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Ferd Impact Investing Impact Report 2024

A welcome note from Team Impact

Here we go again: The climate crisis has continued to escalate, and 2024 was officially the warmest year ever recorded. Last year, average surface temperatures reached about 1.6 °C above pre-industrial levels, surpassing the 1.5 °C target of the Paris Agreement for the first time[1]. Scientists warn that without urgent climate action the impacts will only intensify; more frequent heatwaves, worsening storms, rising seas, and severe threats to food, water, health, and biodiversity[2]. The urgency is clear. We need both to scale what already works, and to unlock breakthroughs where the challenge is greatest.

At the same time, the venture capital world is changing. AI and generative AI have become dominant drivers of VC funding globally, drawing attention (and capital) that might otherwise have gone to a broader set of technologies, including climate. And in the political arena, climate has become a more contested space. With the U.S. election cycle and Trump's return to power in 2025, many investors are cautious about labeling themselves as "climate" investors, wary of politicization and backlash. But the climate problem does not disappear because the narrative shifts. The emissions challenge is structural, global, and urgent.

This is precisely why staying focused on climate tech matters – which we are. And importantly, we see great potential at the intersection of climate and AI. AI can accelerate efficiency, modelling, prediction, optimization, and scaling in ways that significantly enhance climate outcomes — whether in energy grids, supply chains, sensor networks, or agriculture. But these opportunities only matter if paired with investment in physical infrastructure, hard-tech, and systemic change; areas often overlooked in favor of software or AI alone.

At Ferd Impact Investing, we remain committed to backing solutions that can drive both positive environmental outcomes and strong financial returns. We invest in climate impact funds and companies at seed, VC, and growth stages in Europe and North America. Our indirect and direct company portfolio keeps growing. It is hard to choose only five favorites for our deep-dive section in this report – we hope you enjoy reading about Battery Smart, Optoscale, Ember, Photoncycle and Metizoft. Please reach out if you want to learn more about any of our funds or companies.

With this, we are proud to present our latest annual impact report. It reflects not just what we have achieved in the past year, but also where we see the greatest opportunities — and responsibilities — in the years ahead.

Thanks for reading.

Anniken Trym Erik Kathrine

Ferd Impact Investing is one of two impact mandates in Ferd

Sustainability is a natural part of Ferd's vision and characterizes how Ferd develops as an owner, investor and social actor.

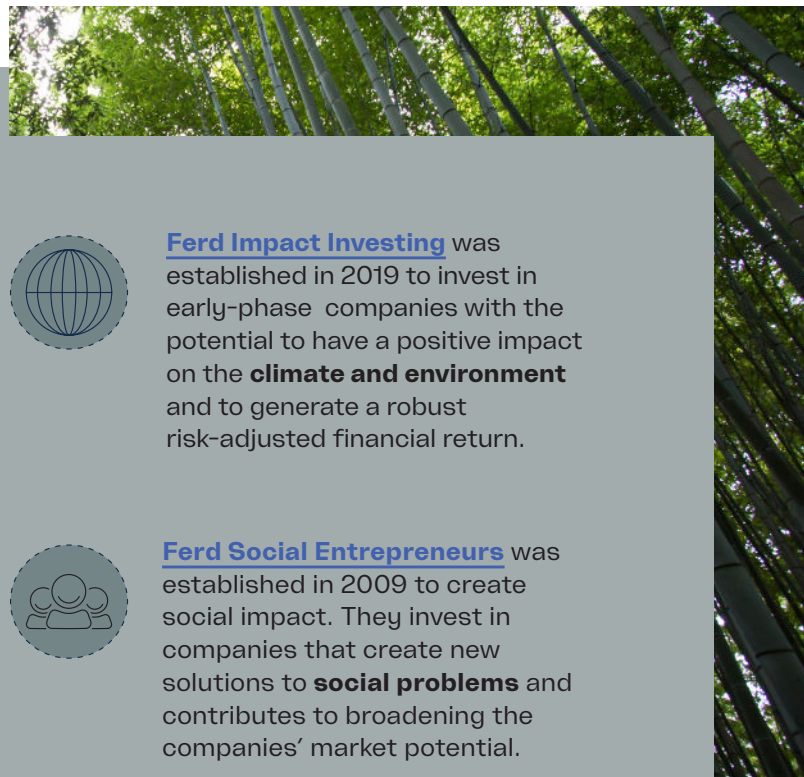
Ferd is a family-owned investment company owned by the fifth and sixth generation of the Andresen family.

Our investment company is called Ferd ('journey') because, in the true sense of the word, it represents a 'travel without an end'. The company's vision is to create enduring value and leave clear footprints. This brings the challenge of creating a return from multiple perspectives – not just from a financial perspective – and describes what all of us at Ferd strive to achieve.

Ferd's wide-ranging activities encompass active ownership and corporate development at private and listed companies, investment in financial assets, real estate development, investment via external managers, impact investing and social entrepreneurship.

Impact in Ferd

Ferd's business areas have different impact, risk and return expectations. Two out of five business areas have explicit impact mandates. It means that they have the intension to create positive, measurable social or environmental impact, alongside financial returns. These two business areas also play an important role for the rest of the company through strengthening the knowledge and attention to impact across the whole portfolio.



Ferd Impact Investing was established in 2019 to invest in early-phase companies with the potential to have a positive impact on the **climate and environment** and to generate a robust risk-adjusted financial return.

Ferd Social Entrepreneurs was established in 2009 to create social impact. They invest in companies that create new solutions to **social problems** and contributes to broadening the companies' market potential.

