



2022

Impact Report

2150

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# Results to date

08

investments  
as of Q1 2022

277,000<sub>t</sub>

CO<sub>2</sub>e / yr reduced  
from portfolio

410

jobs created  
in past year

13,300<sub>t</sub>

CO<sub>2</sub>e / yr emitted  
from portfolio

20.8<sub>t</sub>

CO<sub>2</sub>e reduced or  
sequestered for  
every tonne emitted  
from portfolio

36%

of portfolio staff are  
female identifying

# Introduction

At 2150, our objective is to find the game-changers and sustainable investments – the Urban Tech Gigacorns – that will enable a future where technology and innovation in the Urban Stack reverse cities’ negative impacts on the planet and promote sustainability and prosperity.

# Gigacorn

**Noun**

A company with the potential to benefit billions of people, create billions in commercial value and lower a gigatonne of greenhouse gas emissions at scale.

## Our mission

Deploying ‘Constructive Capital’ is centred on the conviction that sustainability provides both superior returns and meaningful impact in the face of today’s challenges.

To achieve this mission, we embed impact considerations across all aspects of our business from investment evaluation, to company and founder support, to investor engagement and our platform, and in our day-to-day operations.

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This is the first **2150 Impact Report** which catalogues and benchmarks the fund’s and our portfolio companies’ impacts and contributions to solving our most pressing sustainability challenges.

# About the fund

The 2150 family has grown considerably in the past year. We are now a team of 17 based between London and Copenhagen.

## Leadership group



**Alexander Kielland**  
VP, Operations



**Christian Jølck**  
Partner & Co-Founder



**Christian Hernandez**  
Partner & Co-Founder



**Nayreen Akhtar**  
Analyst



**Nicole Florack**  
Associate, Research



**Peter Hirsch**  
Head of Sustainability



**Jacob Bro**  
Partner & Co-Founder



**Nicole LeBlanc**  
Partner, Platform



**Mikkel Bülow-Lehnsby**  
Partner & Co-Founder



**Rahul Parekh**  
Principal



**Shahnaz Khan**  
Analyst



**Alexandra Perez**  
Associate



**Christian Højdevang**  
Analyst, Operations



**Clive William Eley**  
Technical Advisor



**Iben Carlsen**  
Executive Assistant



**Margarita Skarkou**  
Senior Associate



**Max Blanshard**  
Associate

# The Urban Challenge

Cities are at the vanguard of climate action, and are areas acutely vulnerable to the effects of climate change. They represent a concentration of energy, material, industrial and economic systems that create opportunities for targeted response to climate change and environmental improvement.

The scale of the urban challenge and opportunity cannot be understated, as seen through these key insights demonstrating the reach of urban systems.

**~70%** of global GHG emissions are generated by cities

Source: IPCC

**~80%** of global GDP is generated by cities

Source: [New Climate Economy](#)

**100** highest emitting cities account for **18%** of global CO<sub>2</sub> emissions

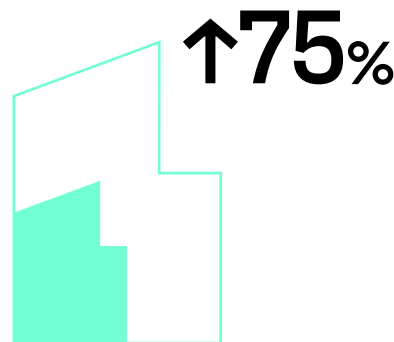
Source: [Moran et al.](#)

**3/4** of global final energy is consumed by cities

Source: [PNAS](#)

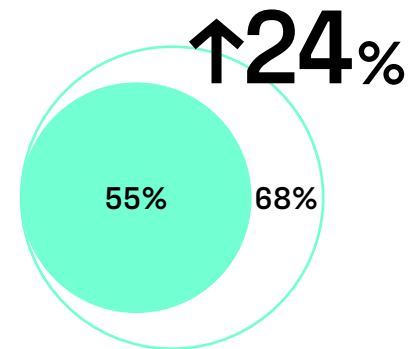
## Big changes in next 30 years:

■ 2020 □ 2050



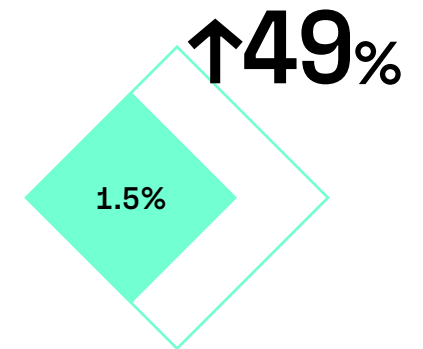
Increase in global building floor area (sqm) between 2020-2050

Source: IEA



Population in cities across the globe by the year 2050

Source: [UN DESA](#)



Increase in urban/built-up share of habitable land 2020-2050

Source: [JRC 2016](#), [IPCC](#)

“**Cities are where the climate battle will largely be won or lost.**”

UN Secretary-General António Guterres (Oct 2019)



# Understanding Global Emissions

The latest IPCC “Mitigation of Climate Change” report was unequivocal in its message: it is now or never for global climate action. The IPCC warned that global emissions must peak within three years (by 2025) in order to maintain a pathway to limit warming to 1.5°C.

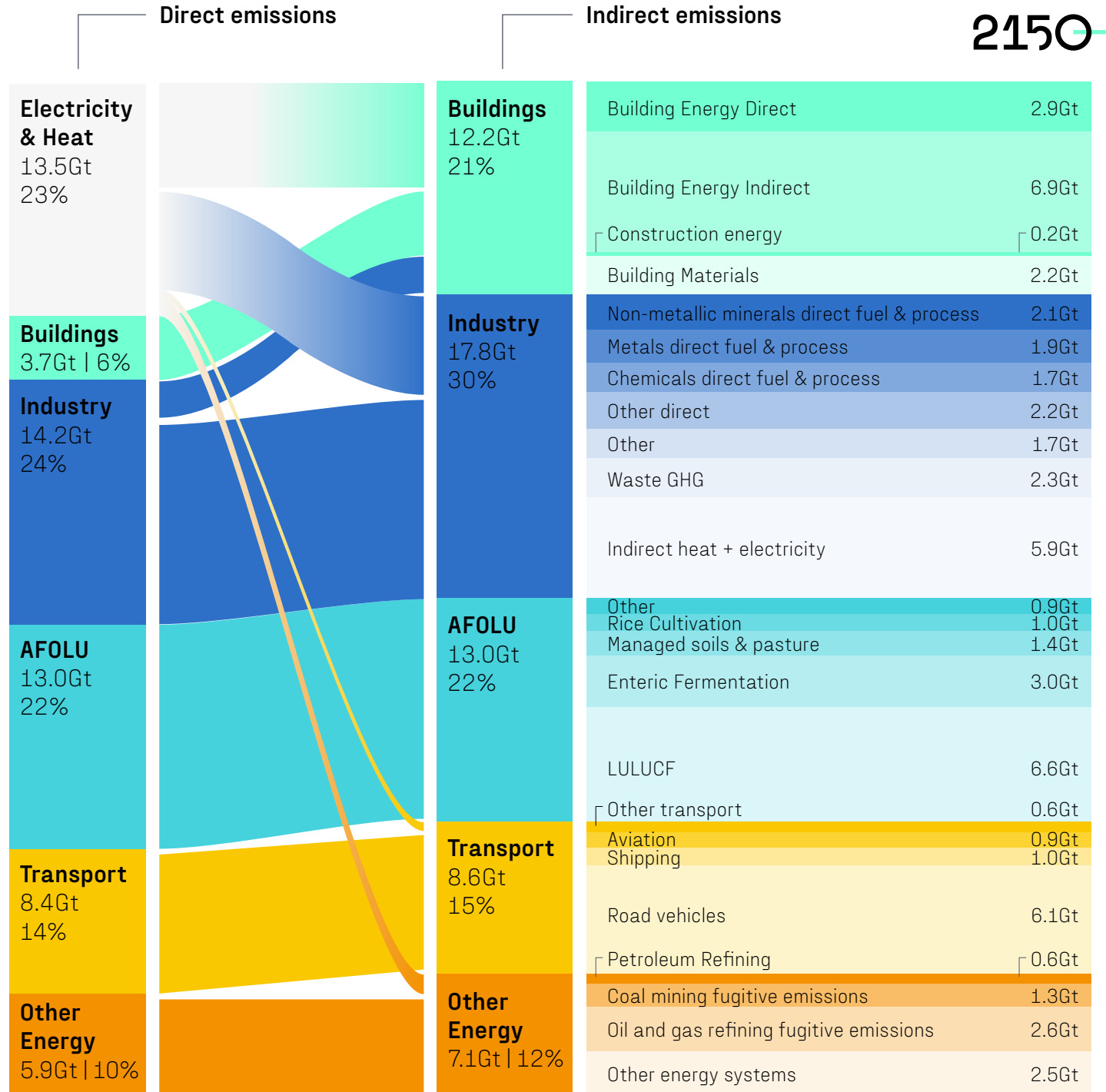
At 2150, we look for opportunities to directly contribute to a net-zero future by understanding what is driving consumption, energy use and ultimately emissions across economic sectors.

