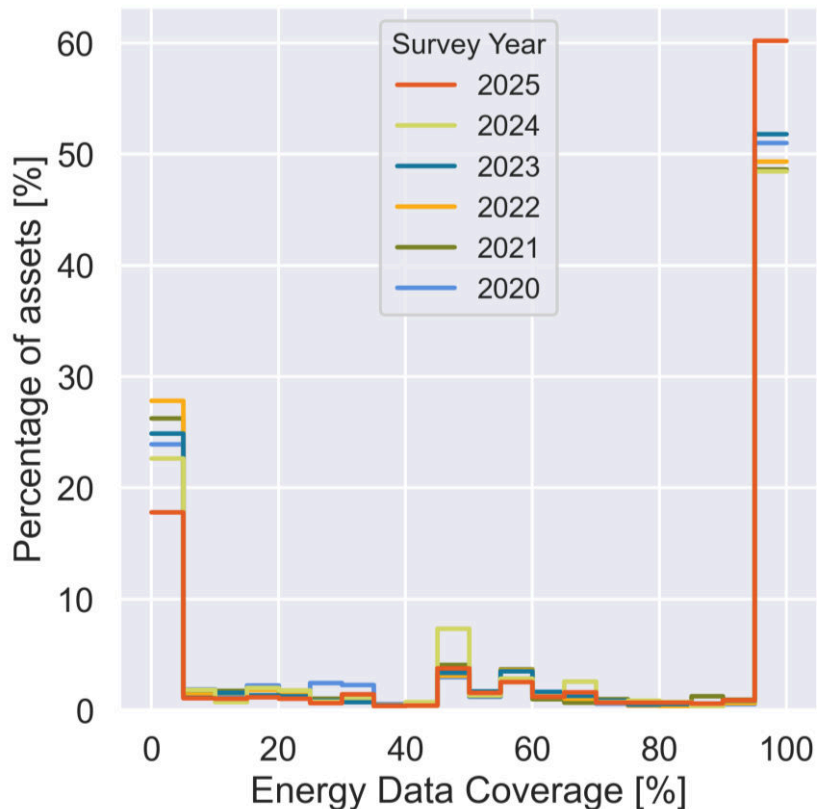
Spatial and temporal

Verification and validation is possible

GRESB 2025 assigns a high score (weight) to coverage

Considers “mature” parameters

- Energy
- GHG
- Water
- Waste



# RETROSPECTIVE ASSESSMENT

Focus on assessing outcomes after the fact

GRESB 2025 assesses

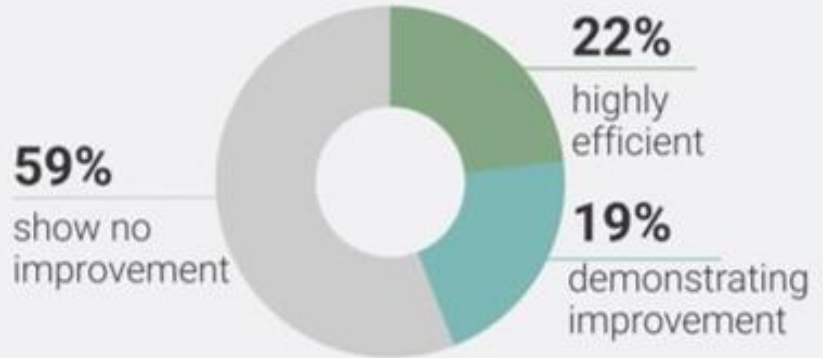
... Energy Performance

- Highly efficient
- Improving

... and Renewable Energy

- On-site
- Off-site
- Performance

## Energy efficiency and improvement



# FROM TRANSPARENCY TO PERFORMANCE



# PERFORMANCE



**Create desirable spaces**



**Be efficient**



**Minimise Risk**