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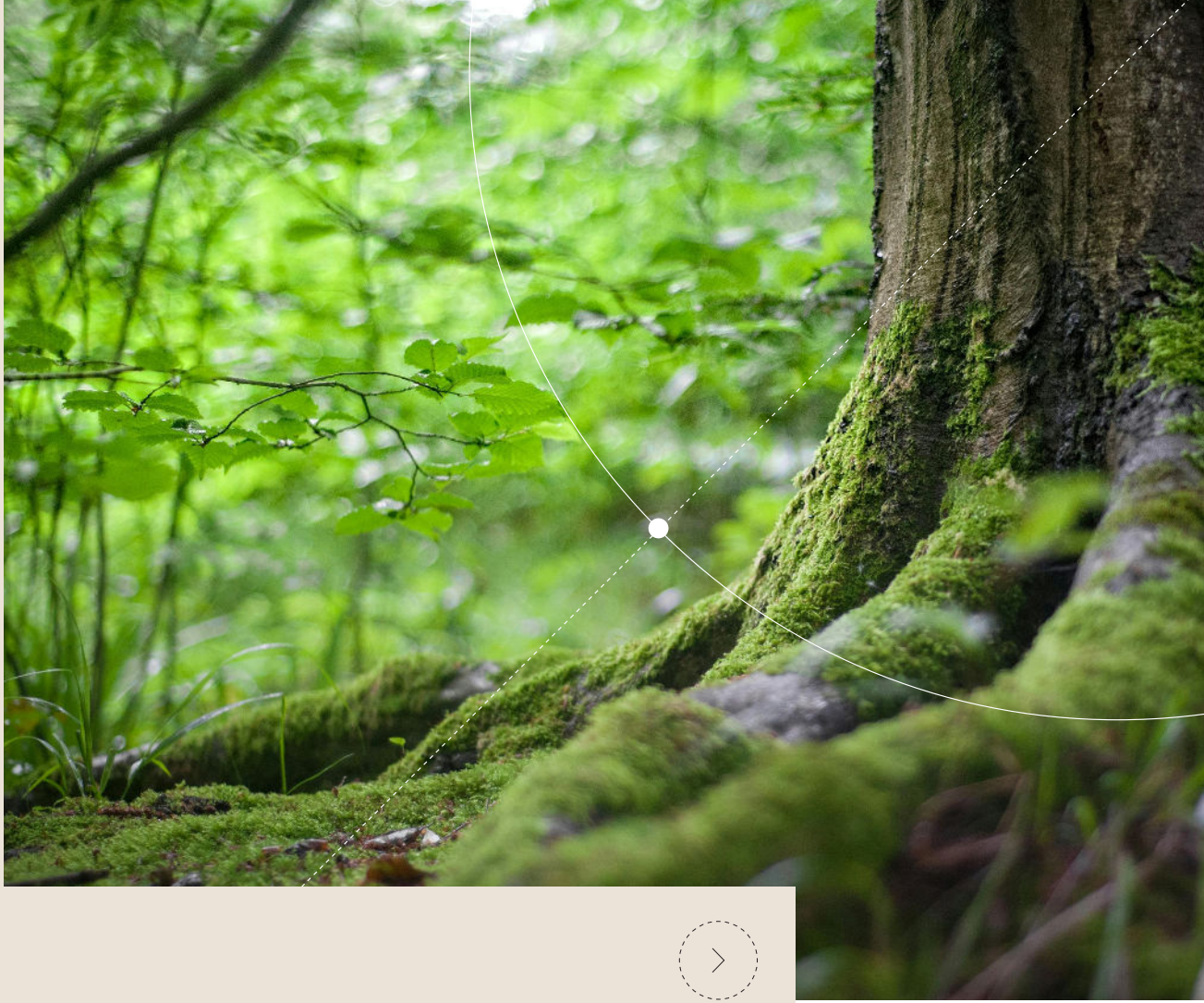

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Chapter 1: Introduction

Ferd Impact Investing in a nutshell

As of 31.12.2024

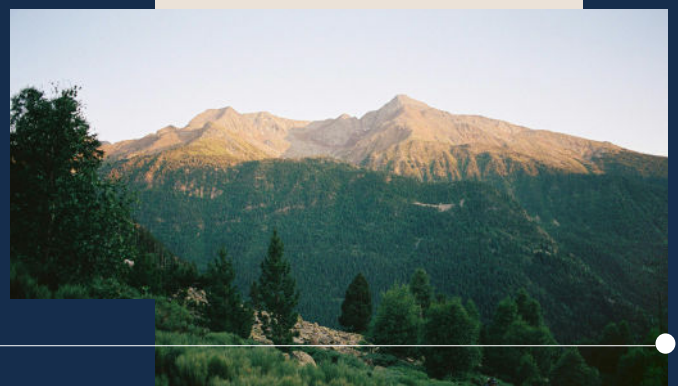
27
investments

15 funds
12 portfolio companies

Global footprint

We are directly and indirectly invested in over **170 climate companies** in **21 countries** across **6 continents**

100% of our funds
82 % of our companies
report on impact KPIs



Impact highlights

2,150k tonnes
of CO_2 equivalents abated (↑56% YoY)

4.8k tonnes
adjusted for ownership (↑49% YoY)

We have invested and committed
~1,200 MNOK

↑ **20% YoY**

Our investments mainly contribute to the following **UN Sustainable Development Goals:**

We invest across climate solutions that contributes to a net-zero future

Climate sectors*	Examples of investment areas	Global end use emissions[3] Share of emissions in %**
Industry	Sectors related to goods and raw materials that we use; e.g. sustainable cement, plastics, steel, textiles and packaging	34
Food and land use	Sectors related to nutrients and resources that give us life; e.g. alternative proteins, regenerative farming and food waste reduction	22
Built environment	Sectors related to the urban environment; e.g. building materials, heating, cooling and energy optimization	16
Transportation	Sectors related to the movement of people and goods; e.g. electric vehicles, charging, battery technology and shipping	15
Energy	Sectors related to the electrons that fuels us; e.g. solar, wind, energy storage and enabling renewables software	12
Climate management	Sectors related to management of climate risk; e.g. sustainability reporting, earth observation and climate risk platforms	n/a
Carbon	Sectors related to the avoidance and removal of carbon; e.g. carbon offset marketplaces, carbon removal technology and carbon capture and storage	n/a

Our investment scope covers venture-stage opportunities that contribute to a net-zero future, directly or indirectly. We invest in sectors with significant emissions footprints and in enabling solutions that provide intelligence, risk management, and data for climate action ("Climate Management"), as well as in carbon avoidance and removal technologies ("Carbon").

* Sector breakdown is taken from Climate Tech VC newsletter by Sightline Capital https://www.ctvc.co/
** Global emission share of both direct and indirect GHG emissions for the year 2019. Direct emissions assign emissions to the sector in which they arise. Indirect emissions refer to the reallocation of emission from electricity and heat to the sector of final use. E.g. direct emissions from Energy is 33%, but 47% of this relates to the electricity and heat for the built environment.

We have a growing portfolio of funds tackling the climate crisis

Fund manager	Fund	Phase	About	Office
Antler	Nordic Fund II	Pre-seed	Antler Nordics is the Nordic part of Antler, the world's largest early-stage investment platform. Invests in pre-seed/early-stage fast-growing Nordic tech startups with focus on impact and 'planet positive' companies.	
Startuplab	Fund II, III, IV, V*	Pre-seed	Startuplab is an incubator and early-stage investor for Norway's most ambitious technology startups.	
Pale Blue Dot	Fund I, II	Pre-seed Seed	Invests in seed-stage climate tech startups that reduce and reverse the climate crisis and help us prepare for a new world.	
Collab	Fund VI*	Pre-seed Seed	Collab is an experienced fund manager with a mission to identify and support companies that live at the intersection of for-profit & for-good.	
Momentum	Fund II, III**	Seed Series A	Momentum is a Bergen-based venture fund that invests in sustainable, innovative and ambitious companies in an early growth phase.	
Voyager Ventures	Fund II*	Seed Series A	Voyager backs startups developing scalable solutions for deep decarbonization across energy, industry, transportation, and the built environment.	
2150	Fund I	Venture	2150 is a venture capital firm investing in technology companies that seek to sustainably reimagine and reshape the urban environment and enable a sustainable and scalable future of mass urbanization.	
SWEN	Blue Ocean Fund I	Venture	Swen Blue Ocean is an impact fund investing in innovations that help regenerate ocean health, hence contributing to achieving SDG14.	
ArcTern	Fund III	Venture	ArcTern Ventures invests globally in earth-tech companies: technology companies solving climate change and sustainability related issues.	
Ecosystem Integrity Fund	Fund IV, V*	Venture	Ecosystem Integrity Fund is an early growth stage investor in companies contributing to environmental sustainability within renewable energy, energy transition, waste reduction and transport.	
Arkwright X	Partnership	Seed	Arkwright X Investment Family (AXIF) is an Oslo-based club-deal structure. AXIF invests in early-stage B2B tech companies with attractive business models and the potential to positively impact on the UN SDGs.	
Dovetail	Partnership	Venture	Dovetail is an investment company that focuses on tech-enabled products and services.	

