

# Managing Green Building Projects



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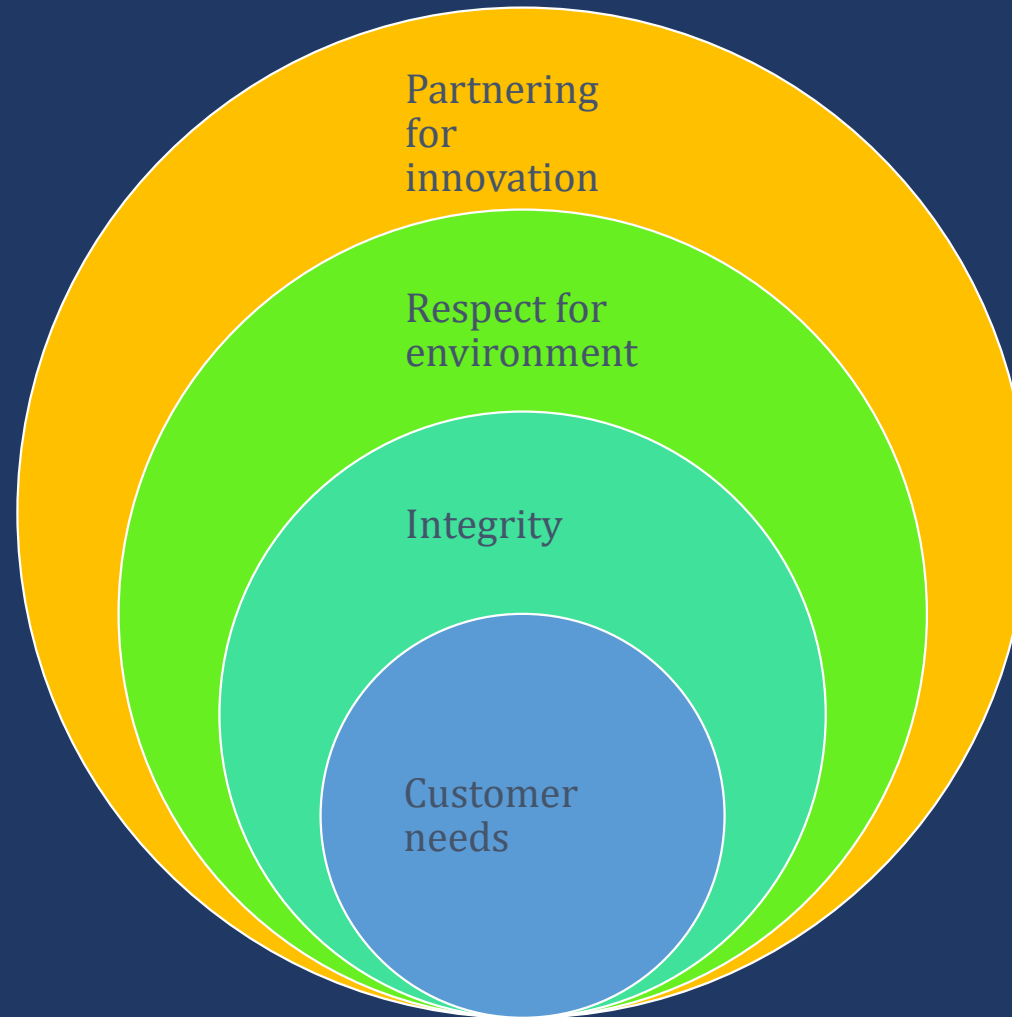
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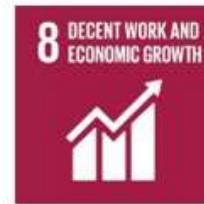
# 4ENVIGO Sustainability professionals

Sustainability consists of fulfilling the needs of current generations without compromising the needs of future generations, while ensuring a balance between economic growth, environmental care and social well-being.

# Our values



We seek to add value to your company while contributing to UN SDGs



What can we  
help you  
with?

Strategic advisory for sustainability action plans to be implemented – ESG agenda and sustainability reporting

Project management for built environment to reduce your carbon footprint and creating added value through climate smart solutions

Engineering, Procurement and Construction Management for photovoltaics and other climate smart solutions

Educational programs and community investment

# Project management and strategic advisory for sustainability action plans to be implemented – ESG agenda

We help you setting and implementing the sustainability action plan based on your materiality assessment and companies' objectives.



*Photo: Ivaar Kvaal*



# Project management for built environment to reduce your carbon footprint and creating added value through climate smart solutions

We work closely with you to deliver climate smart projects, minimizing the environmental impact while being aligned to EU Key Strategic Orientation (KSO):

*“Making Europe the first digitally enabled circular, climate-neutral and sustainable economy through the transformation of its mobility, energy, construction and production systems.”*



Photo: Ivaar Kvaal

# Engineering, Procurement and Construction Management for climate smart solutions

Trustworthy single point of contact, enabling our customers to succeed by partnering up with competent stakeholders, sharing common values and focusing on delivering outstanding results.



*Taipei Energy Hill solar park from above*



# Our portfolio

Globalworth – IWIS Oradea





# Our portfolio

Profi shops– multiple locations





# Our portfolio



Allianz TC COM



IPSO Ovidiu



CTP Clubhaus



<https://www.youtube.com/watch?v=pfZfs717Wg4>

# Office market

FIGURES | CEE REAL ESTATE INVESTMENT | Q3 2023

## CEE Real Estate Investment Volumes Q3 2023

### 1.6B EUR transacted during Q3 2023 in CEE

The CEE (including CEE core 5, SEE, and Baltics) real estate market recorded a marginal quarter-on-quarter increase of only 3%. Moreover, the annual trend marks a slowdown of 42%. Out of 1.6B EUR, the CEE-5 countries represented 85% of the investment volume, SEE 11% & Baltics region 5%.

During the year's third quarter, 82 transactions were concluded, with an average ticket size of 20 mln. EUR. Six transactions had a value above 90 mln. EUR located in 4 different countries concerning office, retail, and industrial properties. The largest transactions involved an industrial and an office property in Poland and Slovakia.

1.37B EUR were transacted in the CEE-5 region during Q3 2023; Slovakia, Hungary, and the Czech Republic registered impressive growths of up to 78% compared with Q3 2022. Poland and Romania showed substantial decreases ranging from -49% to -81%. The SEE & Baltics regions both witnessed decreases of 63%, respectively 59% in year-on-year investment volume.

Office properties claimed the largest share (41%), followed by industrial (29%). Even though office had a 5.0 pps QoQ decrease, industrial properties made a comeback, similar to Q1, and marked an increase of 24 pps in Q3. Retail maintained a similar share in total volume of 22%.