We consider where our expertise in both urban systems and venture capital can then yield significant impacts.

Total GHG in 2019:

# 59 Gt CO<sub>2</sub>e

# 2150

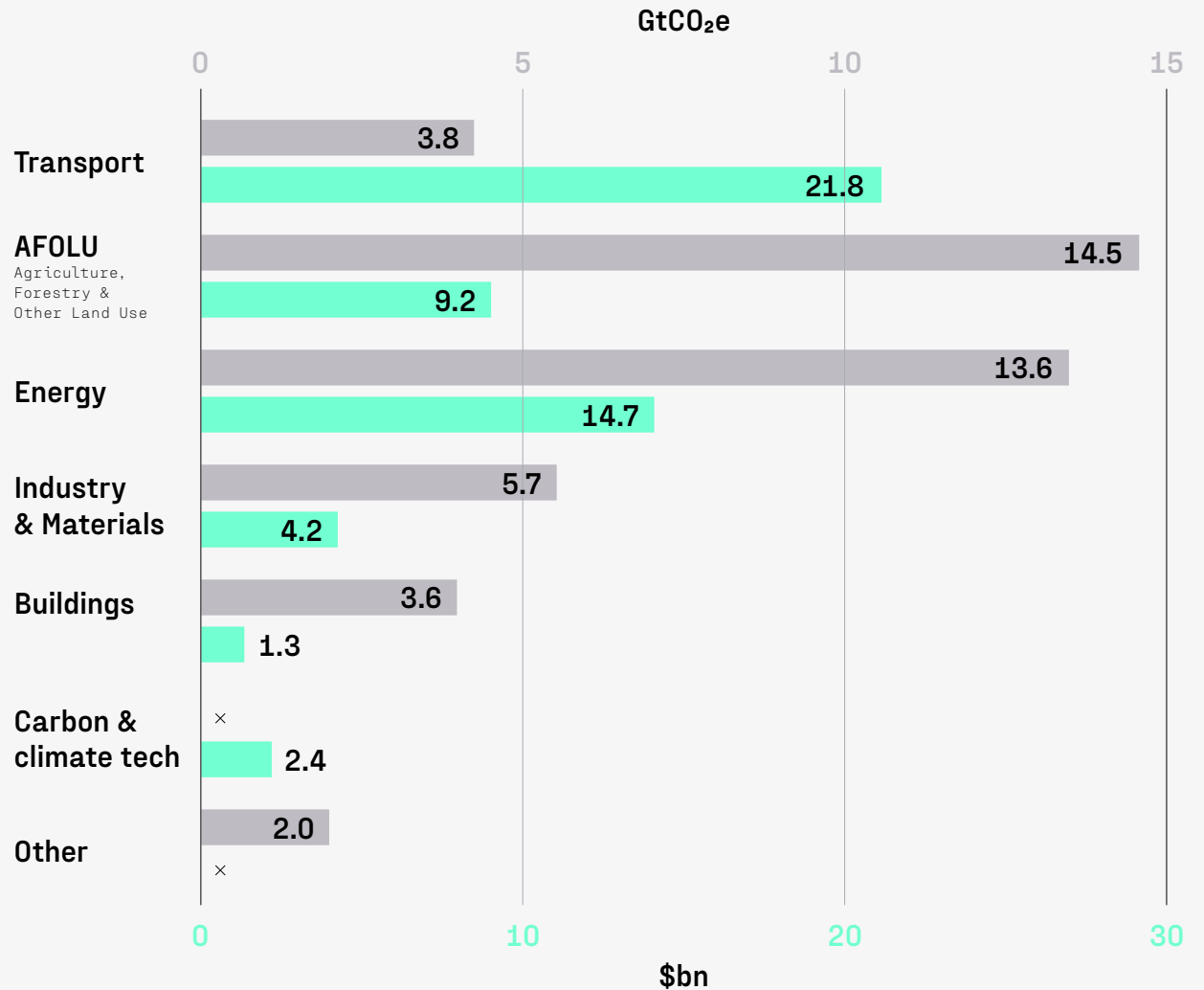


# Aligning Finance to Challenges

There is currently a mismatch between sources of global emissions and the capital allocated to sustainable solutions in those sectors. At 2150, impact derives - in part - from our ability to move the needle in sectors critical for achieving the goals of the Paris Agreement.

The example to the right weighs volumes of VC and PE funding from 2021 against the mitigation potential of specific sectors, with figures derived from the IPCC's latest report and BloombergNEF data.

## Mitigation Potential to 2030 (Gt) & 2021 VC/PE Finance



Sources: Potential net emission reduction data sourced from IPCC Sixth Assessment Report, VC/PE investment data sourced from BloombergNEF "Energy Transition Investment Trends 2022"

Legend:  
 Potential contribution to net emission reduction (2030, Gt CO<sub>2</sub>e / yr)  
 2021 VC/PE funding (\$bn)



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# 2150's Approach to Impact

How we define, approach and drive for impact

**2150 was founded to address our most pressing sustainability challenges through investment, innovation and facilitation.**

## Purpose<sup>01</sup>

To back tech entrepreneurs with Constructive Capital so they can reimagine and reshape the urban environment.

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## Mission<sup>02</sup>

To set the standard for Constructive Capital and back a portfolio that includes potential 'Gigacorns'.

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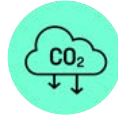
## Vision<sup>03</sup>

A future in which the convergence of technology and sustainability in the Urban Stack has reversed cities' negative impact on the planet and accelerated a positive impact on prosperity.

# 2150's Impact Principles

We take a holistic approach to defining impact through investment. At the heart of our mission is the search for **Gigacorns**, which substantially contribute to a net-zero pathway to 2050 in line with the **Paris Agreement**.

However, greenhouse gas (**GHG**) reductions alone will not achieve the Paris Agreement's goals. 2150's Impact Principles recognise the need to approach sustainability from a systems perspective, and guide our investment approach to promote multidimensional results. We hope to shape the cities of the future around these principles.



## Climate Action – Mitigation & Adaptation

Companies which are materially reducing, removing or mitigating urban GHG emissions while preventing carbon lock-in, and increase the resilience of systems to adapt to climate change.



## Resource Efficiency & Environmental Protection

Companies that reduce resource waste and support a circular economy, promote sustainable water use and protection, reduce pollution, and protect and enhance biodiversity.



## Social Resilience & Balance

Companies that enable healthy, safe and liveable cities with a healthy social-economic balance, including the creation of and increased access to economic opportunities.



## Profit & Purpose

Companies that deliver both exponential impact and productivity outcomes as co-benefits beyond the immediate impacts of their operations.

# Our Theory of Change

We describe our mission to deploy 'Constructive Capital' in more detail through our Theory of Change. This outlines how our targeted Inputs and Activities lead to the Outputs, Outcomes and Impacts needed to realise cities aligned with our Impact Principles.

This Impact Report describes the Outputs, Outcomes and Impacts that 2150 and our portfolio companies achieved in the past year.

## Inputs

Our resources provided

**2150 'constructive capital' in transformational companies**

**Expertise to support company growth and sustainability ambitions**

**2150 networks and connections**



## Activities

The actions we take

**Financing companies' growth**

**Support improved governance**

**Build companies' efficacy in monitoring and using sustainability insights**

**Connect companies to value chain partners, customers and investors**



## Outputs

The change we want to see

**Uptake of companies' sustainable technologies and solutions in the Urban Stack**

**Industry and behavioural shifts to sustainable paradigms**

**Increased investment in sustainable activities**



## Outcomes

Measurable benefits

**Financial & economic growth**

**Environmental betterment**

GHG reduction  
Increased resilience  
Pollution reduction  
Resource savings  
Individuals benefiting

**Social betterment**

Individuals with increased access to affordable services



## Impacts

Long-term goals to achieve

**2150 Impact Principles**  
See page 11

**Sustainable Development Goals**



# 2150 Impact Framework

We apply a common approach to evaluate the impact potential and sustainability performance of companies as outlined in the 2150 Impact Framework.