*New investment in 2024
** New investment in Q1 2025

Our portfolio companies are mainly co-investments with our fund managers

Portfolio company	Co-invested with	Phase	About	Office
Kvist	Arkwright	Seed	Kvist Solutions develops a software platform to enable environmental certification of buildings. Their goal is to make it easier and more efficient to build sustainable and environmentally friendly, facilitating more ambitious sustainability targets.	
Ditio	Dovetail	Venture	Ditio provides tools to capture essential data insight within the civil construction industry, including time and resource tracking, QA documentation and mass haul operations.	
Shoreline	EIF	Venture	Shoreline is a Stavanger-headquartered SaaS company for the wind industry. The company provides intelligent simulation and optimization solutions for project development and field operations management for wind energy assets.	
360 Logistics	Dovetail	Venture	360 Logistics is a third-party logistics provider focusing on efficient and sustainable last-mile delivery.	
Ignite	Arkwright	Venture	Ignite provides solutions for every aspect of strategic procurement. Embedded in the system is an easy way of collecting qualitative information about sustainability, certifications and performance from suppliers.	
Propely*	Arkwright	Venture	Propely specializes in digital property management solutions, streamlining communication between landlords, tenants, and service providers, enhancing operational efficiency and tenant satisfaction.	
Nofence	Momentum	Growth	Nofence is the world's first virtual fencing system for grazing animals and ensures better utilization of pastures, which enables regenerative agricultural practices ultimately improving soil carbon, rainfall infiltration and soil fertility.	
Metizoft	Dovetail	Growth	Metizoft provides software platforms and services promoting sustainable and responsible operations on ships all over the world.	
Wind Catching	Direct investment	Venture	Wind Catching Systems develops a disruptive concept for offshore floating wind energy, with a potential to produce green electricity at a significantly lower cost (LCOE) than other floating wind technologies and in a smaller area.	
Disruptive Technologies	Direct investment	Growth	Disruptive Technologies develops wireless sensors and IoT infrastructure making buildings intelligent and sustainable.	
Brim	Direct investment	Growth	Brim Explorer designs and operates electric and hybrid electric ships along the Norwegian coast and in Oslo. They offer unique and sustainable experiences to their passengers with their innovative design with minimal impact on climate and the environment.	
Antler	Direct investment	Growth	Antler is the world's largest early-stage investment platform, investing in skilled and visionary people worldwide. Antler's portfolio companies solve genuine challenges and create sustainable value that makes the world a better place.	

* New investment in 2024

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Chapter 2: Our impact approach

Impact ≠ ESG

We see ESG and Impact as two distinct terms and focus areas when investing.

ESG focuses on the operational side of a company. Evaluating ESG during a due diligence involves understanding a company's environmental, social and governance risks and practices.

Impact is a change in an outcome caused by a company's products and/or services. To be regarded as an impact company, there must be an intention to generate positive, measurable environmental contribution alongside financial return*.

There are two pathways to impact and we invest in both

Direct impact

Impact is created as a direct consequence of engaging with a product or service.

Example: Wind Catching Systems develops a disruptive concept for offshore floating wind energy, with a potential to produce green electricity at a significantly lower cost (LCOE) than other floating wind technologies.

Indirect or enabling impact

Impact is enabled further down the value chain, often with a time lag. It can be an enabling technology that creates conditions for other technologies, sectors or industries to reach impact at greater scale.

Example: Shoreline, our co-investment with Ecosystem Integrity Fund, provides intelligent simulation and optimization solutions for project development and field operations management for wind energy assets. Thereby it is an enabler for more efficient deployment of renewable energy.

* Definitions according to Impact VC, established in 2023 by VCs backing startups that are building a better world for people and planet. It consists of over 160 community members from 120 top-tier VCs, including our fund managers 2150 and Antler. https://www.impactvc.co/

We use our impact lenses throughout the investment cycle

Investment strategy

We identify funds and companies with a significant climate impact potential.

To identify opportunities, we stay up to date through newsletters and research. We attend climate-related events and prioritize introductory meetings with both emerging and established fund managers.

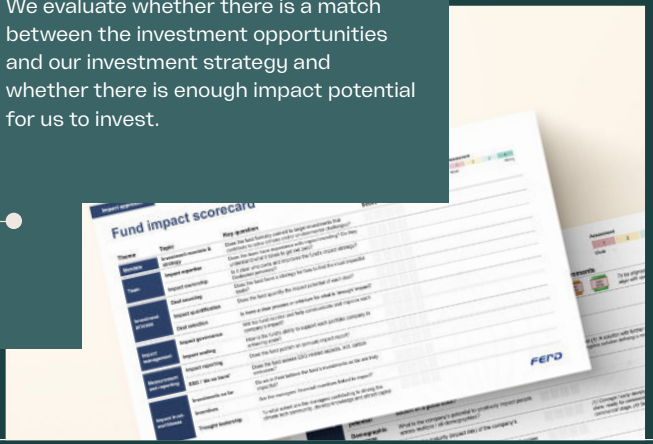
We are continuously striving to be an active impact investor, in order to gain access to attractive investment opportunities.

Screening and due dilligence

Impact is one of our key investment criteria when we screen investment opportunities and perform our due diligence.

For funds and companies, respectively, we have developed impact scorecards, inspired by approaches used by other renowned impact investors and internationally recognised frameworks.

We evaluate whether there is a match between the investment opportunities and our investment strategy and whether there is enough impact potential for us to invest.



Ownership and reporting

The level of reporting among funds and companies in the portfolio varies, and for those that have a less mature approach to impact reporting, we encourage and assist in the further development of this.

We aggregate and summarize results from the portfolio in our annual impact report, which was published for the first time in 2022.

Since 2023 we also report on carbon emissions across the portfolio.

We do not require our investments to be SFDR Article 9 compliant as we acknowledge that the reporting requirements are tough especially for early-stage companies*.

*Sustainable Finance Disclosure Regulation ("SFDR"). An Article 9 Fund under SFDR is defined as "a Fund that has sustainable investment as its objective or a reduction in carbon emissions as its objective." There are certain reporting barriers to be Article 9 compliant making it especially difficult for early-stage funds

How do we assess impact?

Like many of our friends in the VC ecosystem we believe in transparency and sharing. We therefore openly share our scorecards for assessing the impact of both funds and companies. Impact is one of several assessment criteria when investing, and we use these impact scorecards to assess whether an investment opportunity have «enough» impact for us to invest.

We have been inspired by among others Impact Frontiers and Carbon Equity when developing these – while adding a bit of Ferd flare to it.

The foundation of our scorecards are in line the five dimensions of impact defined by Impact Frontiers[4] (formerly Impact Management Project), in identifying the positive and negative impacts that an enterprise has on people and the planet*.

We continuously improve these scorecards to reflect the ever-changing landscape we are operating in. For example, we recently incorporated ESG further in our scorecards – whether the fund and companies have sufficient ESG Policies in place and whether potential negative harm is evaluated.

