



# IMPACT REPORT 2023

“Our approach to sustainability of human beings and the environment”

Icos Capital

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Accelerate Sustainability by Investing in a Portfolio of Breakthrough Technologies that Reduce 1 Gt CO<sub>2</sub>e Emissions by 2050

"It has been clear for decades that the Earth's climate is changing, and the role of human influence on the climate system is undisputed," said Masson-Delmotte, IPCC, August 2024. The year 2023 is marked as the 12th consecutive year that CO<sub>2</sub> levels have risen by more than 2 ppm annually. The International Energy Agency (IEA) reports that in 2023, the global average atmospheric carbon dioxide reached a record high of 419.3 parts per million (ppm), an increase of 2.8 ppm from the previous year. Such findings indicate that global carbon emissions are continuing to rise. If this trend continues achieving the climate goals set by global institutions such as the Paris Agreement, and the United Nations Sustainable Development Goals, to reach climate neutrality by 2050 would be nearly impossible.

substantial. For example, 'In energy production, the world needs over 60,000 TW of energy by 2050 and according to US IEA, 68% of it is expected to come from renewable sources. Currently, solar power does 340 GW and wind about 600 GW . Further, energy requirement in Asia and Africa is much bigger and largely addressed by fossil based fuel.'<sup>1</sup> As a venture capital firm dedicated to addressing investing in sustainability of human beings & the environment, we are focusing on technologies that can be successful within the market oriented business model, i.e.; profitable long term businesses and can deliver meaningful reduction of CO<sub>2</sub>e. We need our investments to be profitable to secure additional capital for investment and to ensure these companies can be self-sustainable.

In 2023, we saw strong performance from Carbon businesses where approx. €7.2M was invested and its current MOIC (Multiple on invested capital) is 6x and CO<sub>2</sub> reduction was 2.8M t. All of these companies are doing well with healthy demand in the market for their solution. In bio-based alternatives business, we saw many companies struggling to find market traction especially in areas such as alternative proteins. The business is slow as market demand is dependent on consumer interest and this is taking longer. We have invested approx. €8.7M in these companies, current MOIC is 2x and CO<sub>2</sub> reduction until 2023 was approx. 25K t. Most of these companies are in earlier stage of development than Carbon businesses and consequently impact is lower now.

Tracking the performance with clear indicators and metrics, we are proud to reveal that to date our portfolio companies (of funds ICF I-III) have contributed to 2.85 M t of CO<sub>2</sub> removal / avoidance. Addressing large-scale emissions is major focus, not just in 2023, but also as we plan for the future. Icos' commitment is to invest in companies that can lower 1GT CO<sub>2</sub> emission by 2050. This vision will be achieved not by one company but multiple companies and over the course of investment from multiple funds managed by Icos Capital. The graph below shows a scenario where are able to realize 1Gt if our ICF III portfolio companies grow at CAGR 35% until 2050, entirely realistic assumption.

**Profits from Purpose**  
It is clear to us that while the challenges are significant, our civilization effectively built around easy access to fossil fuels and element is not prepared to drastically change itself and reinvent itself into net zero or bio-based world. The magnitude of challenge to realize change and willingness of people to choose sustainability is



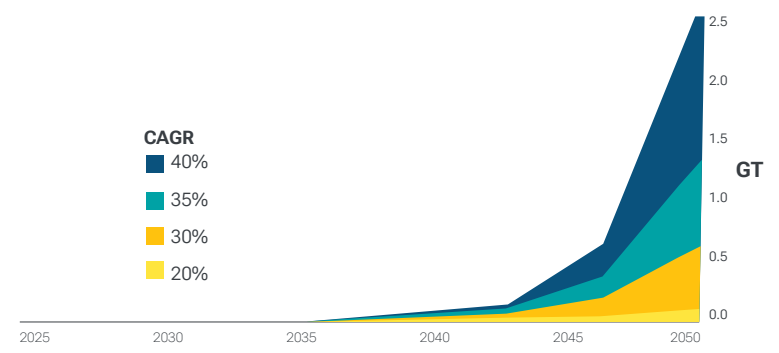
Nityen Lal  
Founder, Partner



Peter van Gelderen  
Founder, Partner



CO<sub>2</sub> impact of ICFIII Portfolio ( CAGR growth %)