The Impact Framework builds on our Theory of Change to ensure that we assess companies and deals along the same dimensions to determine their alignment with 2150's mission, their scale of positive outcomes and alignment with best practices.

## As an Article 9 fund under SFDR, all 2150 investments support one of the six EU environmental objectives of:

- Climate change mitigation
- Climate change adaptation
- Sustainable use and protection of water and marine resources
- Transition to a circular economy
- Pollution prevention and control
- Protection and restoration of biodiversity and ecosystems

We've made our Impact Framework public to help spur discussion and ambition within sustainability focused VCs. We use the Framework to engage with a wide community of practice to both share our experience and learn how to constantly refine our approach to striving for impact through investment.

## We use the Impact Framework to:

- A** Ensure a company meets 2150s thresholds for impact and sustainability;
- B** Estimate a company's impacts both today and into the future;
- C** Evaluate the extent to which impact is central to a company's mission, and assess their current sustainability performance; and
- D** Ensure our legal terms and co-investors support sustainability outcomes.

## All investments must be minimum performance thresholds to be considered for investment:

- 1** Aligned with the Paris Agreement;
- 2** Aligned with the EU Taxonomy for Sustainable Activities; and
- 3** Free of any revenues from fossil fuels or high emission electricity generation

# The 'Urban Stack'

We view cities and urban technologies through the lens of the 'Urban Stack', representing four interconnected and interdependent layers of an urban environment in which we invest.

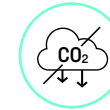
By investing across all four layers of the urban stack, 2150 promotes systemic change in cities.

## Experience

Allowing citizens to work, live, and stay healthy & secure within the urban living environment.



**Air Pollution**



**Carbon Offsets & Mitigation**



**Safety & Security**

## Operate

Solutions to optimize urban assets, from sensor-equipped cities, buildings and facility management, to urban logistics.



**Smart & Sustainable Buildings**



**Mobility & Logistics**



**Sustainability ESG Analytics**

## Build

How we build including planning & construction of buildings, infrastructure, and production systems.



**Concrete & Steel**



**Construction Planning**



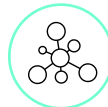
**New Construction Methods**

## Enable

Enabling infrastructure technologies and platforms that allow urban areas to scale sustainably and resiliently.



**Intelligent Infra**



**Frontier Materials**



**Waste Management**

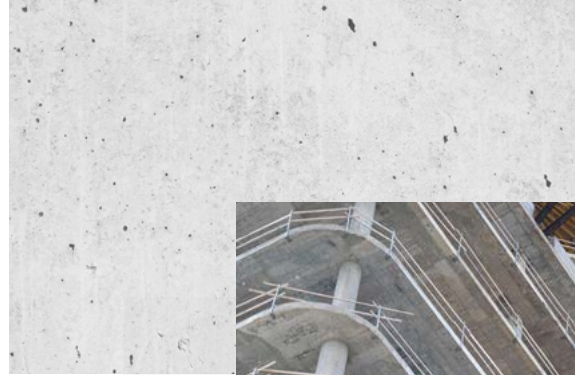
# Deep Dive Research

We develop sectoral insights to guide our investment approach.

We call this research our 'Deep Dives', where 2150 seeks to understand the specific challenges a sector faces in its sustainable transition to support our objective to be the most knowledgeable investor.

Through the Deep Dives we identify which solutions and ultimately companies to pursue for investment, understanding how they solve a specific problem and unlock opportunities within a sector.

We've selected highlights from three Deep Dives developed over the past year.



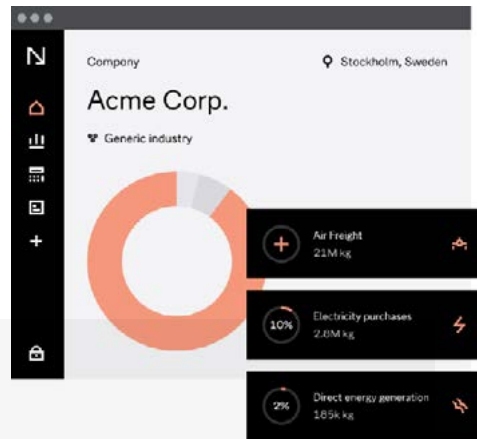
## Cement & Concrete

The cement industry is responsible for 4% of global GHG emissions (2.5 Gt CO<sub>2</sub> / yr) or 7% of CO<sub>2</sub> emissions from fossil fuel and industry.<sup>1</sup> The industry's emissions stem from carbon-intensive fuels used to generate the high temperatures needed and process emissions from the chemical decomposition of calcium carbonate.

Decarbonising the cement industry will take a range of solutions including supplementary cementitious materials and energy efficiency in kilns; however, the solutions offered by **Biomason** and **CarbonCure** have the potential to reshape cement and concrete production. More information on Biomason and how its product can reduce cement emissions by more than 90%, and CarbonCure's industry leading process for storing CO<sub>2</sub> into concrete are in Section 5.

<sup>1</sup> (IEA, IEA, Chen et al)

# Deep Dive Research



## Carbon Accounting

You can only manage what you can measure is a principle foundational to the burgeoning carbon accounting industry. With momentum from COP26, the EU's SFDR and recently proposed U.S. Securities and Exchange Commission rules, it's clear that disclosures on corporate sustainability are becoming standard practice.

GHG emissions assessment and accounting is central to this reporting; however, the bulk of reporting at the moment is concerned with **Scope 1** and **2 emissions**. For most businesses, though, the majority of their impacts are **Scope 3 emissions**.

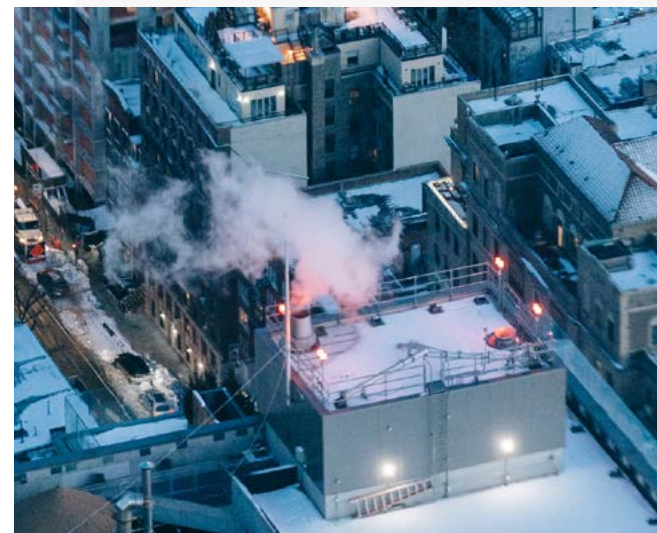
Through our Deep Dive, 2150 identified **Normative**, a sector leader in accessible calculations of Scopes 1, 2 and 3 emissions. More information on Normative and its effective use of financial and activity data to calculate emissions is in Section 5.

## Cooling

Space cooling is responsible for ~1.5 Gt CO<sub>2</sub>e / yr of emissions and consumes ~10% of global electricity; figures that will only grow with massive expected adoption of air conditioning in developing regions.

Our analysis on cooling identified where VCs can quickly scale impact by tackling three concurrent problems 1) energy efficiency of air conditioners, 2) the energy mix and the demand on the grid to power them, and 3) the refrigerants inside them. While more residential units exist, the output of commercial units and incentives for innovation are arguably stronger. More to come in this space.

[1\\_TEA](#) [2\\_GCI](#)





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# Portfolio Impact

An overview of the positive impacts of our investments, their footprint and alignment with ESG best practice

# Portfolio Overview

2150 has 8 investments in companies across the Urban Stack as of end Q1 2022, providing solutions to decarbonise our cities, while developing the tools needed to improve management and operation of urban systems.