Impact approach

Fund impact scorecard

Assessment: 1 Weak, 2, 3, 4 Strong

Theme	Topic	Key question	Score	Comment
Mandate	Investment mandate & strategy	Does the fund formally commit to target investments that contribute to solve climate and/or environmental challenges?		
Team	Impact expertise	Does the team have experience with impact investing? Do they understand what it takes to get net zero?		
	Impact ownership	Is it clear who owns and improves the fund's impact strategy? Dedicated person(s)?		
Investment process	Deal sourcing	Does the fund have a strategy for how to find the most impactful deals?		
	Impact quantification	Does the fund quantify the impact potential of each deal?		
	Deal selection	Is there a clear process or criterium for what is 'enough' impact?		
Impact management	Impact governance	Will the fund monitor and help communicate and improve each company's impact?		
	Impact scaling	How is the fund's ability to support each portfolio company in achieving scale?		
Measurement and reporting	Impact reporting	Does the fund publish an (annual) impact report?		
	ESG / 'do no harm'	Does the fund assess ESG related aspects, incl. carbon emissions?		
Impact trust-worthiness	Investments so far	Do we in Ferd believe the fund's investments so far are truly impactful?		
	Incentives	Are the managers' financial incentives linked to impact?		
	Thought leadership	To what extent are the managers contributing to driving the climate tech community, develop knowledge and attract capital		

Impact approach

Company impact scorecard

Assessment: 1 Weak, 2, 3, 4 Strong

Theme	Topic	Question	Score	Comments
SDGs	UN SDG	How does the company align with UN SDGs (max 3)?		Insert SDGs Insert SDGs *To be aligned with an SDG it must be align with specific sub targets*
	IPCC	How does the company align with the sectors having most potential for CO2 reduction by 2030 according to the UN?		
Impact potential and scalability	Size of problem solved	To what extent does the company solve a significant share of a big environmental problem?		
	Degree of innovation	How would you consider the degree of innovation of the company's solution?		*From (1) 'A solution with further improvement potential' to (4) 'A disruptive solution defining a new sector in its' industry'*
	Global potential	What is the company's potential to commercialize its solution on a global scale?		
	Demographic coverage	What is the company's potential to positively impact people across multiple / all demographies?		
Impact risk	Impact maturity	What is the maturity (impact risk) of the company's solution?		*(1) Concept / early development stage, (2) Development (almost) done, ready for commercialization, (3) Product for sale, early commercial stage, (4) Selling proven product, in several countries*
	ESG risk	What is the level of the company's maturity when it comes to ESG ('do no harm')		
Impact KPIs	Relevance	To what extent is the company able to quantify and measure the impact created?		
	Development	How has the impact KPI development been?		

*Impact Frontiers defines five dimensions of impact. For us Alignment with frameworks=WHAT; Impact Potential and Scalability=WHO and CONTRIBUTION; Impact KPIs = HOW MUCH; Impact risk=RISK

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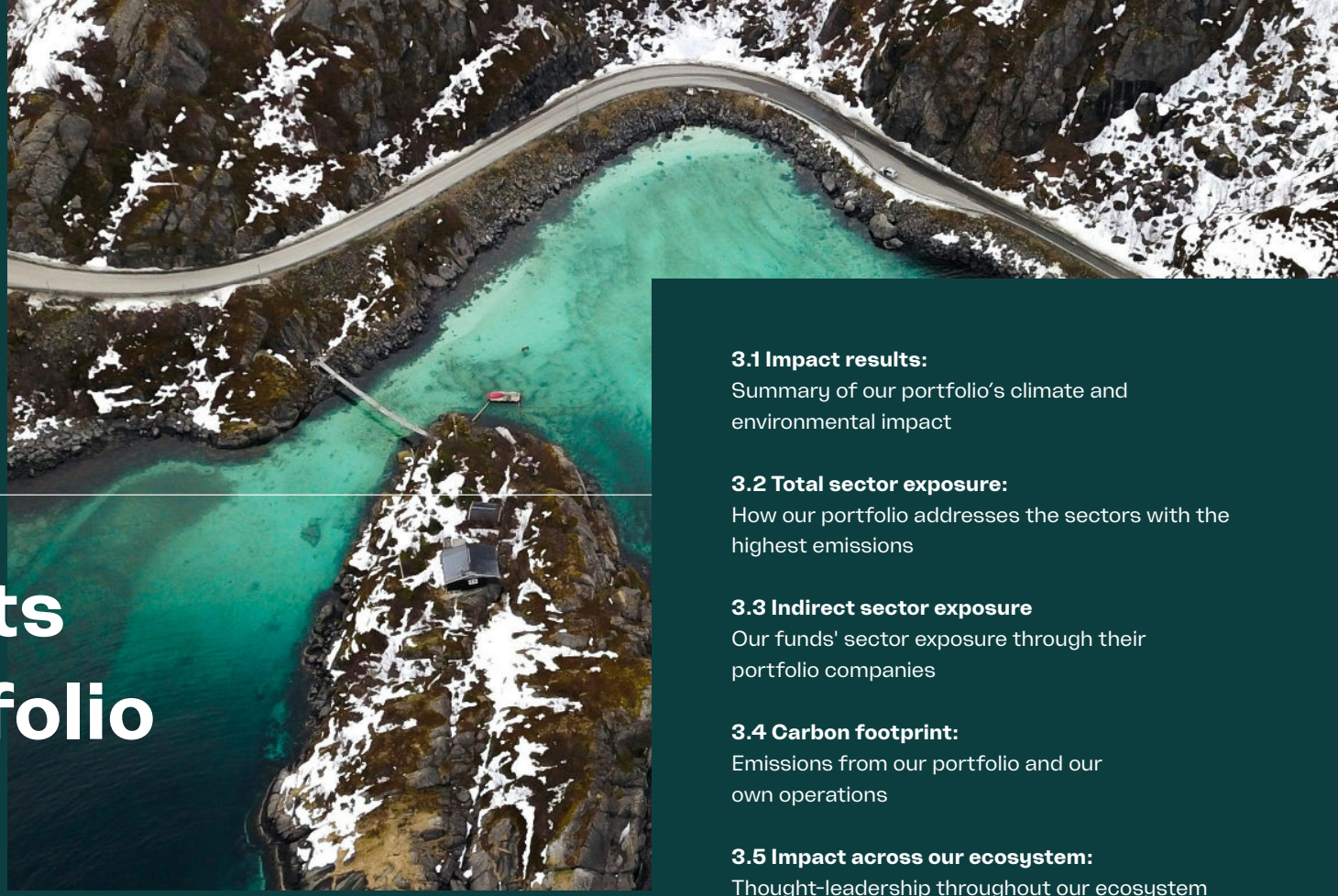


Chapter 3: Impact highlights across our portfolio

3.1 Impact results:
Summary of our portfolio's climate and environmental impact

3.2 Total sector exposure:
How our portfolio addresses the sectors with the highest emissions

3.3 Indirect sector exposure
Our funds' sector exposure through their portfolio companies

3.4 Carbon footprint:
Emissions from our portfolio and our own operations

3.5 Impact across our ecosystem:
Thought-leadership throughout our ecosystem

Aggregated positive portfolio impact

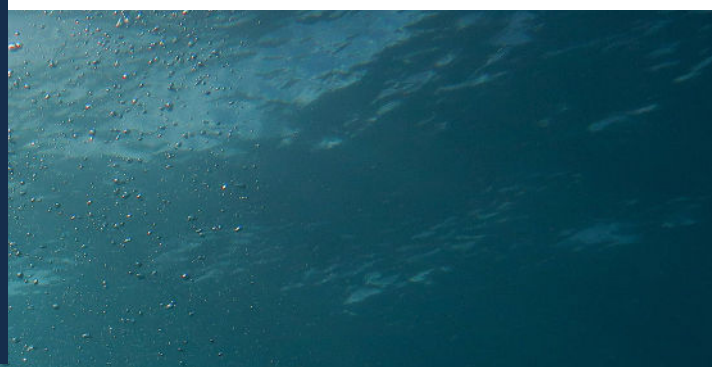
2,150k tonnes CO_2e abated* ↑56% YoY

equivalent to 460,000 fossil cars removed from the roads[5]