**Create Value**



# PERFORMANCE



**Create desirable spaces**

**Health & wellbeing,  
quality, delight**



**Be efficient**

**Resource efficiency,  
sufficiency**



**Minimise Risk**

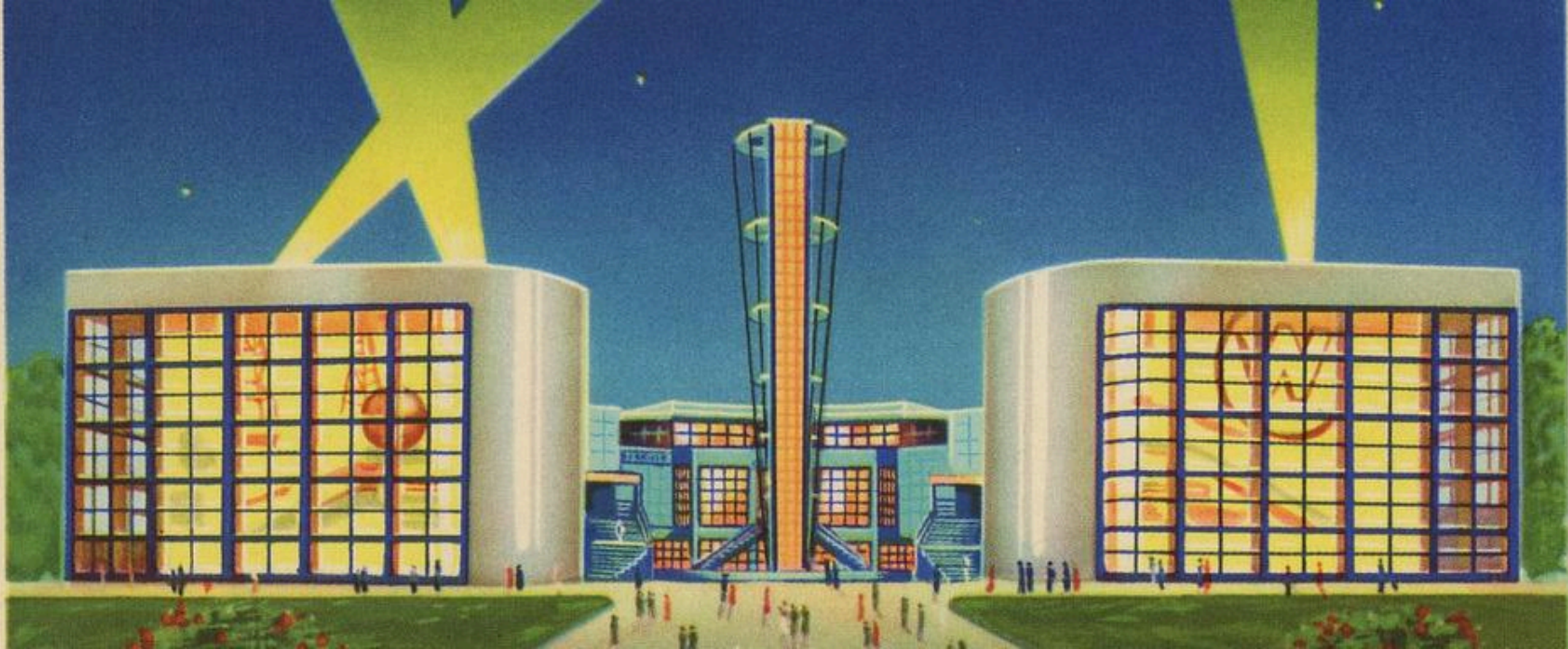
**Robust systems by design**



**Create Value**

**Desirable, efficient, robust  
→ Better value**





# ENERGY EFFICIENCY AND DECARBONISATION ARE POWERFUL TOOLS

- Resilience
- Energy security
- Decarbonisation
- Grid strengthening



**BUILDINGS DON'T USE  
ENERGY: PEOPLE DO.**

Janda, KB (2011)  
'Buildings don't use energy: people  
do'. In: *Architectural Science Review*  
54.1, pages 15–22.