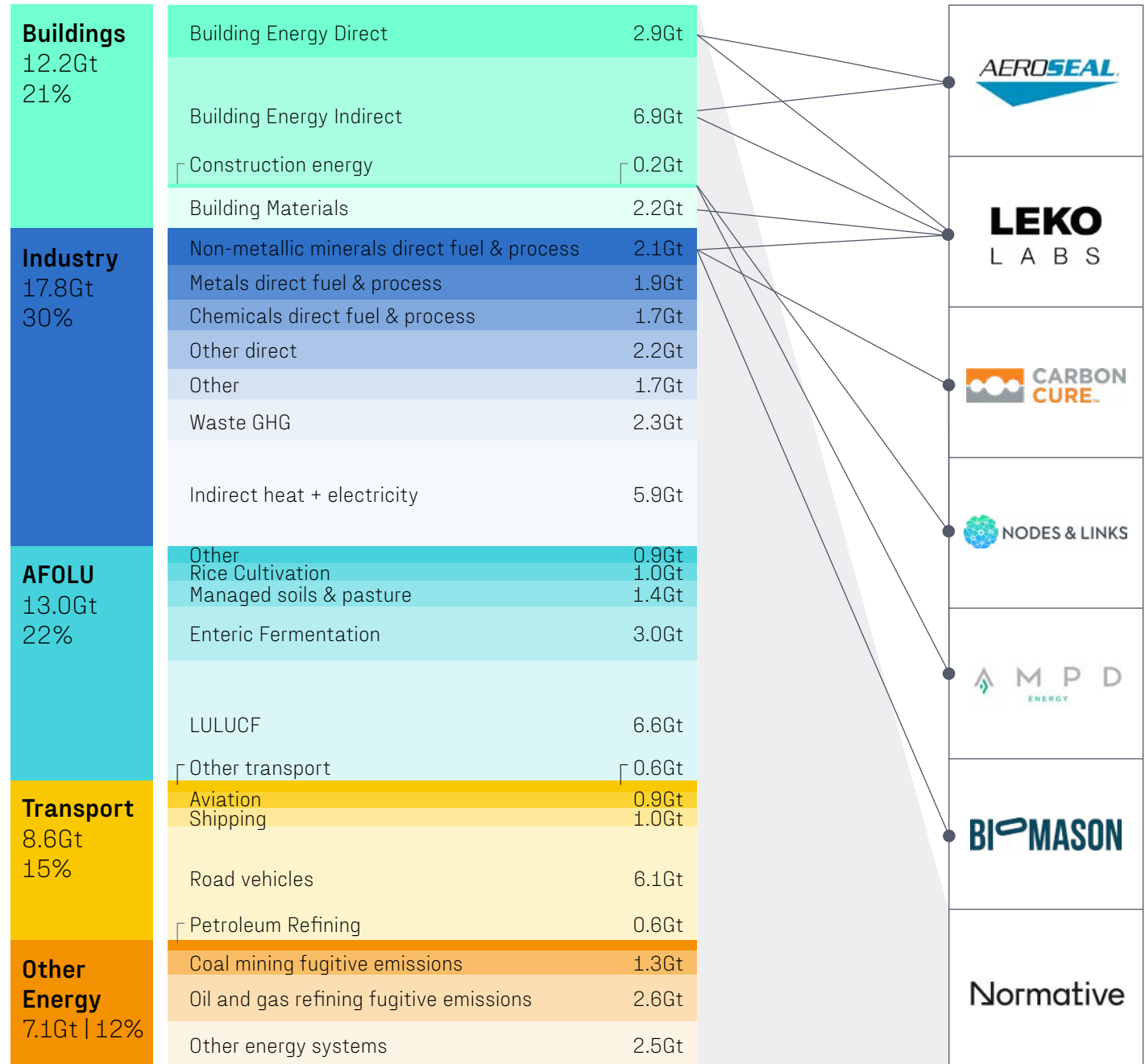
Currently, the portfolio supports predominantly **climate change mitigation** outcomes. 2150 plans to expand investment to support further environmental objectives including **climate change adaptation** in the coming year.

Urban Stack	Company	Area	Location	Problem	Solution
Operate	 AEROSEAL	Smart & sustainable Buildings		Building HVAC systems often have 25-40% energy losses from air duct leaks.	Quick, accessible ventilation sealing to increase efficiency of building systems.
	 	Concrete & Cement	 	Cement and concrete represent 4.2% of global GHG emissions and are growing.	Technological or biological industrial process improvements that lower or mitigate embodied carbon
Build		New Construction Methods		Construction relies on diesel generators for energy, emitting GHGs and air pollution.	Electrification of construction sites to eliminate the use of fossil fuels.
				Construction materials are emissions intensive, with steel & concrete emitting 8.6% of GHGs / yr.	Modular, wooden structural panels built offsite that can scale to 100m+ buildings.
	Coming soon	Construction Planning		\$1.6T annual gap in construction productivity generates 2.2B tons of waste annually.	Data platform to capture and analyse construction data to drive optimal project delivery
Enable		Intelligent Infra		92% of all engineering projects are late and/or over budget, with an average cost increase of 128%	An AI platform to support project managers in assessing & mitigating risk in complex construction/infra projects
		Sustainability & ESG Analytics		To act on sustainability, corporations first need to measure accurately.	Software-based carbon accounting to track emissions & plan mitigation pathways

# Portfolio against global emissions

The 2150 portfolio directly addresses sectors responsible for +14 Gt CO<sub>2</sub>e global emissions of total 59 Gt annually. The United Nations projects we need to reduce GHG emissions by 55% by 2030 to maintain a pathway to 1.5°C of warming.

This diagram maps the portfolio companies against major sources of emissions, demonstrating how the pathway to net-zero will ultimately be achieved by collective action across many solutions, with the 2150 portfolio companies as part of sectors' decarbonisation pathways.



# Method for assessing impact

2150 approaches impact and sustainability performance holistically. As stated previously, focusing solely on GHG emissions will not enable us to realise the goals of the Paris Agreement. Therefore, our definition of impact must include and expand beyond GHGs to consider how companies performance across a range of dimensions.

To support 2150's impact data collection, we relied on Normative to calculate Operational Impacts and organise additional data.

Building on Normative's expertise, the impact data assesses the scope 1, 2 and 3 footprint from our portfolio, as well as Positive Impacts derived across scopes.

2150 worked with all portfolio companies to collect financial and activity data, which Normative helped to translate into emissions estimates.

**Our portfolio impact assessment covers:**

## Positive Impacts

Benefits resulting from portfolio companies' collective operations

## Sustainability Policies & Governance

Portfolio companies' adoption and implementation of sustainability best practices

## Operational Impacts

Adverse impacts or the 'footprint' of portfolio companies' operations, with a focus on GHG emissions

## Employment & Diversity

Assessing portfolio companies' representation within their operations and economic opportunities generated

# Portfolio Positive Impacts

We measure success through both impact and commercial returns. With the first full year of investment behind us, 2150 is already seeing significant impacts from its portfolio companies.

The following highlights the aggregate portfolio results, without weighting for ownership shares. We feel this best reflects the physical outcomes of our portfolio companies.

Total GHG Mitigated in past year  
(Equivalent to 60,900 cars removed from roads<sup>1</sup>)

**277,000**  
tonnes CO<sub>2</sub>e

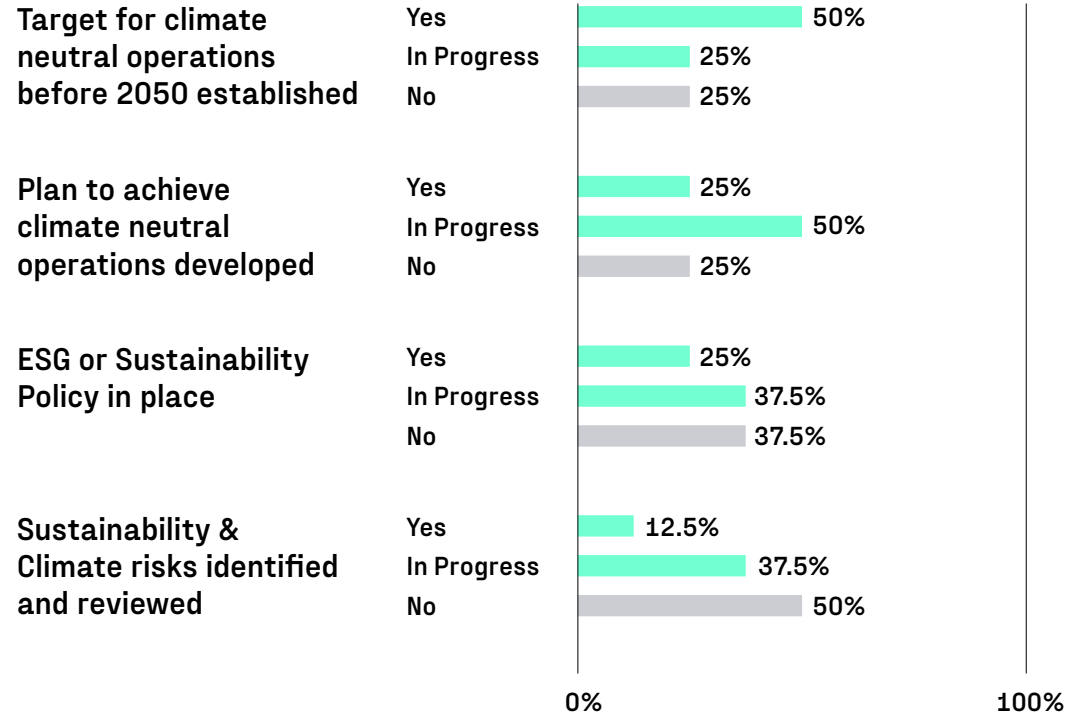


**13,100**  
tonnes CO<sub>2</sub>e

Ownership adjusted

<sup>1</sup> United States EPA, [Greenhouse Gas Emissions from a Typical Passenger Vehicle](#).