Ownership adjusted

4.8k tonnes CO_2e
↑49% YoY

100% of our funds
82% of our companies
report on climate impact



Other positive results from our portfolio**

2.0k tonnes
reduction in waste
↑**61% YoY**

19,000 km²
grazed with Nofence collars
↑**54% YoY**

~2.500
red listed species detected
↑**5x YoY**

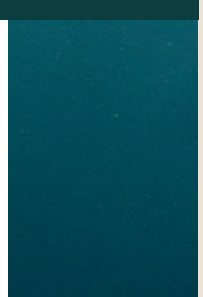
2.3 tonnes
biomass preserved or restored
↓**23% YoY**

100 live
projects
on platform
↑**43% YoY**

20 GW
constructed wind projects
in software
↑**38% YoY**

39 tonnes
of plastic diverted from
landfill or nature
↑**39% YoY**

157,000
guests have experienced the fjords and Arctic wildlife in a sustainable way
↑**74% YoY**



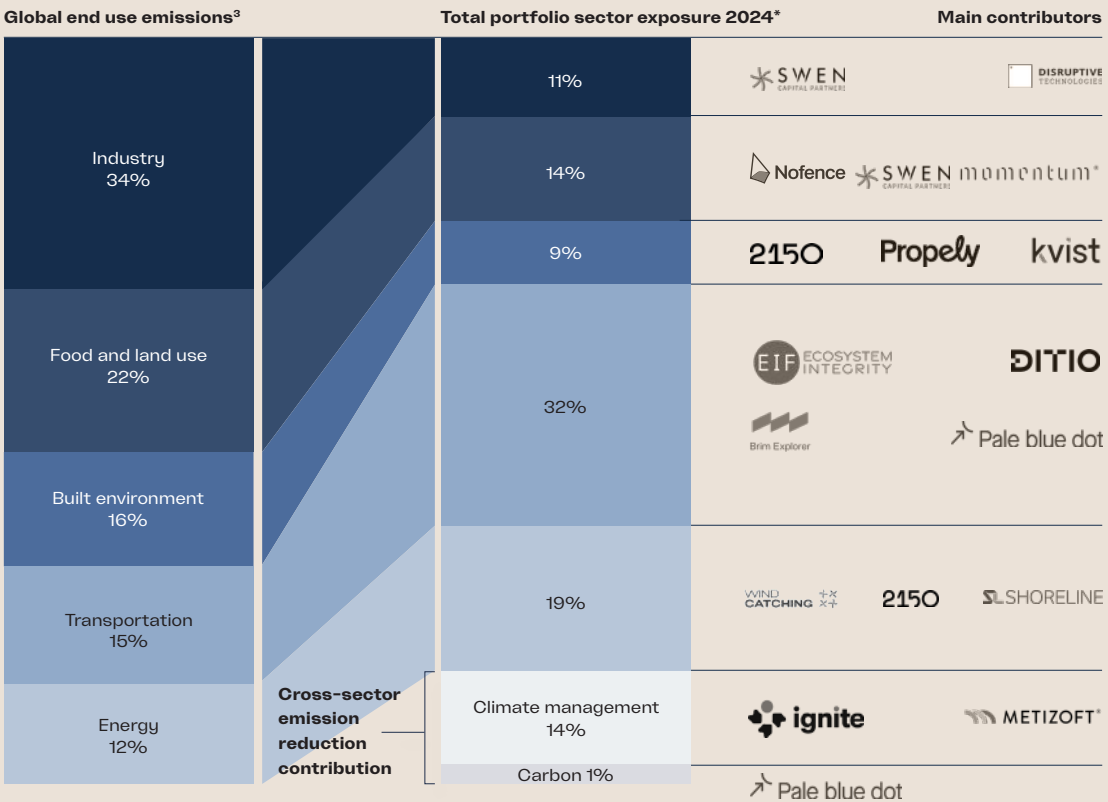
*Actual avoided or removed CO_2e across the portfolio. Avoided emissions are estimates of the positive emissions impact of a product (good or service), relative to the situation where that product does not exist
**Not adjusted for percentage ownership

We have investments across all the major climate sectors

- The graph to the right includes all of our investments, both the direct company investments and our funds' portfolio companies.
- We track our portfolio's sector exposure, looking at the match (and mismatch) between the sources of global emissions and our portfolio.
- Most of our fund managers invest across several categories – in the graph to the right we have placed them in their largest categories.

PwC highlights[6] that a typical climate-tech portfolio tends to overallocate to transportation and energy while underinvesting in industry. Our portfolio broadly reflects this pattern: transportation and energy are overrepresented, while industry remains underweight despite its large share of global emissions.

The sector imbalance is partly structural—transport and energy solutions are often more scalable, venture-ready, and policy-supported than industrial decarbonization, which requires deeper infrastructure shifts and longer commercialization cycles.