# CONDITIONS FOR DEVELOPMENT



**Must scale and generalise – cannot be limited to premium assets or segments**



# MUST WORK AT SCALE



**15**  
sectors covered



**500,000**  
buildings



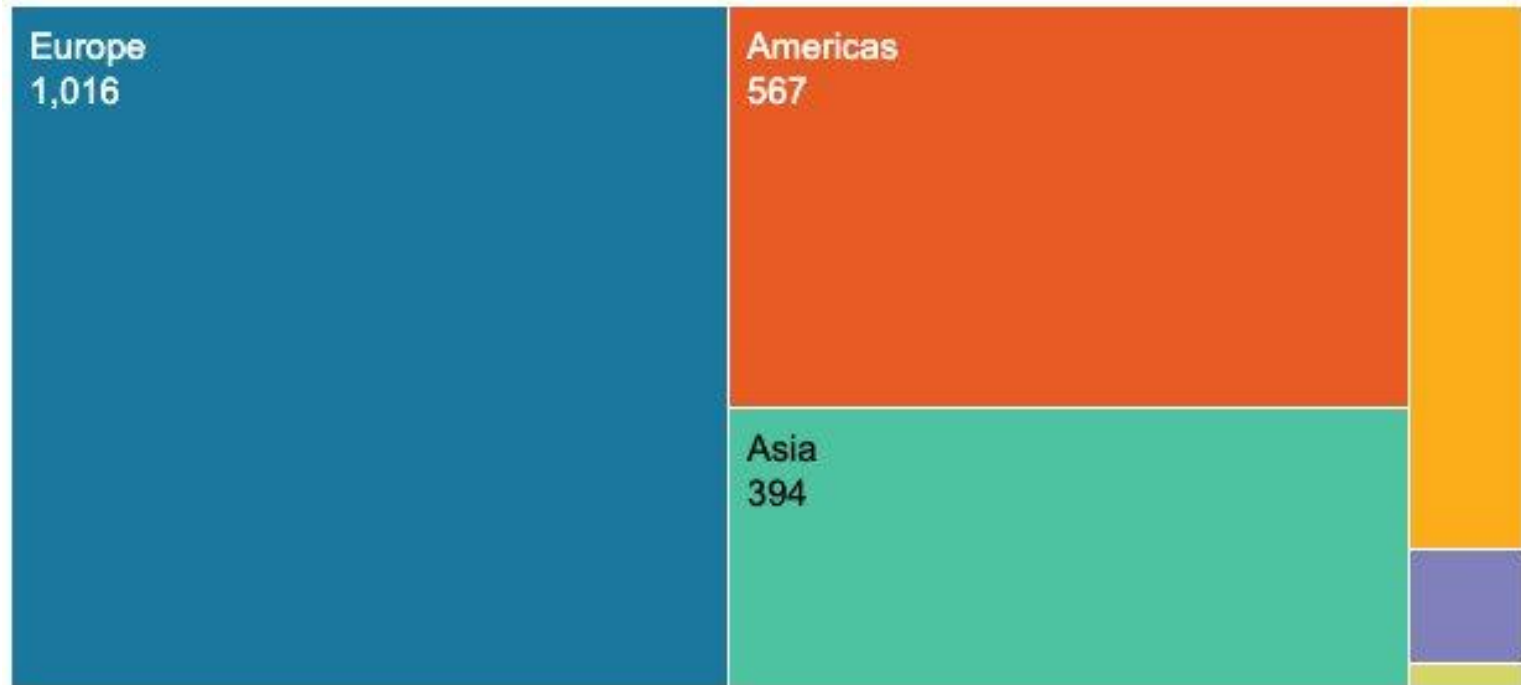
**2,382**  
assessments



**76**  
markets

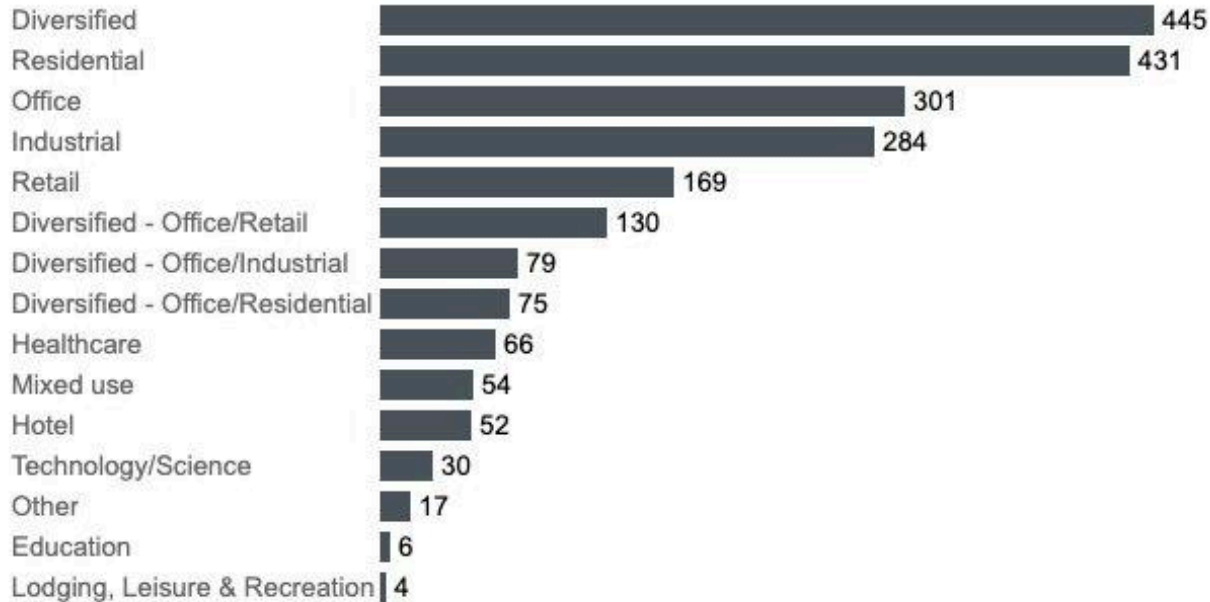


# MUST BE GLOBAL



# MUST BE DIVERSIFIED

## # Participants by