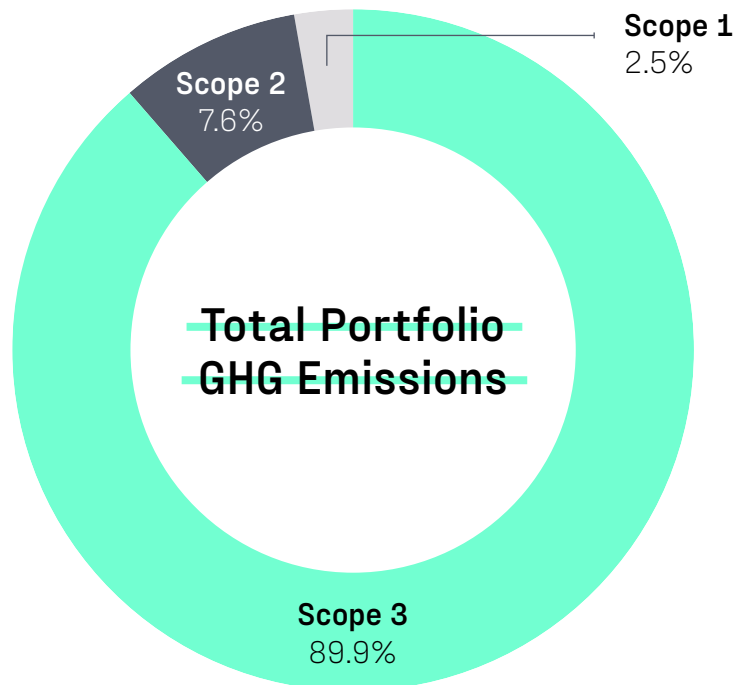
## Sustainability Policies and Governance



# Portfolio Footprint & Intensity

To achieve the goals of the Paris Agreement, we need solutions like those of our portfolio companies, while maintaining oversight of the impacts of all companies' operations.

We worked with our portfolio companies to determine their greenhouse gas footprints across all scopes. The aggregate results below demonstrate that much of our companies' footprints are embodied emissions in their value chains.



Total GHG emissions (tonnes CO<sub>2</sub>e):

**13.3k** → **1.34k**  
Ownership adjusted (tonnes CO<sub>2</sub>e)

Total energy consumption:

**5,240MWh**

1 - Average energy consumption per dwelling from [Odyssee - Mure](#)

equivalent to annual energy consumption of 350 average EU dwellings<sup>1</sup>

Total share of energy consumption from renewables:

**13%**

Portfolio footprint to mitigation impact ratio:

**20.8t** → **9.8t**  
Ownership adjusted (tonnes CO<sub>2</sub>)

CO<sub>2</sub> reduced or sequestered for every tonne emitted

For a description of the delineation between scopes 1, 2 and 3 emissions, please refer to the definitions page of this report. Positive impact and footprint covers seven of eight portfolio companies. Scope 3 data for CarbonCure is limited to business travel.

# Employment & Diversity

In order to drive innovation, we need diverse voices at the table as the industries driving sustainable urban development grow. We work with our companies to ensure they onboard best practices in terms of diversity and inclusion, stemming from our involvement in Diversity.VC.

The following highlights that while our portfolio companies are growing rapidly, more can be done to promote inclusion and opportunity.

**Total portfolio employment:**

**755**

**Jobs created in 2021:**

**410**

**% staff identifying as female**

**36%**

**% leadership identifying as female**

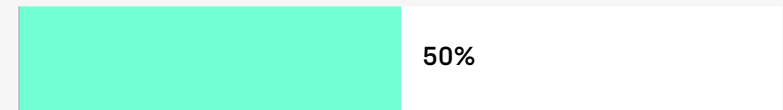
**36%**

**% board identifying as female**

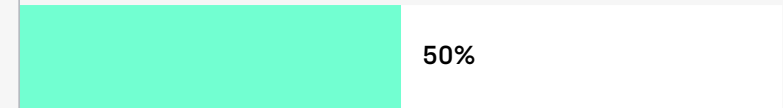
**8%**

**% of portfolio companies with Diversity Policy in place**

**Yes**



**In Progress**



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# Impact within our Ecosystem

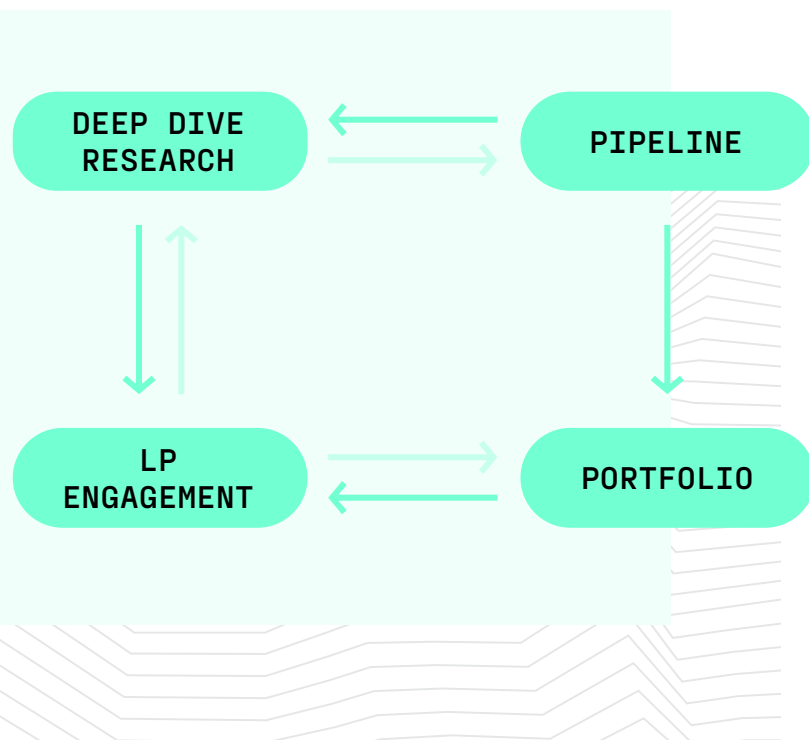
How we drive the allocation of sustainable capital  
and add value with our companies and investors



# Active Ownership

To enable the sustainable urban transition, 2150 strives to add value through active engagement with our portfolio companies.

Impact is at the heart of this engagement, where we see the use of impact insights and improvements in sustainable performance as means of increasing companies' competitiveness. Some highlights of this approach you can see below and on the right of this page.



## Creating an Enabling Platform

2150 has a strong network of investors in the fund that are infrastructure assets owners, operators, real estate developers, construction companies, property managers and mobility players. These companies are actively looking for solutions to add sustainability into their projects and operations. To identify investment opportunities, 2150 builds on engagement with LPs and internal research into sustainability challenges – our Deep Dives (p. 15). These efforts pinpoint specific solutions that address gaps to address in sectors' sustainable transformations. A number of 2150 portfolio companies are actively working with our investors to deploy their solutions including **Aeroseal**, **Biomason** and **LEKO**.

## Onboarding w/ sustainability

2150 asks portfolio companies to develop a strategy around sustainability targets and best practices. The purpose of this planning is to improve companies' understanding of their own operations, ensure impact is enshrined in their growth strategy, and take proactive steps in anticipation a rapidly changing regulatory landscape. Companies' strategies cover:

- **Positive impacts - emissions reductions or other benefits**
- **GHG footprint & Net Zero Pathway - Scope 1 - 3 emissions and a target for climate neutral operations**
- **Climate Risks & Opportunities - a timeline for identifying and managing climate related risks**
- **ESG Governance - a pathway for onboarding best ESG practices including on diversity and inclusion**

All portfolio companies are offered an initial year's subscription to Normative to support their emissions footprint assessments.