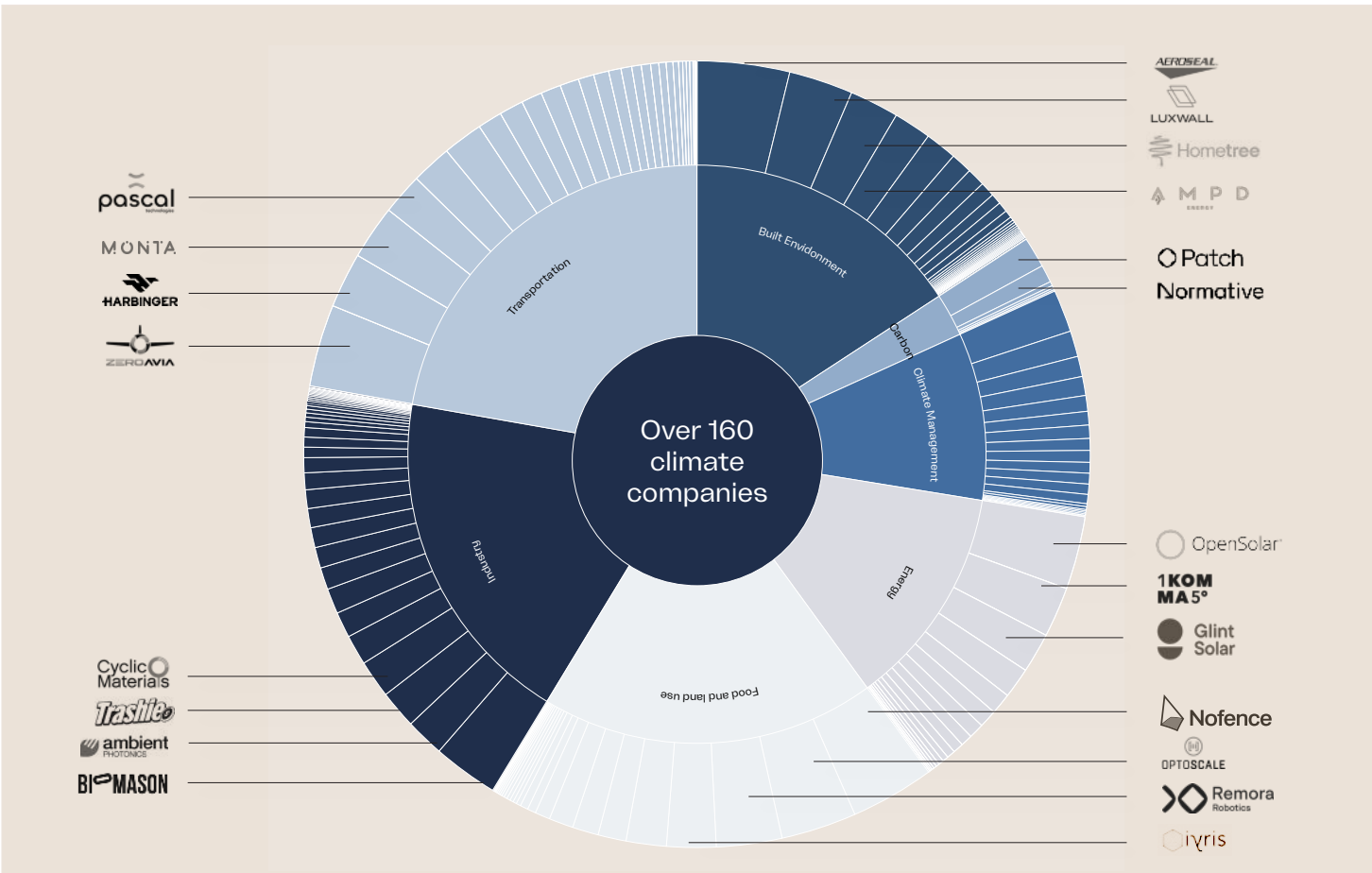


*See sector overview on page 7

Through our fund investments we contribute to the scaling of over 160 climate solutions

- With an increasing number of funds our portfolio of indirect companies grows larger by the quarter.
- Our indirect portfolio is diversified, counting over 160 companies mainly across Europe and North America.
- Some companies have scaled impressively since our funds invested – both their financials and their impact – and we present some of them in the case studies further back in this report.

The 10 largest companies represent ~30% of our indirect portfolio value, down from 35% last year, as our fund managers remain in investment mode, expanding the number of companies. Over time, we expect concentration to rise as the funds' big winners emerge and come to represent a disproportionately larger share of portfolio value.



Carbon footprint

The portfolio footprint decreased by 34% from 2023 to 2024, primarily due to a reduction in the share of portfolio companies reporting emissions—from 96% to 90%. Adjusted for this change, the overall portfolio footprint remained broadly unchanged year-on-year. The recent EU Omnibus proposal amending the CSRD rules, which exempts around 80% of companies from its scope, has reduced the number of companies required to report emissions and thereby directly impact our portfolio coverage.

Our own operational footprint increased significantly from 2023 to 2024, mainly due to updated carbon accounting principles that reallocated a larger share of emissions to our internal operations, as well as our team increased in size.

*Includes operational emissions from 90% of companies and funds in portfolio as of 31 Dec 24. It also includes Scope 3 Category 15 financed emissions from 6 funds in portfolio, i.e. portfolio companies' emissions. Note that we do not require funds to report on their portfolio companies' emissions.

**Operational footprint for the Ferd Impact Investing team excludes Scope 3 Category 15 financed emissions. Calculations made in our portfolio company Ignite's carbon accoutning module.

Portfolio footprint 2024*

Total emitted (tonnes CO_2e): **6,227** ↓ 34% YoY

Ownership adjusted: 1,166

Scope 1: **28%**

Scope 2: **1%**

Scope 3: **71%**

Share of portfolio reporting:

90%

Total portfolio footprint is equivalent to

21,200 round trips Oslo-London[7]

Our own operational footprint 2024**

Total emitted (tonnes CO_2e): **94.9** ↑ 340% YoY

Scope 2: **23%**

Scope 3: **77%**

Scope 3 emissions:

- Purchased goods and services **(83%)**
- Business travel **(17%)**
- Other **(<1%)**

CO_2 intensity per employee:

23.7

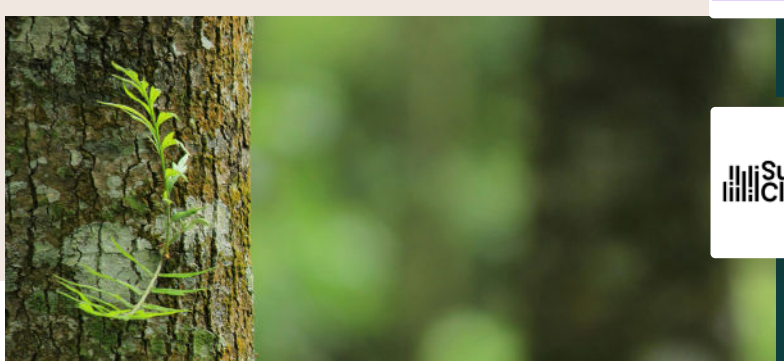
↑ 158% YoY

Operational footprint is equivalent to

325 round trips Oslo-London[7]

Impact across our ecosystem

Many of our fund managers provide impact beyond the realized results of their portfolio companies. Through being thought-leaders, sharing knowledge and community building, we believe they can contribute to more capital being invested in solving the climate crisis.



To accelerate PE & VC finance in climate and sustainability, our fund manager 2150 co-founded Climate50 that develops an annual list recognizing the most impactful global climate investors.

Our fund managers are thought-leaders in the impact space and openly share their climate research and insights, including 2150, Pale Blue Dot, Voyager Ventures and Collaborative Fund.

2150 and Antler are supporters of Impact VC, established in 2023 by VCs backing startups that are building a better world for people and planet. The goal is to accelerate impact within venture and provides the community and resources to do this.

Pale Blue Dot has co-created the Drop. It is Europe's leading Climate Tech event, designed for people who want to meet and learn from the founders, investors and climate experts who are driving solutions to the climate crisis forward.

The Venture Climate Alliance is made up of a growing group of leading VCs committed to achieving a rapid, global transition to net zero or negative greenhouse gas emissions by 2050 or earlier. Our fund managers 2150, ArcTern Ventures and Collaborative Fund are members of the organization.

The Startuplab Summit is the leading climate and energy tech startup showcase in the Nordics, organized by our fund manager Startuplab, Norway's largest tech incubator and most active early-stage investor.

Super Climate was founded in 2021 with the mission to address the underrepresentation of climate-aligned investments. It is a community-driven initiative crafted by VCs, for VCs, with a simple goal: to cultivate collaboration, forge connections between GPs and LPs, and drive meaningful impact in the world. Many of our fund managers are co-hosts of the Super Climate events.

SWEN Blue Ocean has contributed to the development of the Ocean Impact Navigator, developed by 1000 Ocean Startups. It is an open-source impact KPI framework, designed to simplify, harmonize and strengthen impact measurement and reporting for the Ocean Impact Innovation ecosystem.