1.The Price is Wrong: Why Capitalism Won't Save the Planet : Christophers, Brett





# SUSTAINABILITY REPORT APPROACH

How we define impact and sustainability





# OUR APPROACH

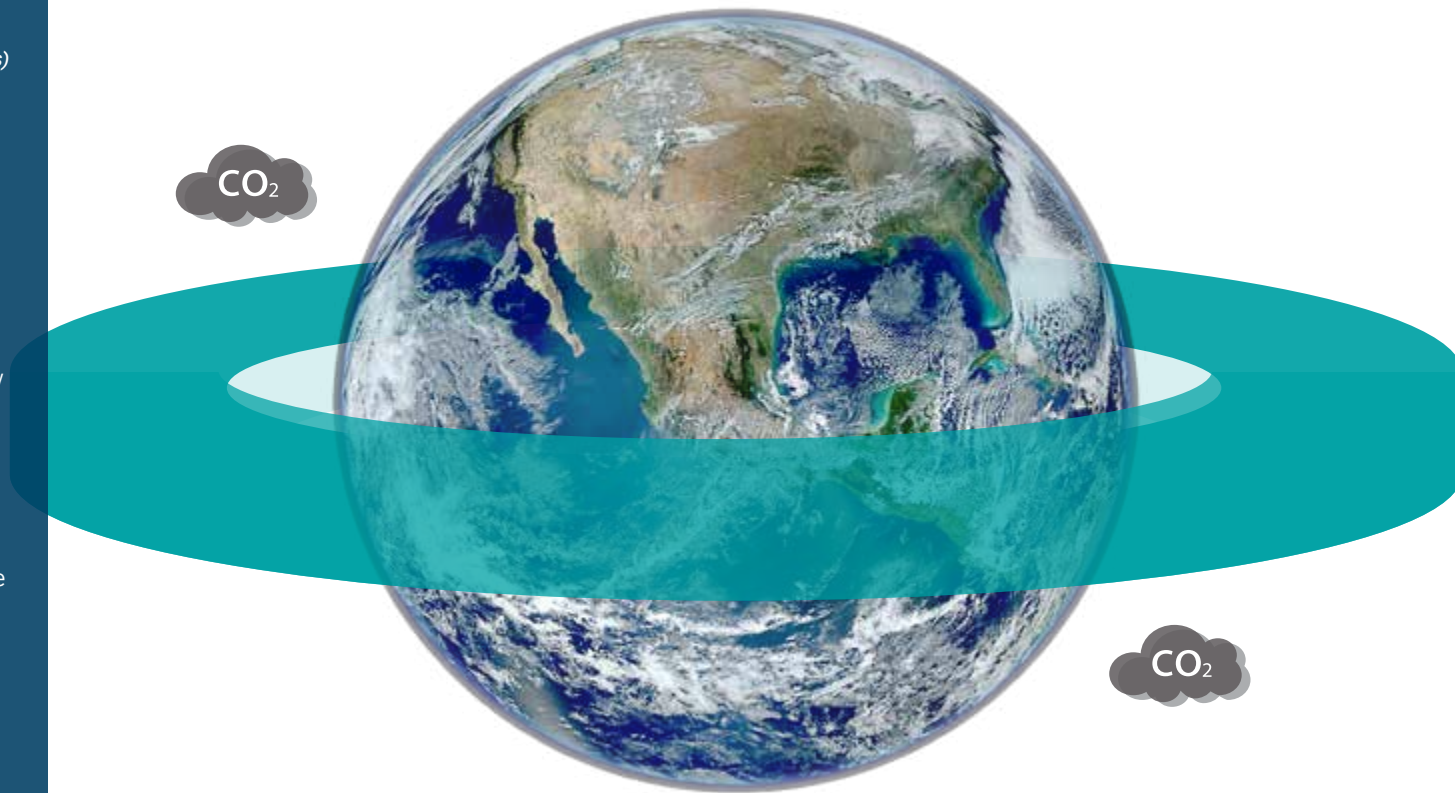
*Icos Capital Fund III is SFDR Article 8 Fund Icos Capital Fund IV is SFDR Article 9 Fund and has committed to removing / avoiding 10 MT CO<sub>2</sub>e in 10 years. All investments target reduction of CO<sub>2</sub>e and Sustainable Development Goals (SDGs)*