# Targeted Capital Allocation

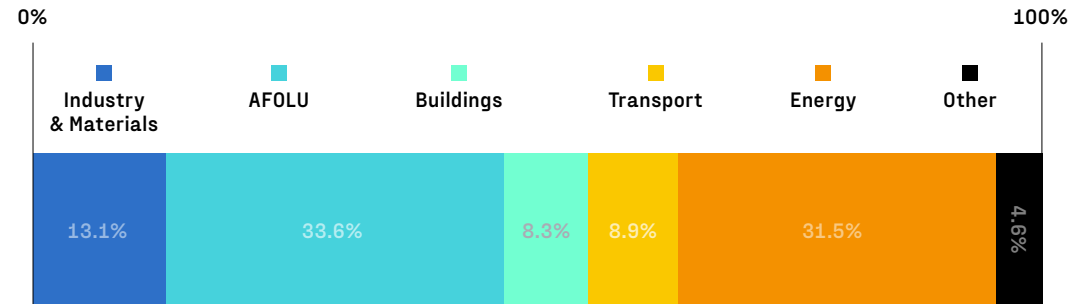
The transition to net-zero will be the largest mobilisation of global economic activity in human history. McKinsey estimates that the total cost of the transition is \$275 trillion between 2020 - 50.

Similarly, the IPCC finds that mitigation finance needs to increase between 3 to 6 times current levels depending on region and sector, while UNEP sees the need for up to an additional \$500 billion per year in adaptation funding to 2050. While we have some of the technologies to implement the transition, the IEA estimates that 46% of the solutions to get us to our 2050 emissions targets are still under development.

2150 uses our understanding of the capital allocation needed to realise the goals of the Paris Agreement to direct investment decisions. The following shows distributions of capital and impacts across sectors, and the 2150 portfolio's response. To accelerate PE and VC finance in climate and sustainability, 2150 co-founded Climate50 that develops an annual list recognising the most impactful VCs around the world.

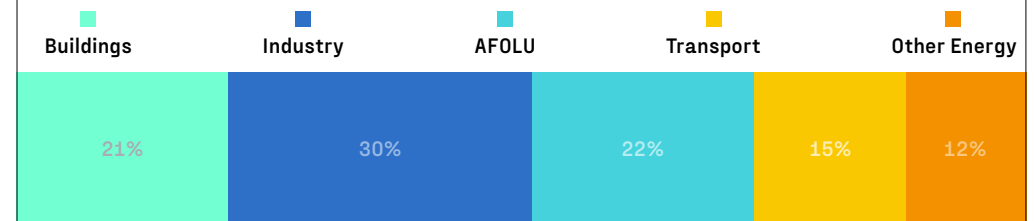
## Potential emissions reductions to 2030

IPCC



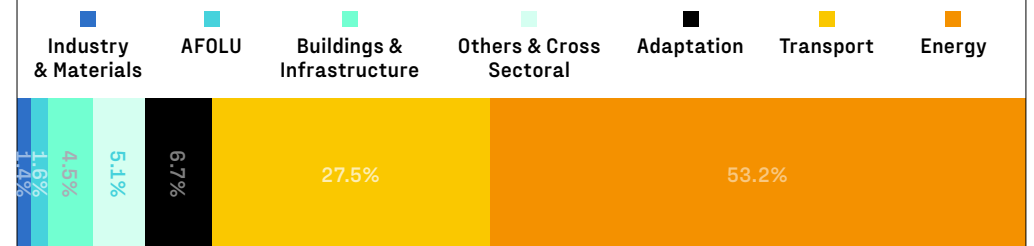
## Global End Use Emissions 2019

IPCC



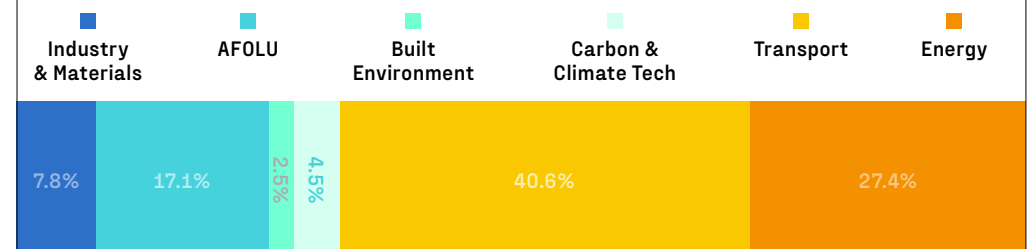
## Global Climate Finance 2019/20

CPPI+ IPCC



## Global PE/VC Climate Finance 2021

BNEF



1 Climate Policy Initiative, Global Landscape of Climate Finance 2021

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# 2150's Operational Impacts and Management

How we manage the footprint and sustainability risks of our own operations

# 2150 operational impacts

At 2150, we embed the aspirations and standards for our portfolio companies' impacts and sustainability into our own operations. We assess our GHG emissions footprint, as well as manage our climate risks and opportunities. The following is an overview of our results from the past year and the steps that we are taking to advance best practices.

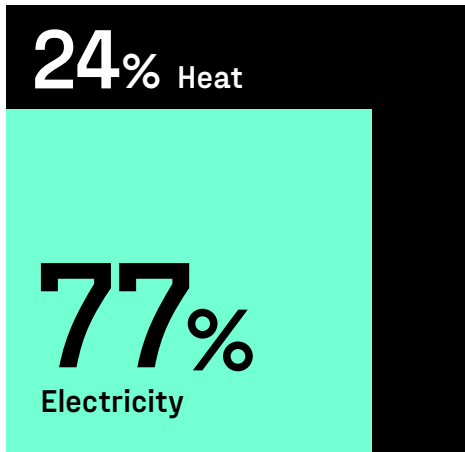
2150, in partnership with NREP, ensures that all energy in its offices comes from renewable sources. This is achieved by investing in renewable energy systems to feed into the grid. Any shortfall in generation compared to consumption is addressed by purchasing renewable energy credits for the remainder.

To date, 2150 has offset the climate impacts of our operations by purchasing offsets from CarbonCure.

Total GHG footprint:

**88.7** tonnes CO<sub>2</sub>e

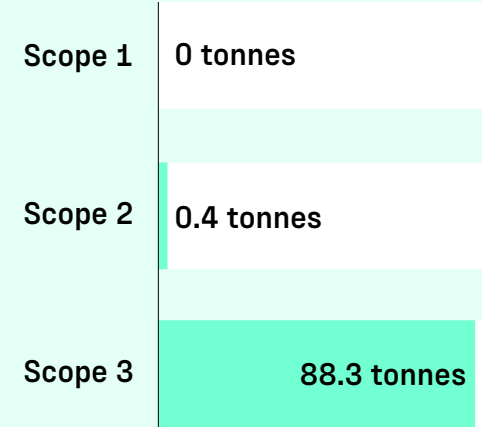
Scope 2 sources of energy (kWh):



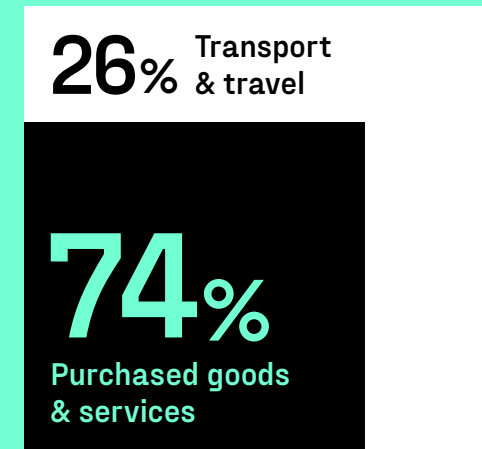
Scope 2 (amount of electricity from renewables):

**100%**

Total GHG footprint breakdown:



Scope 3 sources of emissions:



# Climate & Sustainability Risk & Opportunities

Climate change affects all corners of the globe and economy. 2150 considers both its position as a venture capital fund in relation to climate risks and opportunities, as well as the position of our portfolio companies.

Stemming from the recommendations of the **TCFD**, 2150 seeks to embed practices in our own and portfolio companies' operations that identify, disclose and manage **climate-related risks**.



## 01 Governance

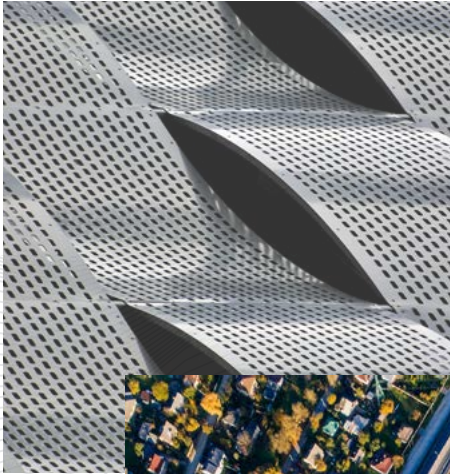
A central Sustainability Committee, comprised of a Partner, our Head of Sustainability and senior investment team member, manages climate risks and related communication with our board and portfolio companies.