CBRE

-42%

YoY Change Q3

-37%

YoY Change TTM

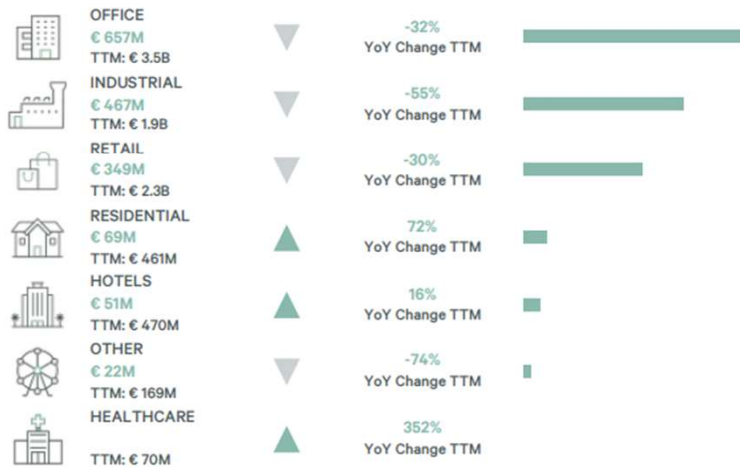
Nr. of Transactions

81

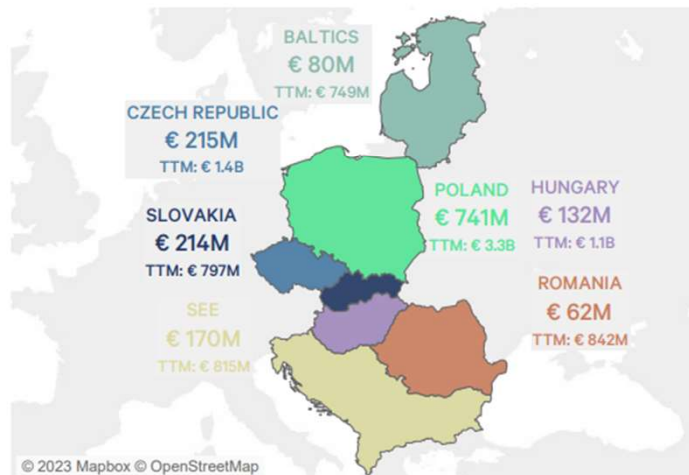
404 TTM

Note: YoY: Year-on-Year  
TTM: Trailing Twelve Months

### Investment by sector



### Investment by market





# Office market



FIGURES | OFFICE | Q3 2023



## Romania - Bucharest

### Key Performance Indicators

Prime Yield

7.50%

Expected Investment Returns  
Change YonY: 75 bps

Prime Rent

€ 20.25

Monthly, per sq m  
Change YonY: 6.6%

Average Rent

€ 15.70

Monthly, per sq m  
Change YonY: -10.8%

Office Investment Volume

€ 15M

In Bucharest during Q3 2023  
€ 542M (Rolling 12 months)

Take Up

67K

Square Meter  
67K Year2Date

Vacancy Rate

15.84%

Percentage of Stock vacant  
Change YonY: 216 bps

Completions

33K

Square Meter  
103K Year2Date

Total Stock

3,412K

Square Meter  
2,872K Occupied Stock

(Forecast) Completions

110K (2023)

Square Meter  
- (2024) // 60K (2025)

After the delivery of the second phase of U-Center developed by Forte Partners in the center sub-market with a GLA of 32,500 sq m, the modern office stock reached 3.41 million sq m. Only one office scheme will be inaugurated by the end of the year, the boutique office project, developed by Strabag with a GLA of approx. 7,500 sq m in the center sub-market, 100% leased.

Without any new deliveries in 2024 and a limited number in 2025, the third quarter of this year represented a historical record concerning total leasing activity. With occupiers staying cost-conscious together with lease renewals and flight-to-quality relocations were the main drivers of demand this quarter.

More than 164,000 sq m were transacted in Bucharest, and this could be translated with a confirmation of the long-term engagement of the existing players. 41% of the TLA was represented by take-up, showing an increase of 16% QoQ and 46% YoY.

Center and CBD were the most sought-after sub-markets, 42% of the take-up was located in this area, and the average size deal was below 2,000 sq m. The class A vacancy rate within these two sub-markets is below 10%.

# Office market

Completions

33K

Square Meter  
103K Year2Date

Total Stock

3,412K

Square Meter  
2,872K Occupied Stock

(Forecast) Completions

110K (2023)

Square Meter  
- (2024) // 60K (2025)

Market Trend (Take-Up | Prime Rent)



CBRE RESEARCH

Development Activity (Completions | Vacancy Rate)



© 2023 CBRE, INC.

# Office market

## Bucharest city – SWOT analysis

### Strengths

- Main economic & educational hub
- Low unemployment rate
- Most populous city
- Largest number of students
- Highly skilled workforce
- Developed public transportation & infrastructure

### Opportunities

- First option for new-entries
- Early stage of mixed-use schemes developments based on work-life integration
- Growing residential & retail markets

### Weaknesses

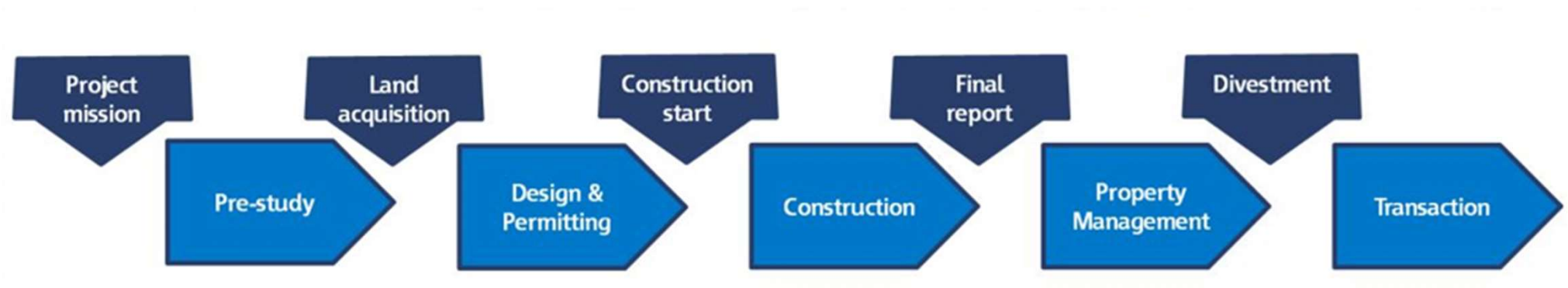
- Heavy traffic at peak hours
- Delayed infrastructure and public transportation works

### Threats

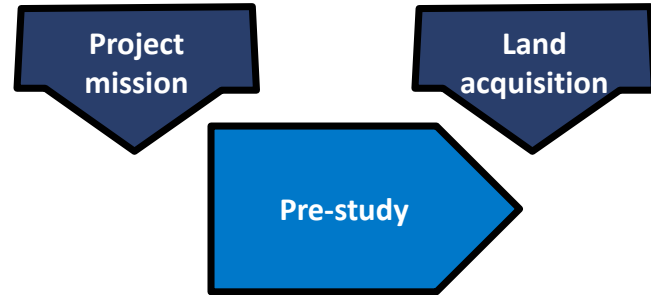
- Low vacancy rates
- Competition from main regional cities
- Regional modern office stock on the rise
- Challenging talent acquisition
- Limited pipeline projects to be delivered by the end of 2023



## Development steps of a typical project



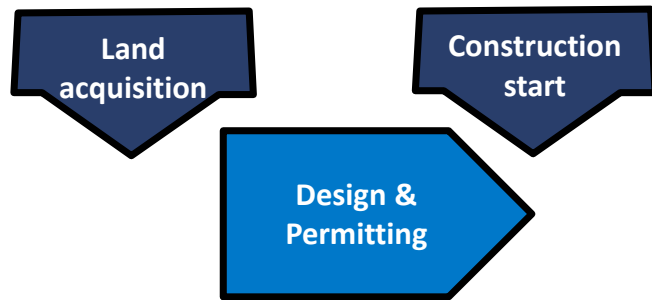
# Development steps of a typical project



1. Long term planning
2. Market study
3. Due diligence
4. Zoning and planning
5. Volumetric studies
6. Development strategy & financial model proposal
7. Contract negotiation
8. Signing SPA