Icos Capital understands that climate change requires many parties to work together and build strong defensible systems, processes and results. The Sustainable Development Goals (SDGs) have comprehensively identified key aspects that need to be addressed, we believe CO<sub>2</sub>e is one of the biggest and toughest challenge that ought to be addressed with new technologies.

Icos Capital invests in companies that can make meaningful impact on the CO<sub>2</sub> reduction / avoidance aspect in global terms. All investments in ICF IV will have a CO<sub>2</sub> tracker connected to growth of the companies. Thus, with growth of each company, we can expect larger reduction of CO<sub>2</sub>e.

For this report, we are tracking CO<sub>2</sub>e reduction input from each company and also identifying SDGs related to each company. Specific matrices w.r.t. to sustainability is also profiled where relevant.

On investment portfolio, we have also collected data on human and governance aspects that is presented on aggregated basis.



## IMPACT AREA



**Climate**  
Change



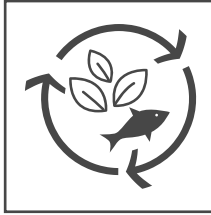
**Circular**  
Economy



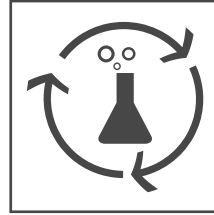
**Biodiversity**



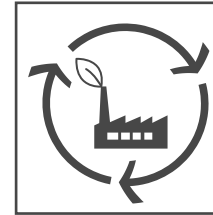
FOOD  
SYSTEMS



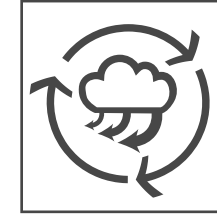
CHEMICALS &  
MATERIALS



SUSTAINABLE  
INDUSTRY



DE  
CARBONISATION



# CLIMATE TECH AREAS

Climate tech includes many sectors but our focus is more specifically on 4 industry segments that are also responsible for 30% of global emissions





## FOOD SYSTEMS



**ALTERNATIVE PROTEINS**  
to replace animal & fish based proteins from land or ocean based plants, sidestreams



**AG-BIOTECH**  
biofertilizers, bio-basefertilizers, pesticides based on land or ocean based plants, sidestreams



**FOOD INGREDIENTS**  
sugar alternatives, fatty acids, colourants from land or ocean based plants, sidestreams



**LIVESTOCK FARMING**  
climate friendly land and ocean based plants, side-streams as feed supplements

### PORTFOLIO COMPANIES



### PORTFOLIO COMPANIES

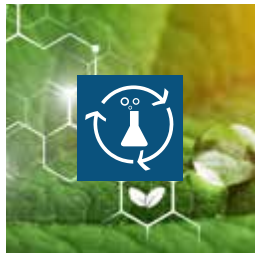


**BIO-CHEMICALS**  
for fossil fuel replacement based on land and ocean based plants, sidestreams

**IMPROVED FUNCTIONALITY**  
of existing chemicals including (water) treatment solutions

**CIRCULAR MATERIALS**  
including recycling of (micro)plastic, textile, batteries

**INDUSTRY ENERGY SOLUTIONS**  
in batteries, mitigate ocean, water problems



## CHEMICALS & MATERIALS



## SUSTAINABLE INDUSTRY



**INDUSTRY DIGITIZATION**  
industry digitization for energy transition with IoT, satellites, precision agriculture & oceanography