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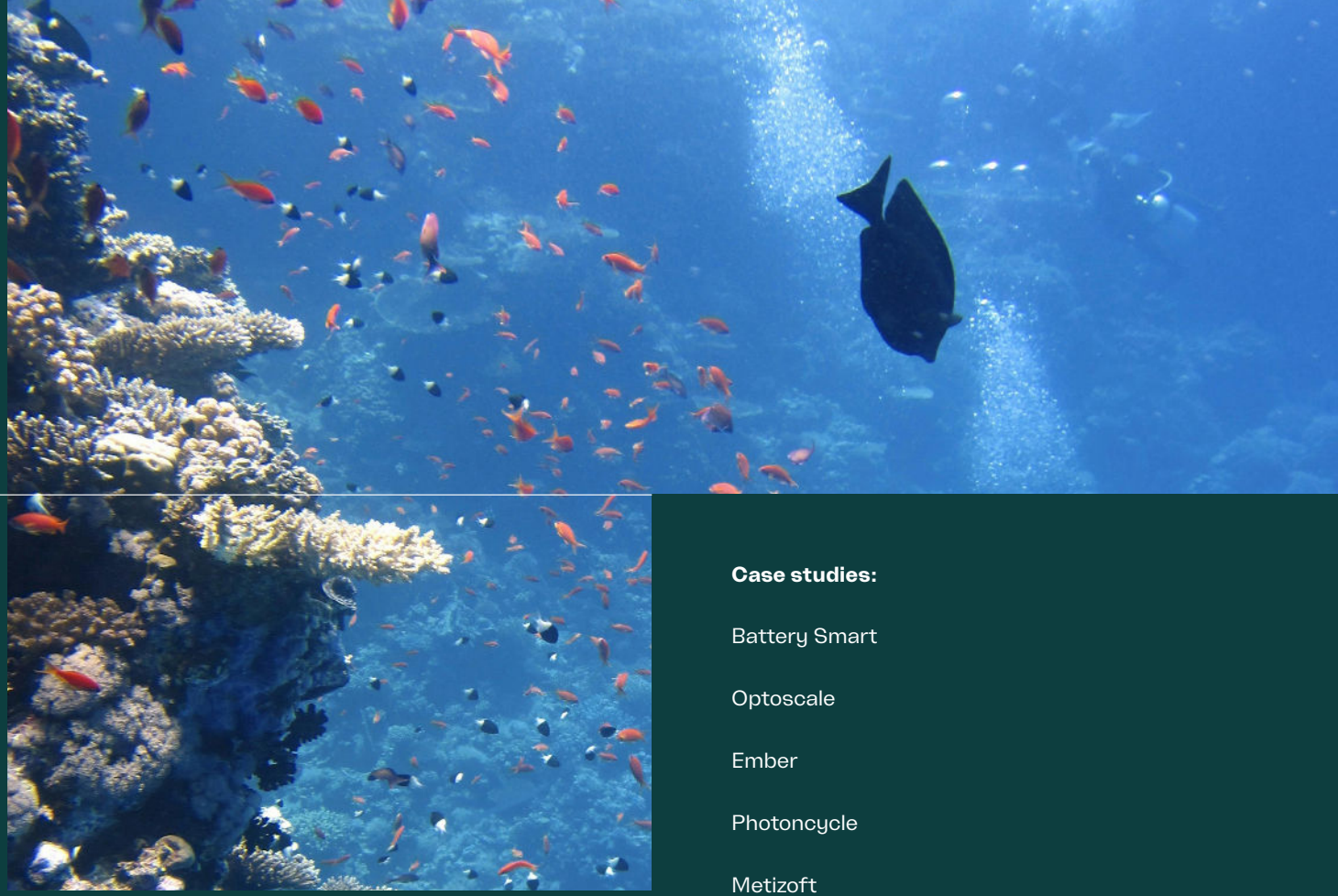
Chapter 4: Selected case studies



Case studies:

Battery Smart

Optoscale

Ember

Photoncycle

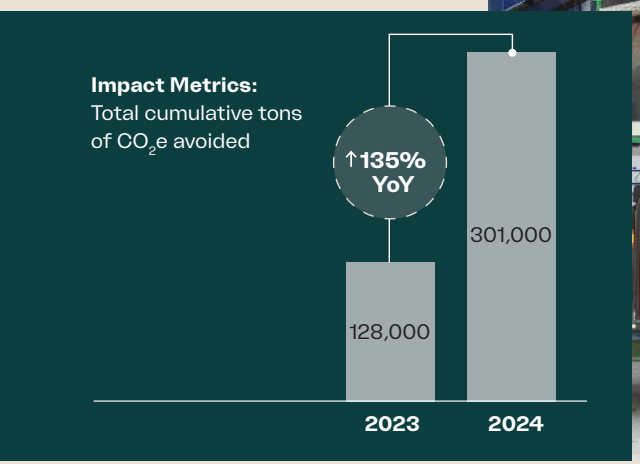
Metizoft

Portfolio company of Ecosystem Integrity Fund

Delhi, India

https://www.batterysmart.in

Impact Metrics:
Total cumulative tons of CO_2e avoided



Problem

- Road transport in India accounts for ~12-14% of the country's energy-related CO_2 emissions, with road vehicles responsible for about 90% of all transportation emissions[8].
- Electric two- and three-wheel vehicles (such as e-rickshaws) are a vital part of last-mile mobility in India, particularly for low-income drivers, but face high barriers: batteries are expensive (often 30-50% of vehicle cost), charging times are long, and many use lead-acid batteries which need frequent replacement.

Solution

- Battery Smart provides a battery-swapping network / Battery-as-a-Service for electric two- and three-wheelers: drivers lease batteries instead of buying them, swap in charged units within minutes, and local shop partners run swap stations to reduce cost and improve access.

Intended impact

- Reduce emissions by accelerating EV adoption in last-mile & informal transport sectors.
- Lower upfront cost and minimize down-time leads to higher driver earnings. Battery Smart claims income increases of ~ 50-75% for drivers switching to their service.

Sector contribution

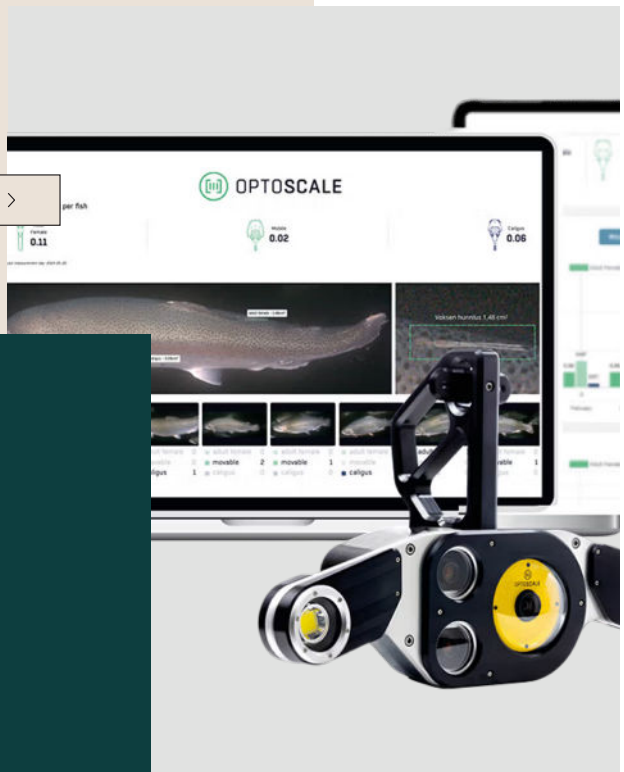
Transport

OPTOSCALE

Portfolio company of Swen Blue Ocean

Trondheim, Norway

https://optoscale.no



Impact Metrics:
Total tons of CO_2e avoided

2024
11,000

Problem

- Sea lice pose a serious threat to farmed salmon by feeding on their skin, mucus, and blood, leading to wounds, stress, stunted growth, and increased vulnerability to disease and death.
- While treatments are essential to prevent lice levels from becoming harmful, they can also damage the fish and are linked to 29% of aquaculture mortality. Striking the right balance between controlling lice and minimizing treatments is challenging.