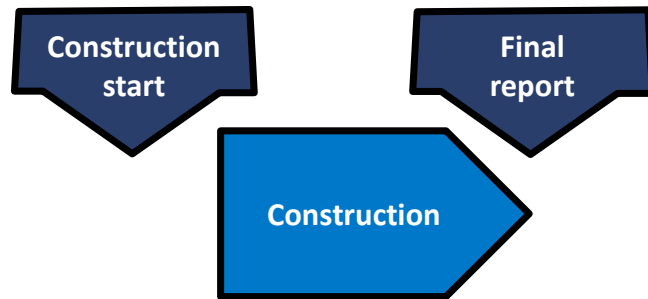


# Development steps of a typical project



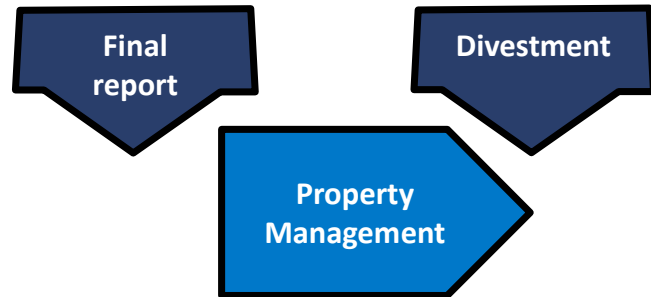
1. Architectural contest
2. Concept design development
3. Value engineering
4. Construction parameters approval (contractor)
5. Building Permit
6. PT & DE design

# Development steps of a typical project



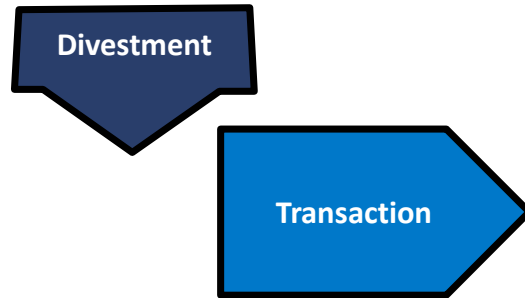
1. Construction contract
2. Planning and budgeting
3. Site set up
4. Procurement
5. Construction
6. Leasing
7. Fit-out works
8. Re-permitting if necessary (fit-out)
9. Testing & Commissioning
10. Building Handover (PVRTL)
11. Occupational permit (ASI)

# Development steps of a typical project



1. PM & FM appointment
2. Building handover
3. Lease commencement
4. Business activity ongoing
5. Building operational activities
6. Maintenance and repairs
7. Customer care program

# Development steps of a typical project



1. Divestment strategy set up
2. Internal due diligence
3. Project presentations
4. Investors bidding period
5. Select investor
6. Due diligence (investor)
7. Red flag report
8. Final negotiation
9. Signing SPA
10. Resolve red flag findings
11. Closing
12. Post closing warranties management



Companies need to do more than make profits – they need to contribute to society as well if they want to receive the support of BlackRock