**BUSINESS INTELLIGENCE**  
on big data and AI to develop new solutions to mitigate climate change on land and oceans



**VALUE CHAIN**  
transparency & optimization to reduce carbon footprint of scope 3 emissions in land and ocean environment



**ADVANCED MANUFACTURING**  
advanced production methods incl. 3D manufacturing, process solutions to reduce CO2, increase efficient in industry incl. marine

### PORTFOLIO COMPANIES



### PORTFOLIO COMPANIES

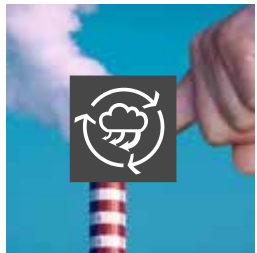


**CARBON CAPTURE**  
from (direct) atmosphere, ((point) industry also to reduce ocean acidification

**CARBON UTILIZATION**  
to bioplastic to avoid ocean pollution, biofuels for green shipping

**CARBON SEQUESTRATION**  
Improvement of carbon storage including carbon farming in land & ocean

**CARBON IT**  
financial solutions, GHG emission monitoring of land & marine ecosystems



## DECARBONISATION





## ICOS TARGET AREAS:

- Alternative proteins
- Health-promoting food & food ingredients

Particular interest in:

Ingredients improving gut health

Ingredients improving immunity

Sugar alternatives

Fat alternatives

- Ag Biotech
- Precision agriculture

## PORTFOLIO COMPANIES ACTIVE IN FOOD SYSTEMS:



## SDG: Sustainable Developmental Goals



Global food systems contribute to roughly one quarter of all GHG emissions. Food systems are the sum of the actors and interactions along the value chain – from raw material and the production of crops, livestock, fish and other agricultural commodities to the transportation, processing, wholesaling, retailing, preparation and consumption of foods to disposal.

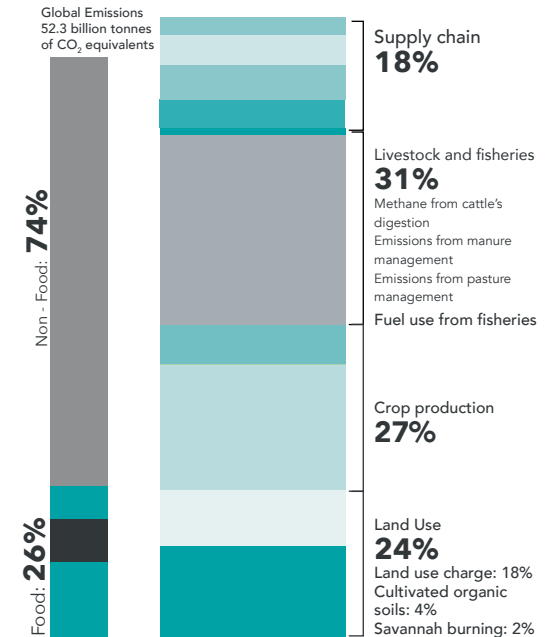
Sustainable food systems should be able to deliver affordable, nutritious, environmentally sustainable food. Currently, half of the world's habitable land (ice and desert-free) and 70% of global freshwater is used for agriculture\*. This is even more difficult to comprehend when we consider that a doubling of food production may be needed by 2050 to cater for increased population and growing wealth.

Within food systems, innovations have significant potential to scale. We look forward to furthering the potential of technology within some high potential areas of food systems. Firstly alternative proteins where fermentation is of particular interest. Secondly health promoting food ingredients such sugar and fat alternatives and those that improve immunity and gut health.

Alongside that ag biotech including seed breeding and biofertilisers are of interest. We have a particular interest in soil monitoring, irrigation systems and ag-robotics.