Sector



# CONDITIONS FOR DEVELOPMENT

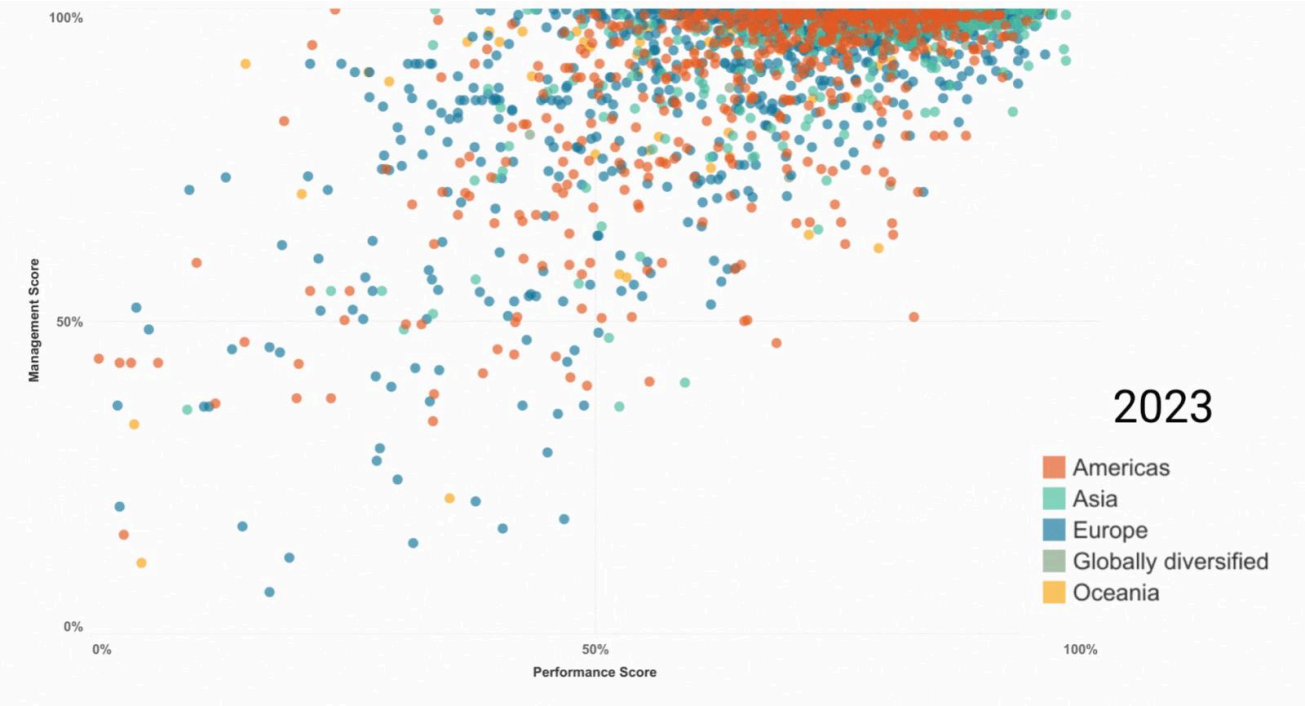


**Must scale and generalise – cannot be limited to premium assets or segments**



**Not over-index on metrics we can measure today**

# MARKET RESPONSE TO GRESB



# CONDITIONS FOR DEVELOPMENT



**Must scale and generalise – cannot be limited to premium assets or segments**



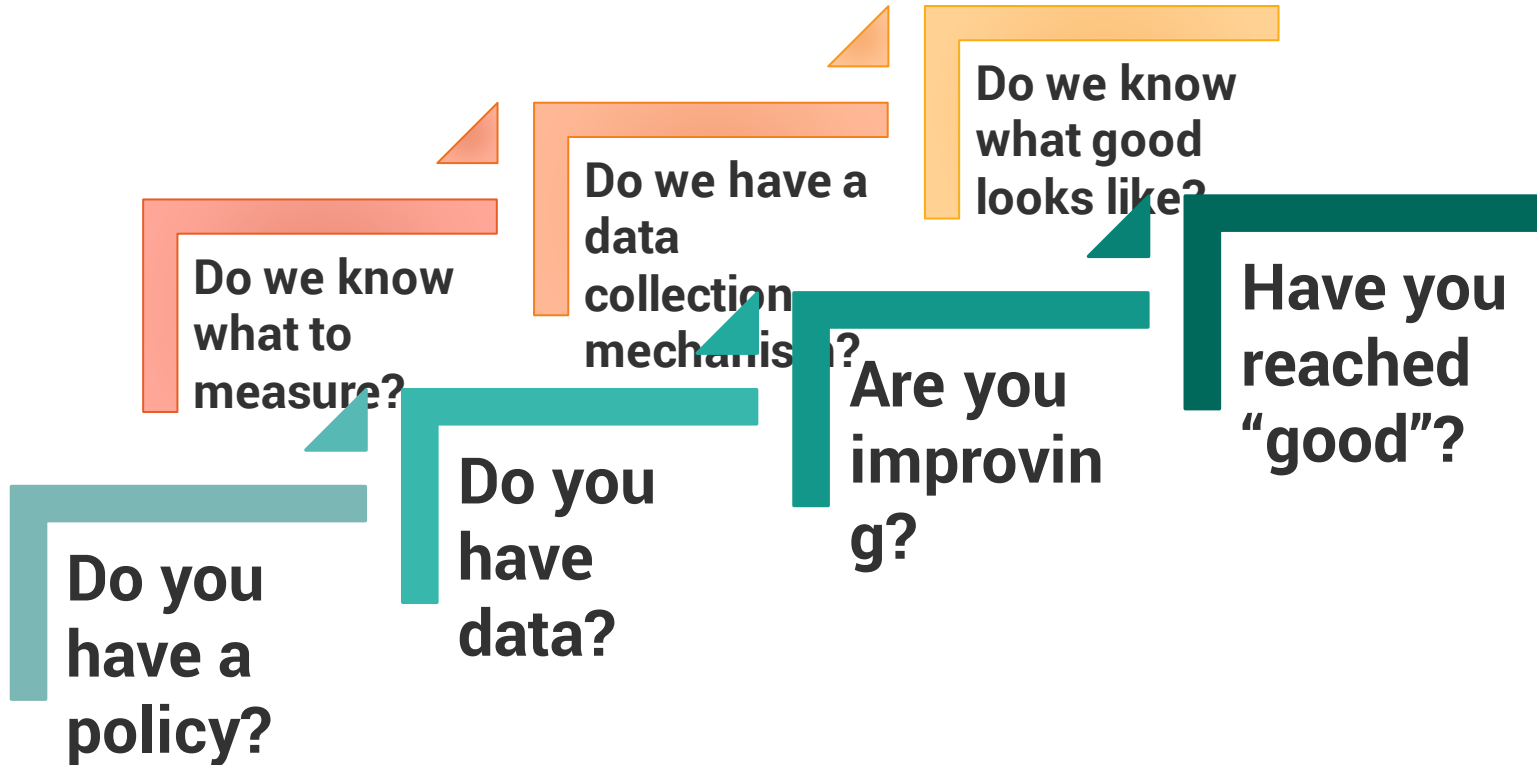
**Not over-index on metrics we can measure today**



**Move metrics from data hygiene to performance**



# FROM DATA HYGIENE TO PERFORMANCE



# KEY TAKEAWAYS

## Focus is shifting from Transparency to Performance

- Transparency is implicit in Performance Assessment
- Industry feedback suggests this approach is welcome and overdue

Shift must be calibrated to maturity of topics