Larry Finck, CEO BlackRock



# Where CO<sub>2</sub> comes from in projects?



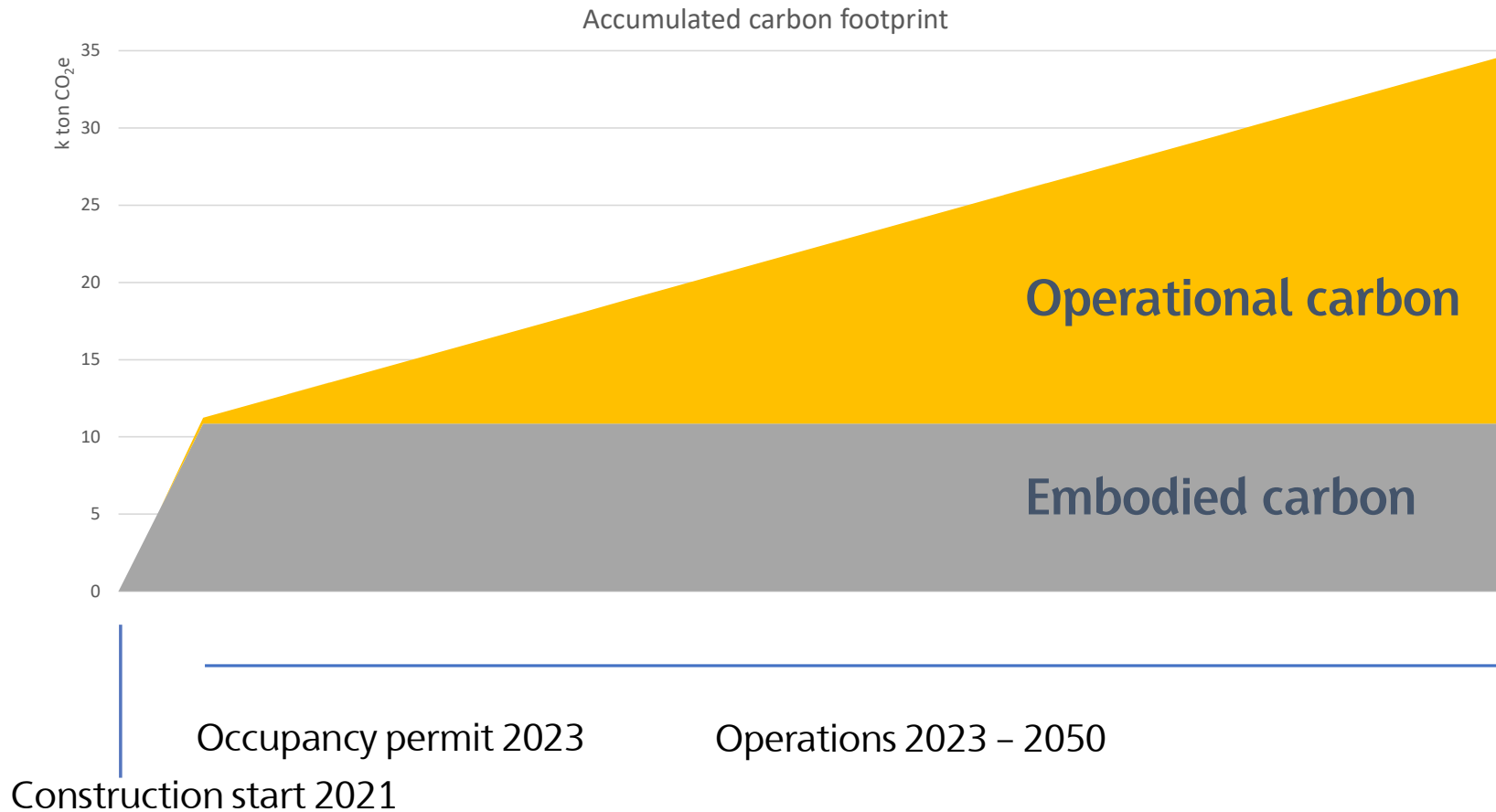
## Embodied Carbon

Manufacture, transport  
and installation of construction materials

## Operational Carbon

Building energy consumption

# Where CO<sub>2</sub> comes from in projects?



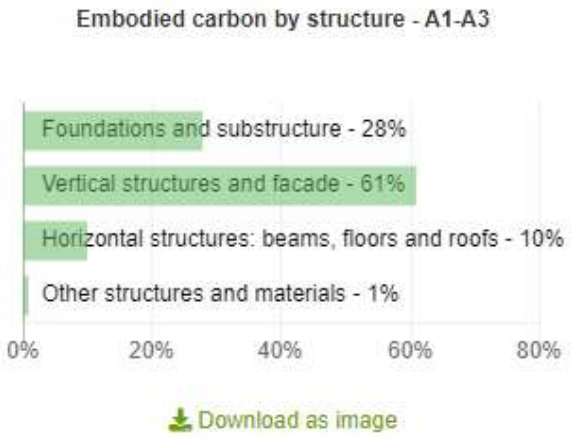
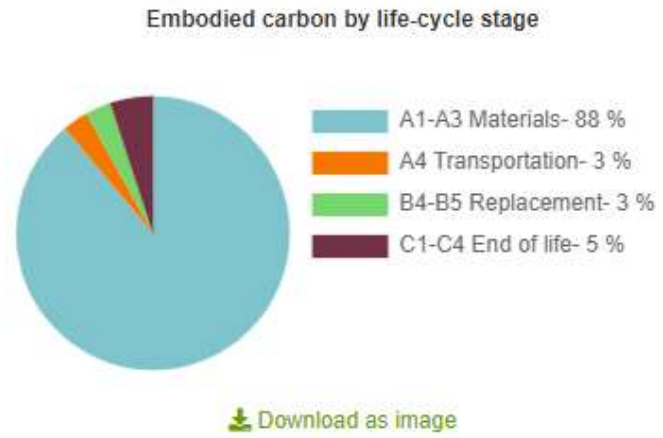
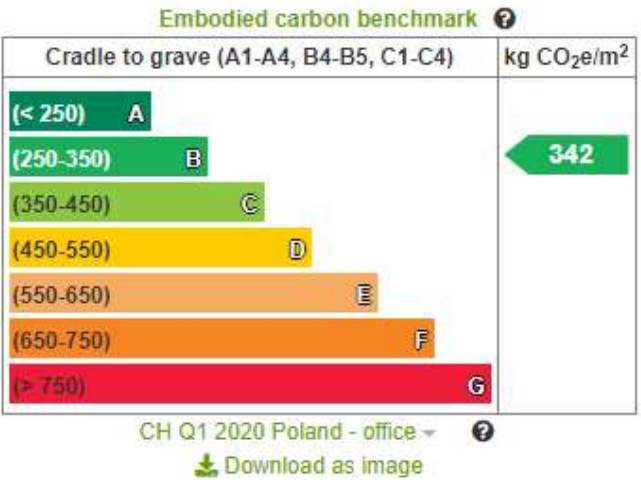
# Life Cycle Assessment



Reducing the carbon footprint

▼ Results and benchmarking - Design: 2 - Possible reductions

Select design ▼



▼ Design phase: 2 designs

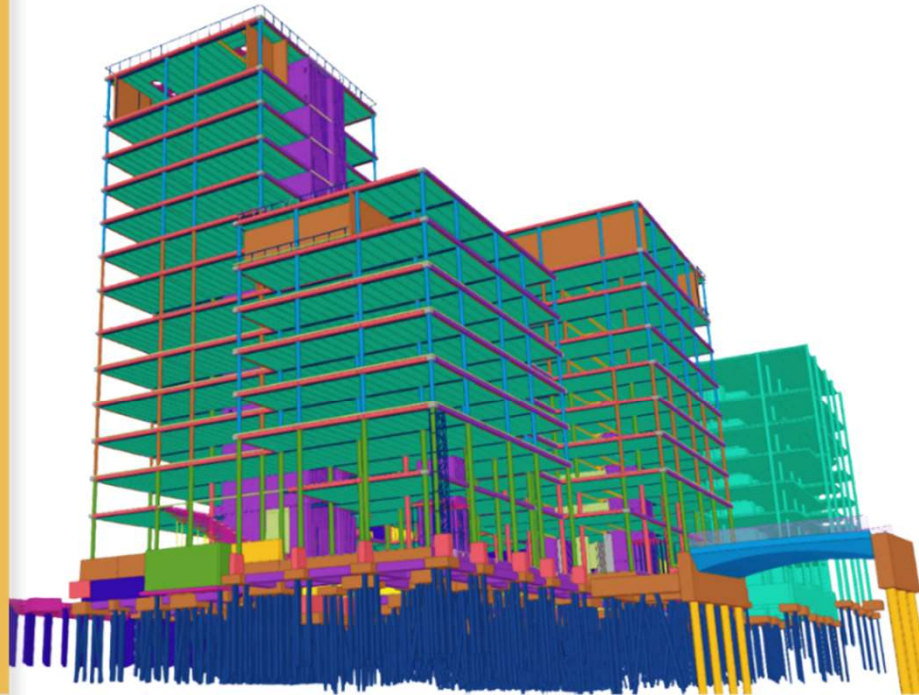
+ Add a test dataset   + Add a design   Parameters   Tools ▼

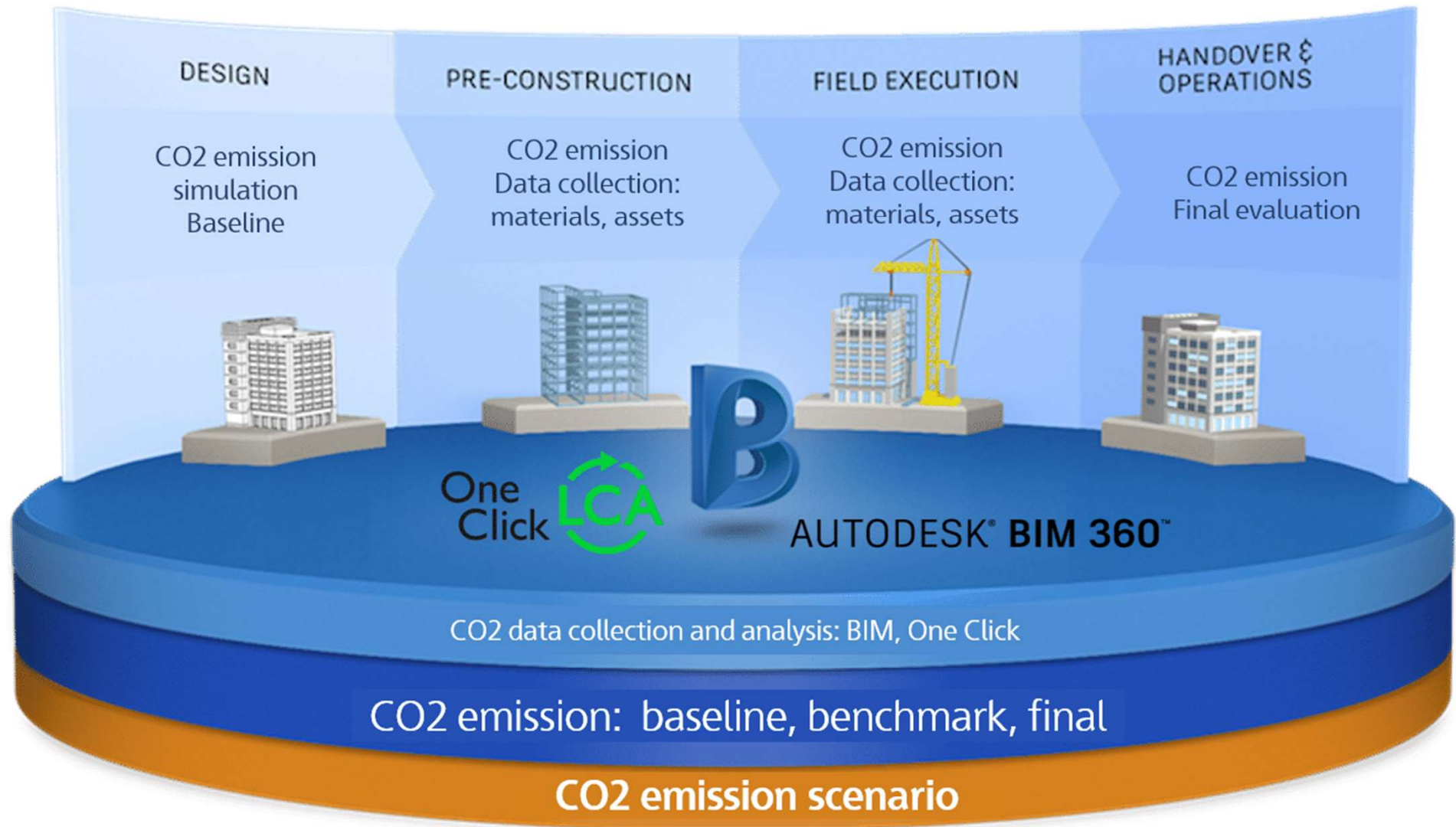
Tool	Unit	2 - Baseline ▼	2 - Possible reductions ▼
Level(s) life-cycle carbon ? Help	kg CO <sub>2</sub> e	12 145 182 ✎ ▼	8 597 728 ✎ ▼