2150 seeks to disclose identified climate-related risks in regular communications with our board and investors.

## 02 Strategy

2150 seeks companies with solutions, and operations, with inherent climate opportunities due to alignment with a net-zero and resilient pathway. While exposure to physical climate risks is limited, impacts to companies' value chains in particular is closely considered.

Portfolio companies are managing transition risks associated with a shift to green practices including rapidly changing policy landscapes, technology change costs, commodity volatility and entrenched consumer or tradecraft preferences.



## 03 Risk Management

During investment due diligence, 2150 considers companies' exposure to climate-related risks and opportunities, and their material impact on operations. Our analysis considers the extent to which companies have identified their own risks, and have governance structures in place to manage them.

2150 works with portfolio companies to understand best practices related to the TCFD to set out a pathway to bring operations in line with the Taskforce recommendations and relevant regulatory requirements on sustainability disclosures.

## 04 Metrics & Targets

All portfolio companies receive support to develop a full GHG footprint across all scopes, identifying risks within their operations and value chain.

2150 works with companies to develop targets for reaching climate neutral operations, while managing risks associated with their business model and green transition.

Part

05

# Portfolio Company Highlights

Case studies from our first year of investment



# CarbonCure August 2020

**Sequestering CO<sub>2</sub> in concrete and reducing cement consumption**

**164,300 tonnes**

Total CO<sub>2</sub> emissions saved with CarbonCure



**PROBLEM**

Our ability to transition to a net-zero economy will rely on viable solutions to capture and store carbon emissions. We need both natural and technological solutions to achieve this end.

**SOLUTION**

CarbonCure’s solution enables the sequestration of carbon in concrete production while reducing cement consumption. Across the concrete manufacturing process, CarbonCure’s technologies inject a precise dosage of CO<sub>2</sub> where it immediately and permanently mineralizes. The mineralized CO<sub>2</sub> improves the concrete’s compressive strength, enabling producers to safely reduce cement content in their mixes and achieve further carbon reductions without compromising quality. With these CO<sub>2</sub> savings, CarbonCure offers high quality carbon credits. In 2021, CarbonCure won the Carbon XPRIZE for its newly commercialized Reclaimed Water product. CarbonCure concrete is now being poured across the world, from Canada to Bolivia to Ireland to New Zealand. CarbonCure treated concrete has been used for high-rise buildings, airports, aquariums, stadiums and Amazon’s new HQ2. CarbonCure has saved over 164,000 tonnes of CO<sub>2</sub> to date. That’s equivalent to removing more than 35,000 cars from the road for a year.

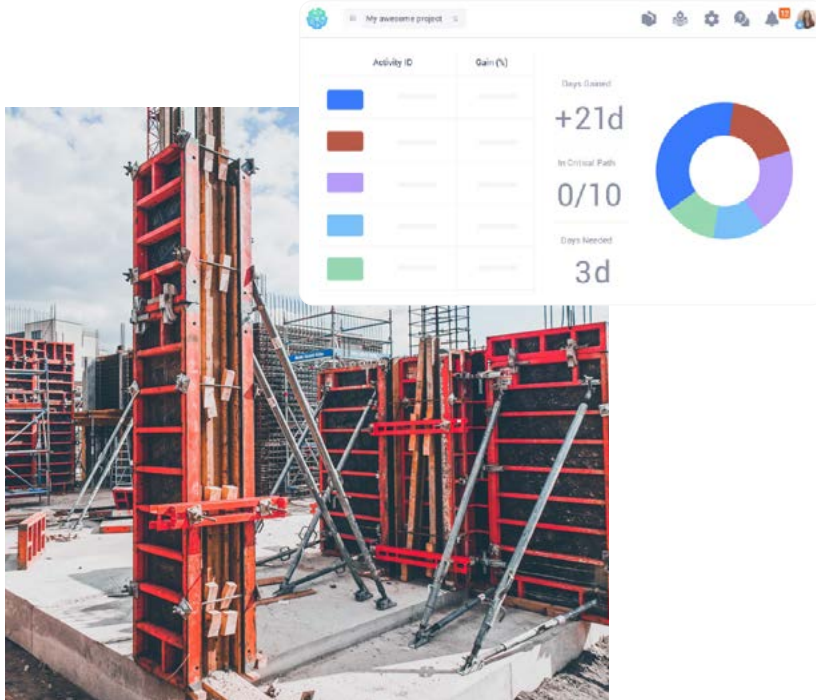






## Nodes & Links June 2021

~~Delivering infrastructure~~  
~~on budget, on time and~~  
~~with lower carbon footprint~~



### PROBLEM

An Oxford study identified that only 8% of the world's infrastructure projects are delivered on time and on budget. With trillions of dollars being deployed into sustainable infrastructure, every day a project is delayed is another negative day.

### SOLUTION

Nodes & Links applies AI algorithms to complex project plans allowing project and risk managers to identify, mitigate and address future risks in real time, thereby reducing construction waste and emissions. Their technology has been deployed in multi-billion dollar rail projects, data centers and construction sites.

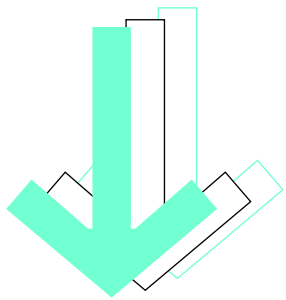
Nodes & Links recently launched a new carbon footprint capability within their platform which enables teams to directly and actionably monitor the carbon footprint of a project and plan out scenarios that will help to lower it during the project's lifecycle. Nodes & Links is currently deployed in multiple projects in both the US, UK and Australia, incl. HS2 - the biggest infrastructure project in Europe.





## Aeroseal August 2021

### Industry-Leading Duct & Air Sealing Technology



# 30-50%

Aeroseal has reduced a buildings energy consumption by 30-50%.



#### PROBLEM

HVAC systems represent nearly 50% of a building's energy consumption, with 75% of ventilation systems experiencing 10-25% leakage. Buildings consume energy and generate emissions unnecessarily to compensate for these inefficiencies which is one of the largest sources of energy loss in the US building stock.

#### SOLUTION

Aeroseal is a unique sealing technology for ventilation systems and building envelopes in residential and commercial real estate. Contractors using Aeroseal pressurize the space being treated before injecting a fog of safe, non-toxic sealant particles into them. Physics takes over from here as the pressurized air pulls sealant to the invisible, inaccessible leaks and closes them off. Software tracks the entire process, allowing contractors to dial in air tightness. See how it works [in this video](#).

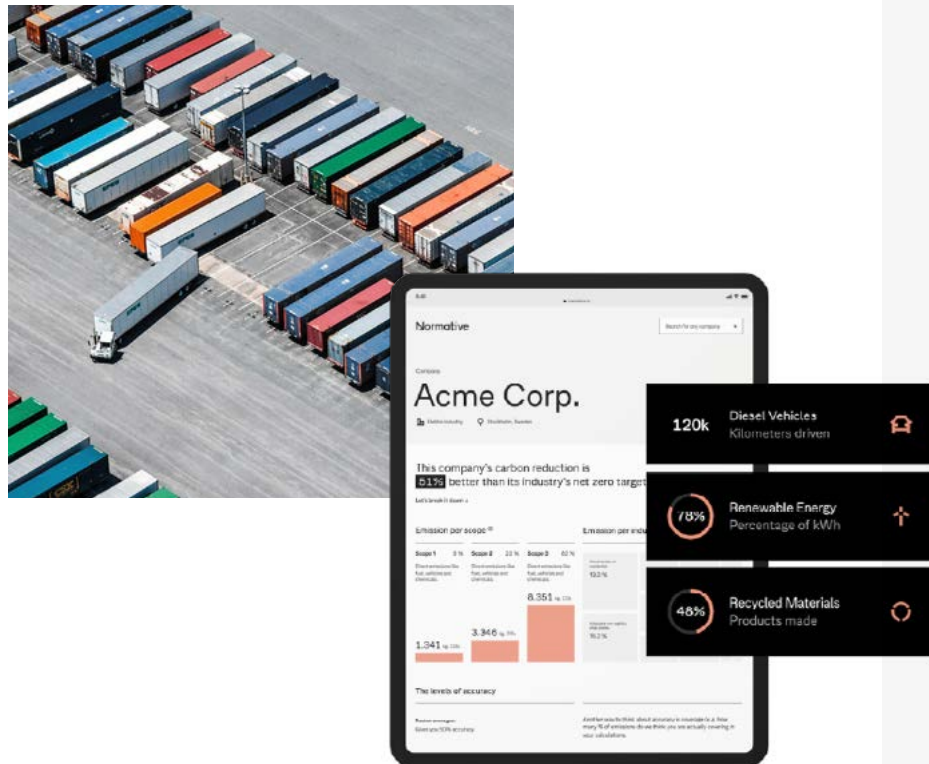
Aeroseal's technology has been used by more than 600 contractors across the globe on nearly 200,000 projects— making homes, schools, hospitals, and offices more energy-efficient.