## GLOBAL GREENHOUSE

gas emissions from food production



Source: ourworldindata.org

### Footnotes:

1 <https://economictimes.indiatimes.com>

2 <https://architecture2030.org>

3 <https://ourworldindata.org>

4 <https://data.giss.nasa.gov/gistemp>







## ICOS TARGET AREAS:

- Industry digitization
- Business intelligence
- Value chain
- Advanced manufacturing

## PORTFOLIO COMPANIES ACTIVE IN SUSTAINABLE INDUSTRY:



## SDG: Sustainable Developmental Goals



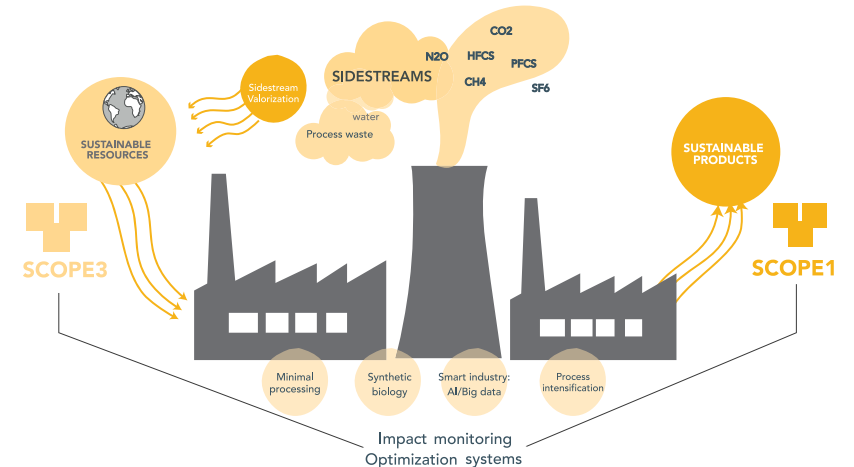
Sustainable industry presents the ongoing revolution in manufacturing through increasing interconnectivity and smart automation.

Integration of new technologies such as the Internet of Things (IoT), cloud computing, analytics, Artificial Intelligence (AI), and machine learning, strongly revolutionize industrial production facilities and their operations.

Rapid changes are currently happening across the entire organization, including processes in product development, manufacturing, structuring, and service, containing internal operations from suppliers to customers, and key value chain partners.

These technologies can be used to:

- optimize industrial production processes, including smart energy consumption,
- minimalize waste production, and
- conserve natural resources.



### Footnotes:

- [1]Renewable chemicals building the biobased economy - Bio Based Press
- [2] Digitalisation of industry | BusinessEurope



# DECARBONISATION

**ICOS TARGET AREAS:**

- Carbon capture & sequestration
- Carbon utilization
- Carbon accounting

The extended carbon dioxide (CO<sub>2</sub>) emissions from energy use in transportation, electricity and industry (73.2%) greatly contributes to global climate change [1]. The carbon-neutral strategy is then the first important step on the net-zero path, which aims to limit the rise in global temperatures below 1.5°C, by removing CO<sub>2</sub> from the atmosphere. Technological solutions in the current market are now able tackle this problem from different angles [2].

Carbon dioxide can be pulled out directly from the air (direct air capture) or production site (point-source capture) applying carbon capture technologies. Carbon capture might be followed by carbon utilization technologies, where CO<sub>2</sub> is used as a feedstock for building materials (e.g., concrete), chemicals (e.g., fuels, monomers), and proteins. Captured carbon dioxide can be permanently stored to contain carbon underground, through soil sequestration or ocean minerals following carbon sequestration solutions. At the same time, carbon management can be

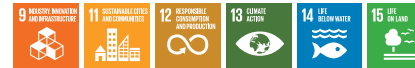
supported by carbon accounting technologies providing software solutions designed to streamline, digitize, and automate carbon accounting processes.

Following current trends in the decarbonisation sector, the ICF III fund targets solutions that allows unblocking implementation of above mentioned carbon technologies on the industrial scale. Implementation which might be blocked due to high investment, long time horizons, greater permanence risk, and complexity [3].