Structural elements  
contributes upto

70%

of a building's total  
Embodied Carbon







# Automate Embodied Carbon & life cycle assessment at any stage of your project



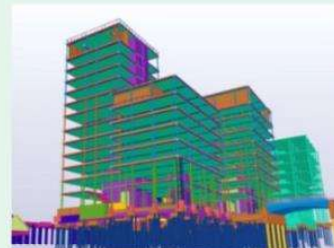
## CONCEPT DESIGN

## DETAILED DESIGN

## CONSTRUCTION

## FINAL BUILDING

### TRIMBLE WORKFLOW

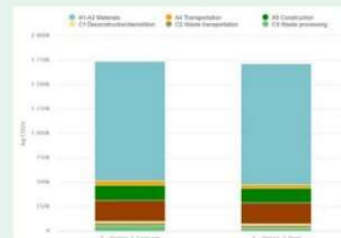


### ONE CLICK LCA WORKFLOW



#### EARLY CONCEPT EMBODIED CARBON ASSESSMENT

Study different structural concepts's embodied carbon. Set reduction targets.



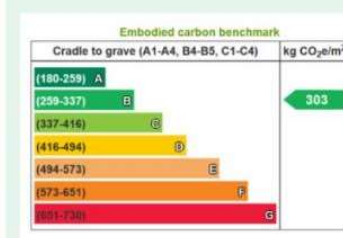
#### STRUCTURAL HOT SPOTS ANALYSIS & OPTIMIZATION

Assess embodied carbon with more accurate material quantities. Find hotspots, optimize and compare alternatives.



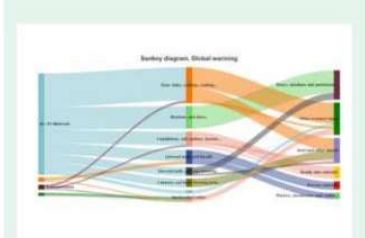
#### SPECIFY & SUBMIT CALCULATIONS

Specify low-carbon product based on manufacturer EPDs. Perform whole building LCA and submit results to authorities.



#### FINAL ASSESSMENT

Perform as-built LCA with actual quantities. Compare design and as-built's carbon performance.



# Circular economy

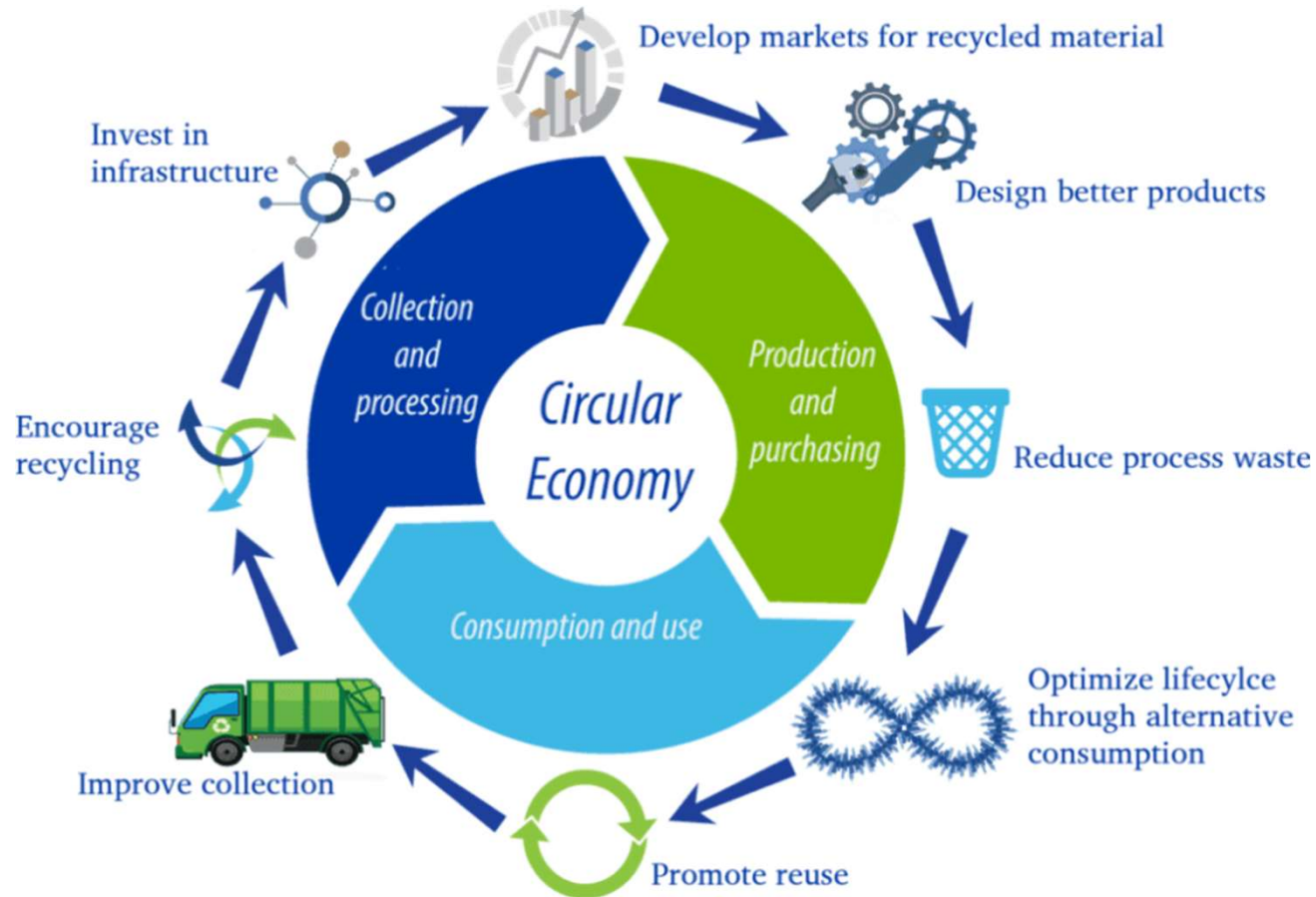


Image: Sustainable Global Resources Ltd.  
Recycling Council of Ontario



## LEED 2009 for Core and Shell Development

### Project Checklist

Praga

2.1.