# Normative August 2021

## Measuring the path to Net Zero



### PROBLEM

Over a third of the world's 2,000 largest companies have pledged net zero targets. Any net zero journey starts with accurate and legally compliant carbon accounting.

### SOLUTION

Normative is a leading automated software platform for calculating, accounting and reporting corporate carbon emissions from scope 1-3. Normative helps companies track and reduce emissions as well as devising and managing a strategy for driving towards net zero and removing residual emissions through high quality climate investments.

Normative is the founding software partner for the UN backed SME Climate Hub and the UK Government's COP26 program, and has recently launched a joint Business Carbon Calculator with Google.org as part of a novel value chain offering. Normative is managing over 14m tCO<sub>2</sub>e total emissions across its pan-European customer base.





## Ampd Energy September 2021

### Decarbonizing construction sites and cleaning the urban environment



#### PROBLEM

Energy used for construction emits 240 Mt CO<sub>2</sub>e / yr, relying heavily on emissions-intensive and highly polluting diesel generators. The average diesel generator used in construction emits ~70% more CO<sub>2</sub> per kWh than a coal-fired power plant (100-200 tonnes annually).

#### SOLUTION

Ampd Energy provides a solution for the construction industry through its core product, the Enertainer, which is the first energy storage system designed for major construction projects. The Enertainer incorporates battery technology with smart grid connections to efficiently, sustainably and quietly power major construction site equipment, and can fully replace diesel generators. This creates a pathway for construction to utilise renewable energy. Users benefit from Ampd's telemetry, software and data stack, which is used for asset monitoring, tracking, energy accounting, sustainability analytics and productivity analytics.

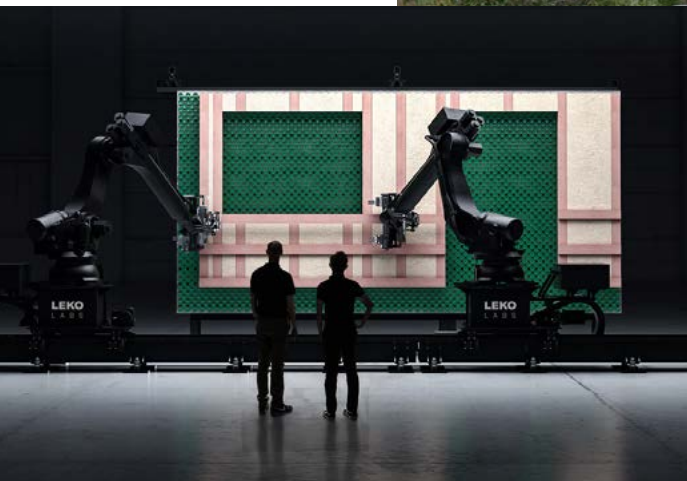
Ampd has now deployed over 100 Enertainers with major contractors and developers in Hong Kong, Singapore and Australia and are launching in Europe in the second half of 2022.





## LEKO Labs February 2022

### Low-carbon wood construction powered by AI and robotics



#### PROBLEM

Building materials and energy for construction are responsible for 4.2% of global GHGs. Much of this impact can be attributed to a reliance on concrete and steel for structural needs, and up to 25% of construction materials being wasted in modern methods.

#### SOLUTION

LEKO Labs builds with wood and replaces around 75% of the concrete/steel in buildings for frames, walls and floors. The building system combines software to translate architectural plans into a 3D model, that optimises for wood usage and thermal performance using LEKO's proprietary wood lattice structure. This enables strong fire resistance, the same structural benefits of cross-laminated timber (CLT), 50% less wood and 95% less glue usage compared to typical CLT construction, and up to 10% more floor space. Reduced glue content also makes the materials recyclable. Manufacturing is automated with robotics and compared to CLT factories, is significantly less CAPEX heavy, and also materially reduces OpEx costs/energy needs. Overall, the LEKO building system has the potential to produce carbon negative buildings over their life cycles. Through 2150's introductions Leko is now in the bidding phase for several large-scale building net-zero projects, from offices to residential communities.





## Biomason March 2022

**Harnessing biology to produce cement commercially, eliminating the need to emit CO<sub>2</sub>**



### PROBLEM

Cement accounts for 4.2% of all global GHG emissions, and 7% of anthropogenic CO<sub>2</sub> emissions, stemming from highly energy intensive cement kilns and process emissions of CO<sub>2</sub> as a byproduct. Emissions from cement are 2.5x that of the aviation industry.

### SOLUTION

Biomason makes cement in a fundamentally different way, growing cement the same way nature does, addressing the root cause of carbon emissions. Rather than burning limestone and releasing CO<sub>2</sub> like traditional cement, biocement forms through multiple patented, biological processes, with the potential to reduce cradle-to-gate carbon emissions by more than 90%. Biomason's bacteria are introduced in a mix of gravel, sand, and nutrients to convert calcium and carbonate into biocement. Biocement forms around the aggregate particles, encrusting the gravel and sand in a calcium carbonate matrix, forming concrete. H&M have deployed Biomason tiles in their Swedish headquarters and are planning to roll them out across a number of stores.



# Appendix: Definitions and Abbreviations

## ~~Climate change adaptation~~

Refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. ([UNFCCC](#))

## ~~Climate change mitigation~~

Refers to efforts to reduce or prevent emission of greenhouse gases ([UNEP](#))

## ~~Climate-related risks~~

These are risks to an organisation's businesses, operations, and physical locations related to climate change. Risks are categorised as "(1) transition risks such as policy constraints on emissions, imposition of carbon tax, water restrictions, land use restrictions or incentives, and market demand and supply shifts and (2) physical risks such as the disruption of operations or destruction of property". ([TCFD](#))

## ~~CO<sub>2</sub>e (carbon dioxide equivalent)~~

For any greenhouse gas the carbon dioxide equivalent (CO<sub>2</sub>e) is the mass of CO<sub>2</sub> which would warm the earth as much as the mass of that gas. CO<sub>2</sub>e provides a common scale for measuring the climate effects of all greenhouse gases. ([Normative](#))

## ~~EU Taxonomy~~

The EU Taxonomy for Sustainable Activities is a classification system providing companies, investors and policymakers with appropriate definitions for which economic activities can be considered environmentally sustainable. ([European Commission](#))

## ~~GHG (greenhouse gas)~~

A gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect and thereby global warming ([Normative](#))

## ~~Gigacorn~~

A company with the potential to benefit billions of people, create billions in commercial value and lower a gigatonne of greenhouse gas emissions at scale.

## ~~IPCC (Intergovernmental Panel on Climate Change)~~

The United Nations body for assessing the science related to climate change. Their seminal reports on the science of climate change, its impacts and mitigation options are foundational to global understanding and planning.

## ~~Paris Agreement~~

The Paris Agreement is an international treaty on climate change, adopted in 2015 and ratified by almost every country in the world. The Agreement commits its signatories to keep global warming to well below 2°C above pre-Industrial levels, and preferably limiting the increase to 1.5°C. ([Normative](#))

## ~~Scope 1 emissions~~

Direct GHG emissions that a company generates while performing its business activities. This includes generation of electricity, manufacture and processing of materials, waste processing, and transportation using the company's own vehicle fleet. ([Normative](#))

## ~~Scope 2 emissions~~

The indirect GHG emissions generated by the production of purchased energy. ([Normative](#))

## ~~Scope 3 emissions~~

Also known as value chain emissions, are all indirect emissions that occur in the value chain of a company and are not already included within scope 2. These emissions are a consequence of the company's business activities, but occur from sources the company does not own or control. ([Normative](#))

## ~~SFDR (Sustainable Finance Disclosure Regulation)~~

A piece of EU legislation that regulates the sustainability information that financial advisors and financial market participants must disclose. ([Normative](#))

## ~~TCFD (Task Force on Climate Related Financial Disclosures)~~

A global, independent body responsible for recommendations on the types of information that companies should disclose to support financial sector stakeholders in appropriately assessing and pricing risks related to climate change. TCFD standards are essential components of regulation across the world focused on non-financial disclosures and reporting. ([TCFD](#))



2150

2022 Impact Report

For more information  
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