Solution

- OptoScale provides accurate and real time fish biomass and health measurement, thanks to cameras powered by computer vision.
- The innovation helps optimize feed and therefore reduce i) pollution from excess feed and ii) the use of wild fish tin aquaculture feed. It also addresses pollution from antibiotics and mortality, while delivering major productivity gains.

Intended impact

- OptoScale's solution is key to precision aquaculture, addressing major sustainability issues: pollution from excess feeding, overfishing for fishmeal and fish oil, disease transmission to wild populations and carbon footprint of farms.
- With real-time monitoring of fish size, farmers can adjust the quantity of feed, while fish health monitoring and sea lice detection allows them to treat diseases early and reduce the number of harmful sea lice treatments leading to lower mortality.

Sector contribution

Food and land use

Portfolio company of 2150 and Pale blue dot

Edinburgh, United Kingdom

https://www.ember.to/

Impact Metrics:
Total tons of CO_2e avoided

2024
2,200

Problem

- Electrifying intercity buses faces significant challenges due to longer distances, higher speeds, and the need for multiple daily charges, unlike intercity (urban) buses that operate shorter routes with centralized depots. Incumbent operators struggle with the transition period of a mixed diesel and electric fleet, the lack of appropriately located fast-charging infrastructure, and difficulties convincing third-party operators to invest in electric buses, leading to slow adoption and underutilized charging points.

Solution

- Ember's fully integrated model, which combines ownership of vehicles, charging infrastructure, and software, can decarbonize intercity travel. This approach also delivers improved operational efficiency and unit economics, as well as excellent customer service. The company has launched its first routes in Scotland, connecting Dundee, Glasgow, Fort William, and Edinburgh, as well as the less connected villages and towns along these corridors.

Intended impact

- Ember accelerates decarbonization of our transportation system, the largest source of man-made emissions.
- Ember uses 100% renewable energy to achieve extremely low lifecycle emissions per kilometer.

Sector contribution

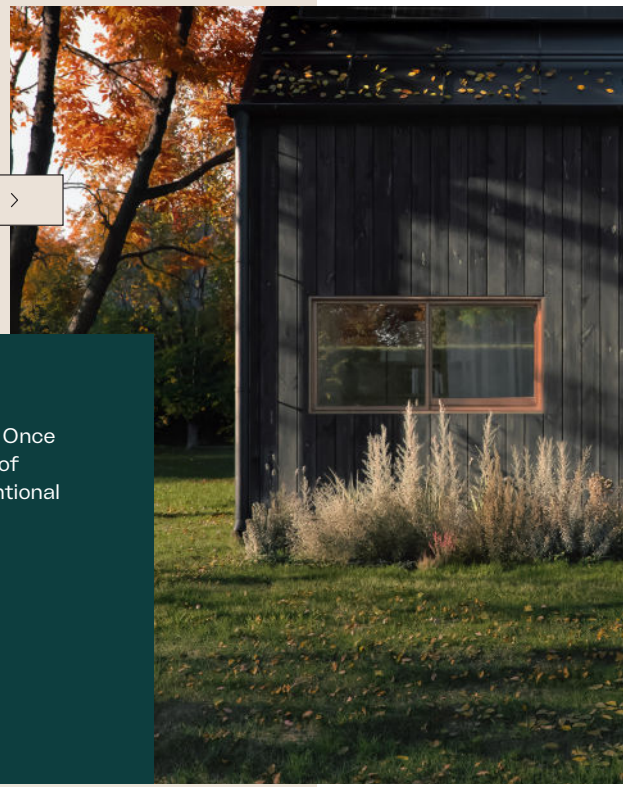
Transport

Photoncycle

Portfolio company of Momentum and Startuplab

Oslo, Norway

https://www.photoncycle.com/en/



Impact Metrics:
Photoncycle's product is being piloted. Once operational, they will measure number of tons CO_2e avoided compared to conventional electricity (grid) and heating (gas)

Problem

- Solar PV systems generate a surplus of electricity in summer when demand is low, and there is insufficient capacity or means to store enough for the darker, high-demand winter months — this causes reliance on fossil fuel backups or grid imports during cold seasons.
- Existing storage solutions (like standard Li-ion batteries) are expensive, low in energy density, or not feasible for seasonal storage (i.e. storing summer's excess for winter).

Solution

- Photoncycle offers a home system combining:
  - Solar panels (or tiles) to capture summer solar energy.
  - A solid-state hydrogen storage unit underground (~ 10,000 kWh capacity) to store energy long-term.
  - An energy processing unit that converts surplus electricity + water into hydrogen in summer, and in winter uses a fuel cell + heat pump to convert stored hydrogen back into electricity & heat.

Intended impact

- Enable households to rely on 100% renewable energy year-round, reducing fossil-fuel use for heating/electricity in cold seasons.
- Lower energy bills by capturing free summer surplus, avoiding high winter electricity or heating costs, and by earning from surplus energy trading.
- Contribute to grid stability by smoothing supply/demand across seasons, reducing peak demand stress and reliance on fossil backup.

Sector contribution

Energy

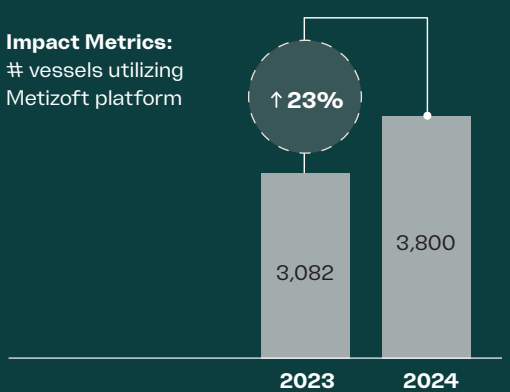
METIZOFT®

Co-invested with Dovetail

Fosnavåg, Norway

https://metizoft.com/

Impact Metrics:
vessels utilizing Metizoft platform



Problem

- The maritime sector accounts for ~3% of the world's global emissions[9]. Shipping companies lack systems and structured processes to measure impact, define decarbonization strategies and ensure compliance to environmental and safety regulations.

Solution

- Through its services and software solutions, Metizoft enables shipyards, ship owners and maritime suppliers to run their operations responsibly, and stay compliant with both reporting and operational standards. By automating cumbersome data collection and reporting processes, Metizoft's IHM software (Inventory of Hazardous Materials) and ESG platform simplify compliance and enable customers to take efficient operational actions to minimize their impact throughout a vessel's lifecycle.

Intended impact

- Enable maritime companies to measure scope 1-3 CO_2 emissions.
- Increase transparency and supplier risk in the supply chain.
- Reduce demand for raw materials in new ship building, by enabling circularity and recycling of parts and equipment.

Sector contribution

Transport

Sources

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Thank you for reading!

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