27	1	Sustainable Sites	Possible Points: 28
Y	?	N	
Y		Prereq 1 Construction Activity Pollution Prevention	
1		Credit 1 Site Selection	1
5		Credit 2 Development Density and Community Connectivity	5
1		Credit 3 Brownfield Redevelopment	1
6		Credit 4.1 Alternative Transportation—Public Transportation Access	6
2		Credit 4.2 Alternative Transportation—Bicycle Storage and Changing Rooms	2
3		Credit 4.3 Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicle	3
2		Credit 4.4 Alternative Transportation—Parking Capacity	2
1		Credit 5.1 Site Development—Protect or Restore Habitat	1
1		Credit 5.2 Site Development—Maximize Open Space	1
1		Credit 6.1 Stormwater Design—Quantity Control	1
1		Credit 6.2 Stormwater Design—Quality Control	1
1		Credit 7.1 Heat Island Effect—Non-roof	1
1		Credit 7.2 Heat Island Effect—Roof	1
1		Credit 8 Light Pollution Reduction	1
1		Credit 9 Tenant Design and Construction Guidelines	1

10		Water Efficiency	Possible Points: 10
Y		Prereq 1 Water Use Reduction—20% Reduction	
4		Credit 1 Water Efficient Landscaping	2 to 4
2		Credit 2 Innovative Wastewater Technologies	2
4		Credit 3 Water Use Reduction	2 to 4

29	8	Energy and Atmosphere	Possible Points: 37
Y		Prereq 1 Fundamental Commissioning of Building Energy Systems	
Y		Prereq 2 Minimum Energy Performance	
Y		Prereq 3 Fundamental Refrigerant Management	
17	4	Credit 1 Optimize Energy Performance	3 to 21
4		Credit 2 On-Site Renewable Energy	4
2		Credit 3 Enhanced Commissioning	2
2		Credit 4 Enhanced Refrigerant Management	2
3		Credit 5.1 Measurement and Verification—Base Building	3
3		Credit 5.2 Measurement and Verification—Tenant Submetering	3
2		Credit 6 Green Power	2

7	6	Materials and Resources	Possible Points: 13
Y	?	N	
Y		Prereq 1 Storage and Collection of Recyclables	
5		Credit 1 Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 5
2		Credit 2 Construction Waste Management	1 to 2
1		Credit 3 Materials Reuse	1
2		Credit 4 Recycled Content	1 to 2
2		Credit 5 Regional Materials	1 to 2
1		Credit 6 Certified Wood	1

9	3	Indoor Environmental Quality	Possible Points: 12
Y		Prereq 1 Minimum Indoor Air Quality Performance	
Y		Prereq 2 Environmental Tobacco Smoke (ETS) Control	
1		Credit 1 Outdoor Air Delivery Monitoring	1
1		Credit 2 Increased Ventilation	1
1		Credit 3 Construction IAQ Management Plan—During Construction	1
1		Credit 4.1 Low-Emitting Materials—Adhesives and Sealants	1
1		Credit 4.2 Low-Emitting Materials—Paints and Coatings	1
1		Credit 4.3 Low-Emitting Materials—Flooring Systems	1
1		Credit 4.4 Low-Emitting Materials—Composite Wood and Agrifiber Products	1
1		Credit 5 Indoor Chemical and Pollutant Source Control	1
1		Credit 6 Controllability of Systems—Thermal Comfort	1
1		Credit 7 Thermal Comfort—Design	1
1		Credit 8.1 Daylight and Views—Daylight	1
1		Credit 8.2 Daylight and Views—Views	1

6		Innovation and Design Process	Possible Points: 6
1		Credit 1.1 Innovation in Design: EP - Public Transportation Access	1
1		Credit 1.2 Innovation in Design: Development Density and Community Connectivity	1
1		Credit 1.3 Innovation in Design: PC45 - Site Assessment (?)	1
1		Credit 1.4 Innovation in Design: Green Education Program	1
1		Credit 1.5 Innovation in Design: PC12 - Reduced Automobile Dependence (?)	1
1		Credit 2 LEED Accredited Professional	1

4		Regional Priority Credits	Possible Points: 4
1		Credit 1.1 Regional Priority: WE - Innovative Wastewater Technologies	1
1		Credit 1.2 Regional Priority: WE - Water Use reduction	1
1		Credit 1.3 Regional Priority: EA - Enhanced Commissioning	1
1		Credit 1.4 Regional Priority: EA - Tenant Submetering	1

92	1	17	Total	Possible Points: 110
Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110				

# WELL

"We focus our education on the implemented solutions and wellness areas that directly influence your wellbeing at work."



AIR



WATER



NOURISHMENT



LIGHT



MOVEMENT



THERMAL  
COMFORT



SOUND



MATERIALS



MIND



COMMUNITY



## VERIFIED PERFORMANCE

WELL prioritizes accountability through a data-driven performance review and on-site environmental assessment.

ONSITE  
TESTING



PERFORMANCE  
REVIEW

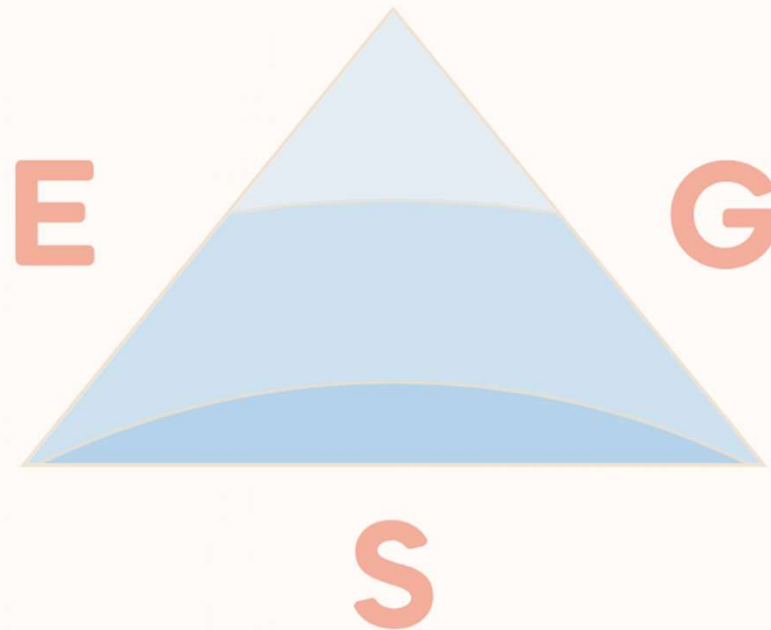


PERFORMANCE  
VERIFICATION

## ELEVATE YOUR IMPACT

Disclosure obligations  
are changing.  
Investors expect  
more.

WELL supports your  
ESG roadmap.



# Explosive demand for health.

**17.3M\***  
people impacted

**43,655+**  
locations

**4.91B+**  
square feet

**128+**  
countries

\*The number of people impacted is based on an industry benchmark estimating 200 square feet per person across total square footage enrolled in WELL.

600M

1.2B

1.8B

2.4B

3B

4B sq ft

2015

2016

2017

2018

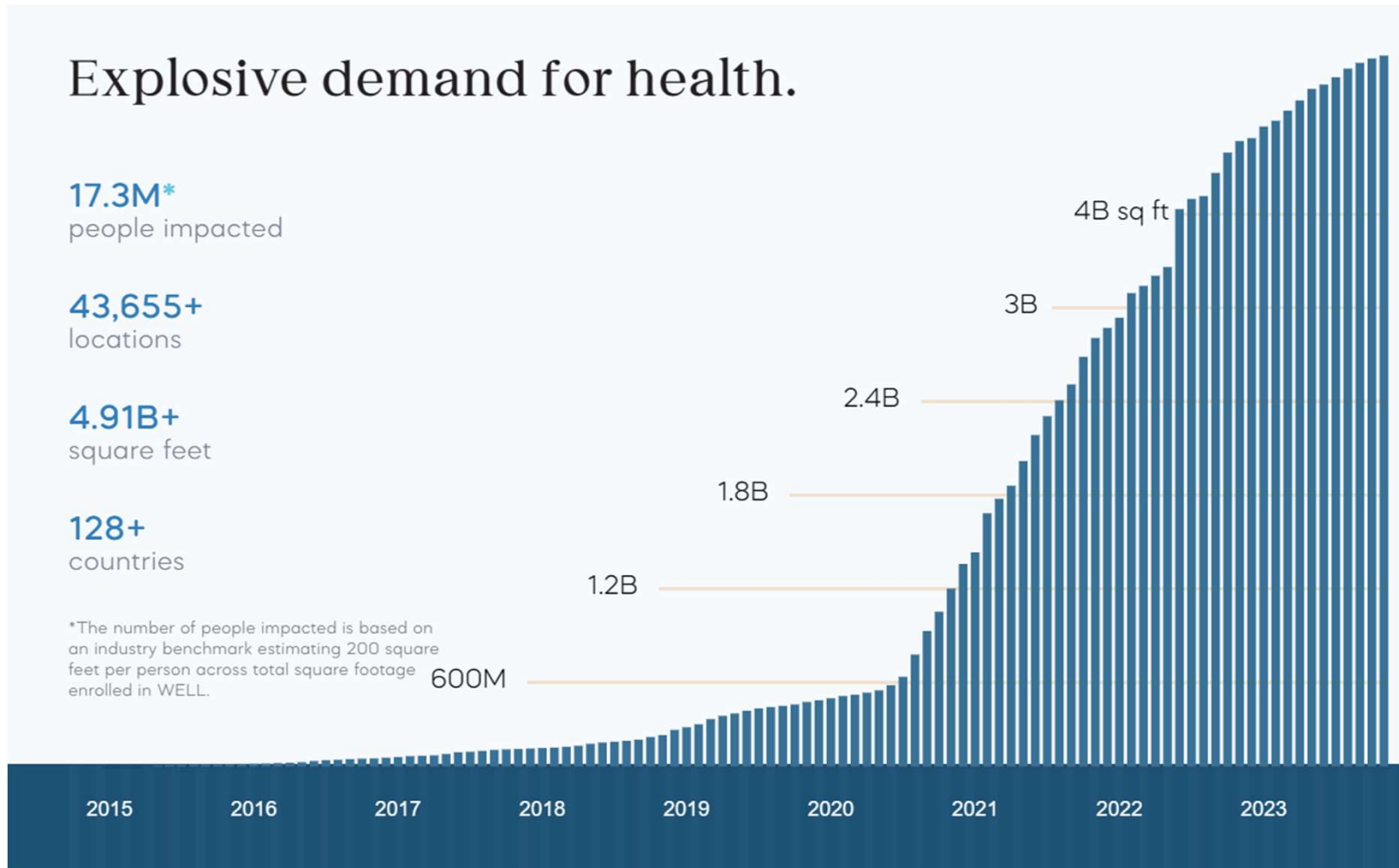
2019

2020

2021

2022

2023





**Take action** in several areas that can impact ESG performance.

- ✓ Health and safety
- ✓ Diversity, equity and inclusion
- ✓ Employee engagement and productivity
- ✓ Emergency preparedness and resilience



HEALTH & SAFETY



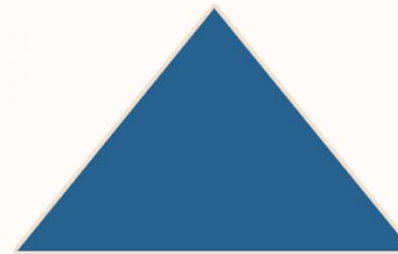
DIVERSITY, EQUITY  
& INCLUSION



EMPLOYEE  
ENGAGEMENT  
& PRODUCTIVITY



EMERGENCY  
PREPAREDNESS  
& RESILIENCE



# Air quality tests

## WELL Certification feature

- Conducted air quality tests after building occupation ensure that the level of air pollutants in the building meets the strict requirements of the Well Certificate. We want to ensure that construction activities have left no pollutants in the air of the occupied building - no VOCs, no combustion byproducts and no airborne particulate matter. You can take a deep breath!

Substance	Unit	Target
Formaldehyde	ppb	<27
Total volatile organic compounds	$\mu\text{g}/\text{m}^3$	<500
Carbon monoxide	ppm	<9
PM 2.5	$\mu\text{g}/\text{m}^3$	<15
PM 10	$\mu\text{g}/\text{m}^3$	<50
Ozone	ppb	<51
Radon	bq/l	<0.148

### Advantages:

- ✓ Lower risk of respiratory disease and cardiovascular disease
- ✓ Reduced health costs for the employer through less sick days taken
- ✓ No asthmas, allergies, headaches and respiratory irritation
- ✓ Increased productivity and job satisfaction
- ✓ All building users can be sure that no construction pollutants are left in the building after its occupation



## High class air filers

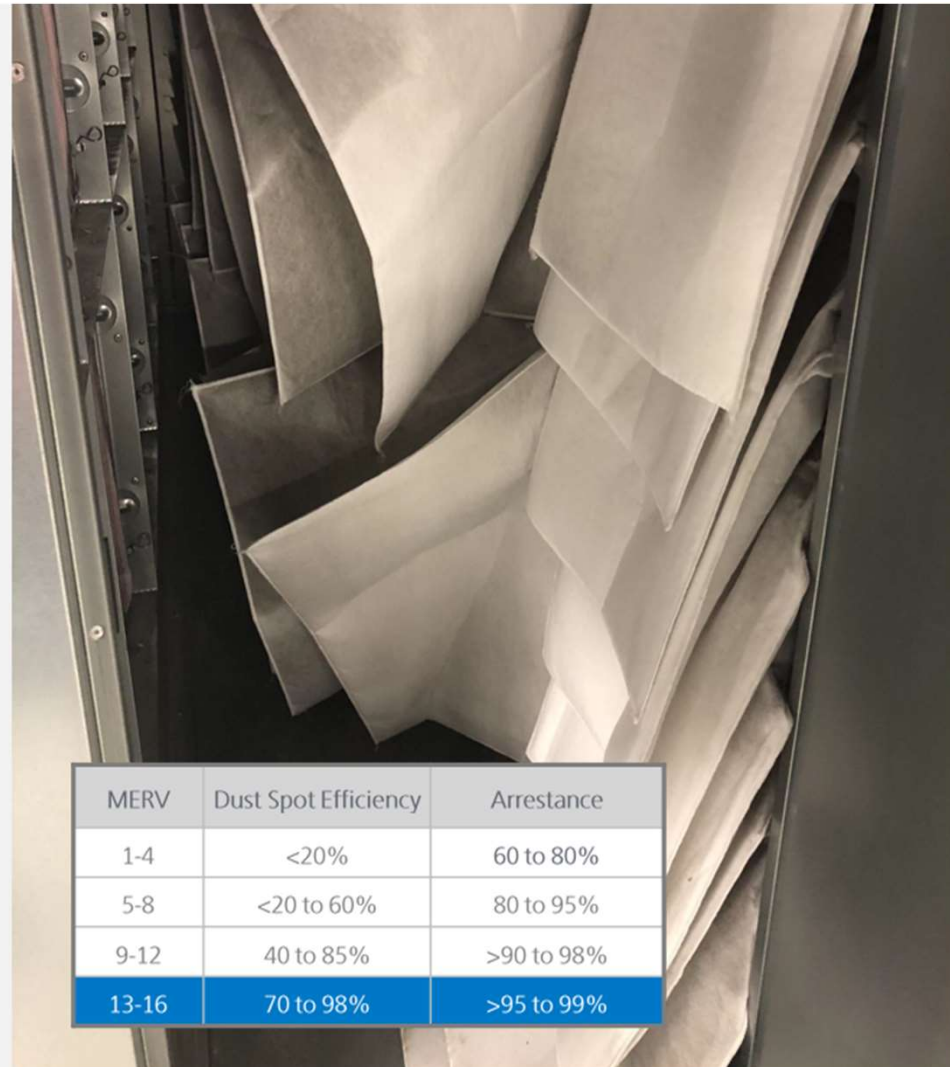
- **WELL Certification feature**

- In our ventilation system, we use high-class filters (MERV\* 13) that prevent contaminants from entering the building, so occupants can enjoy the highest quality of indoor air. **That filter class allows to effectively stop particles as small as pollen or fungus spores.** Additionally, we ensure that our filtration system is properly maintained as per the manufacturer's recommendations, which gives us certainty, that it operates as designed.

- \*Minimum Efficiency Reporting Value

### Advantages:

- ✓ No air pollutants, better respiratory health
- ✓ Better general health and longer life
- ✓ No sick-building syndrome
- ✓ Better ability to focus on tasks
- ✓ No headaches, asthma and allergies
- ✓ 35% less short-term sick leave



MERV	Dust Spot Efficiency	Arrestance
1-4	<20%	60 to 80%
5-8	<20 to 60%	80 to 95%
9-12	40 to 85%	>90 to 98%
13-16	70 to 98%	>95 to 99%



# Pesticide management

## WELL Certification feature

- To reduce occupant exposure to these toxic substances, we **minimized the amount of pesticide and herbicide that is used on outdoor plants**. Only pesticides with a hazard tier ranking of 3 (least hazardous) as per The City of San Francisco Department of the Environment's (SFE) Hazard Tier Review Process are used.

### Advantages:

- ✓ Less use of chemical substances positively influences the natural environment (no run-off to the local water pool, healthier soils)
- ✓ Healthier air – no evaporation of substances into the air



# VOC reduction

## WELL Certification feature

- VOCs (**volatile organic compounds**) are organic (also carbon and hydrogen containing) materials which evaporate and diffuse easily into the air at ambient temperature. VOCs are emitted by a wide array of building materials, finishings (such as paints) and common consumer products.
- Using low emitting materials is a standard in Skanska buildings. **All newly applied paints, coatings, adhesives, sealants and newly installed flooring, thermal and acoustic insulation as well as newly purchased furniture and furnishing meet the requirements for VOC emission imposed by WELL Certificate.**

### Advantages:

- ✓ No sick building syndrome - no headaches, irritation of the nose and throat and other discomforts
- ✓ Increased work satisfaction with no artificial smells and other distractions
- ✓ Increased productivity
- ✓ No exposure to cancer-causing substances (carcinogens such as formaldehyde) that can cause inter alia leukemia
- ✓ No exposure to asthma-triggering substances



# Water quality tests

## WELL Certification feature

- Water in the building has been tested for the following contaminants:
- Turbidity and coliforms
- Inorganic contaminants
- Organic contaminants
- Agricultural contaminants
- Public water additives
- The aim is to limit the presence of sediment and and water-born pathogens in water designated for human contact.

### Advantages:

- ✓ Thanks to water test decreased risk of cancer, immune deficiencies and nervous system difficulties
- ✓ Decreased probability of kidney problems and reproductive difficulties







**CCC****B****BB****BBB****A****AA****AAA****LAGGARD**

A company lagging its industry based on its high exposure and failure to manage significant ESG risks

**AVERAGE**

A company with a mixed or unexceptional track record of managing the most significant ESG risks and opportunities relative to industry peers

**LEADER**

A company leading its industry in managing the most significant ESG risks and opportunities

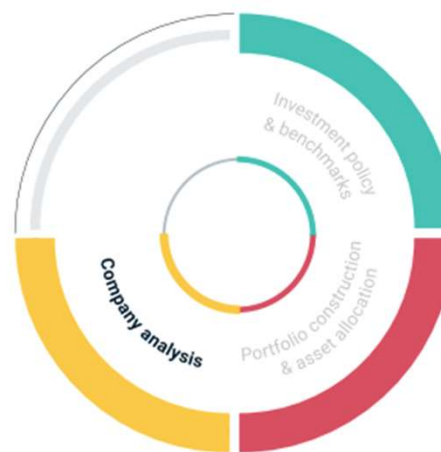


# ESG across your investment process

MSCI and MSCI ESG Research products and services<sup>17</sup> are designed to help you in these areas:

Growing demand for transparency is driving ESG and Climate integration across the investment process. MSCI ESG Research aims to help you integrate ESG and Climate in a way that suits your investment approach and strategic objectives, while aligning with the demands of your clients.

Our global client service team is available 24/5 to support you at each step of the investment process.



## Defining policy & benchmarks

Differentiated ratings and data<sup>18</sup> to help you:

- ▶ Define your investment, ESG and Climate objectives
- ▶ Set targets and strategies to enhance the ESG profile of your investments
- ▶ Develop your investment policy
- ▶ Select ESG or Climate policy or performance benchmarks

## Actionable solutions: integrating ESG

Flexible technology to enable you to:

- ▶ Use ESG and Climate data and ratings to inform asset allocation
- ▶ Identify ESG and Climate leaders and laggards for portfolio construction purposes
- ▶ Develop active and index-linked ESG and Climate products

## Company analysis

- ▶ Identify stocks impacting your portfolio's ESG and Climate profile
- ▶ Evaluate the ESG and Climate scores of your portfolio by sector, region and asset class
- ▶ Examine ESG and Climate performance alongside financial performance or other traditional factors

## Risk management, reporting & engagement

Access ESG and Climate factors in our analytical systems to:

- ▶ Provide greater transparency of key ESG and Climate risks across multi-asset class portfolios
- ▶ Support stress testing, and risk and performance attribution analysis
- ▶ Make forward-looking assessments to identify ESG and reputational risks
- ▶ Conduct TCFD stress testing to support Climate goals
- ▶ Support corporate dialogue and engagement

## ESG solutions to enable you to build better portfolios

MSCI ESG Research AI-enhanced ESG and Climate data and ratings are integrated across MSCI Indexes, Analytics Systems and Real Estate Solutions

### MSCI ESG Research

Strong integration across all MSCI Products



**MSCI ESG Research** provides ratings of companies and mutual funds to provide greater transparency and scrutiny of corporate practices for institutional investors seeking to avoid controversies and mitigate risk.

- ▶ **ESG and Climate metrics for over 14,000** issuers to provide forward-looking assessment of ESG risks and opportunities

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**MSCI ESG Indexes** are designed for use by investors seeking to reduce exposure to systematic and stock-specific risks, and set benchmarks for integrating ESG into active and passive portfolios.

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**MSCI ESG & Analytics** enables investors to gain deeper insight beyond traditional financial factors that may affect long-term value creation. Investors can interrogate ESG data and indexes in MSCI's Analytics Systems to support portfolio construction, risk and performance attribution, and monitoring and reporting. Integrate ESG and Climate insights into your portfolio construction and risk management using **industry leading multi-asset class risk and performance analytics systems**.

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**MSCI's Real Estate service** is designed to deliver analytical solutions, objective indexes and benchmarks and highly relevant research, to help you make better decisions throughout the investment process. MSCI Real Estate Climate Value-at-Risk (Climate VaR) provides a forward-looking and return-based valuation assessment of climate risk for individual assets and portfolios across commercial and private real estate.

Learn more about [MSCI Climate Real Estate Solutions](#).

BlackRock's EU asset management companies and investment firms will be required to publish granular disclosures relating to the ESG characteristics of their funds and portfolios starting in 2023.

\*extras from Blackrock's 2022 annual report

[BlackRock, Inc. - Financials - Annual Reports & Proxy](#)





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[https://youtu.be/MHO0iluPAyU?si=oL\\_blzcp5XABQEZL](https://youtu.be/MHO0iluPAyU?si=oL_blzcp5XABQEZL)

<https://youtu.be/gCAk9fqsNh8?si=d0vDJraZXtZGThta>

Thank you!

Andrei Ivan