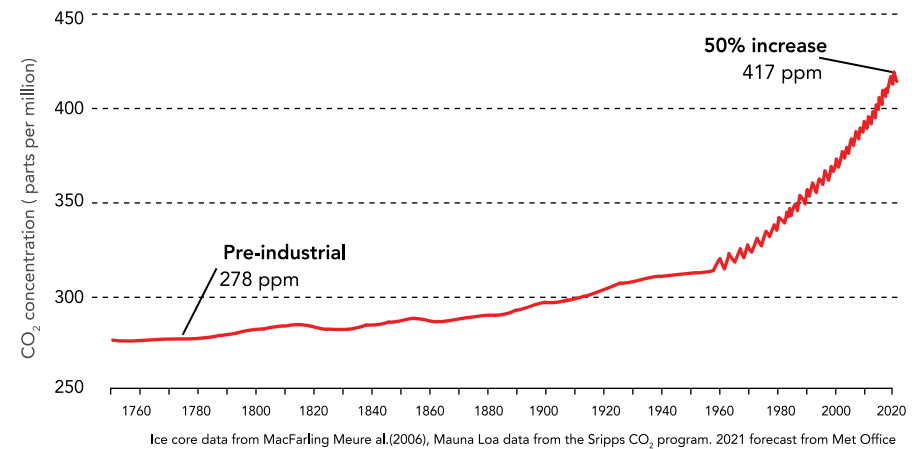
**PORTFOLIO COMPANIES ACTIVE IN DECARBONIZATION:**



**SDG: Sustainable Developmental Goals**



**Met Office** CO<sub>2</sub> at Mauna Loa now reaching 50% above pre-industrial levels



Footnotes:  
 1. Sector by sector: where do global greenhouse gas emissions come from? - Our World in Data  
 2. The Paris Agreement | UNFCCC  
 3. Net-zero carbon versus carbon neutral – what is your ambition? | ICF





**ICE III  
IMPACT  
RECAP**





**34%**

Average women in management teams

**29%**

Companies led by women, minority

At Icos we believe that increasing diversity in business means more thoughtful solutions, higher productivity and a stronger chance of success for scaling companies. That's something research has proven too. In a study by McKinsey, gender and ethnic diverse teams outperform teams with fewer women and ethnic-diversity by nearly 30%<sup>1</sup>.

The challenges proposed to us as humanity at this time are not simple. We're looking at urgent, complex and multi-faceted problems that won't be solved with simple linear solutions by typical 'white male autocratic' leadership. What's required to overcome these challenges is out of the box thinking, by people and blended teams with experience and creativity beyond what the archetypical founder or leader possesses. That in practice means that Icos needs to be backing people from all genders,

racess, sexual orientations, abilities and backgrounds. In our current portfolio 29% of companies are led by minority origin founders and Icos team itself is composed of more than 29% women and minority including partners. In comparison, just 18% of rounds raised in 2023 were captured by companies with at least one woman founder or co-founder<sup>2</sup>.

For our 2023 report, we looked at not only the usual ESG data required by reporting standards, but extended it even further to discover other areas where diversity should be considered. Instead of just looking at diversity amongst founders and their teams, we looked at their whole management team and their boards. We identified that within our founding teams, while having many great examples of women and people with a migrant background, the % of mixed gender and women led teams was less than

that of male founded teams. We also saw that in board positions across our portfolio, that women were well outnumbered by men. For us, it's important to look at sustainability in a holistic perspective and to do that, diverse teams are key. We now have a better insight into which teams might be missing more unique perspectives and look forward to bringing these discussions into our portfolio.

We believe that diversity is a matter of mindset. Women account for only 13%, 10% and 6% of decision-makers in British, US and Dutch VC firms respectively. Icos Capital is one of the few European VC firms with diverse team and this has translated into active promotion of diversity in the team. Now, we're a team of 10 with 4 women. That's something that really has given us an incredible advantage in the venture capital impact space.

Footnotes:

<sup>1</sup>.<https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-matters-even-more-the-case-for-holistic-impact>2. The Paris Agreement | UNFCCC

<sup>2</sup>.<https://stateofeuropantech.com/reading-tracks/state-of-diversity>



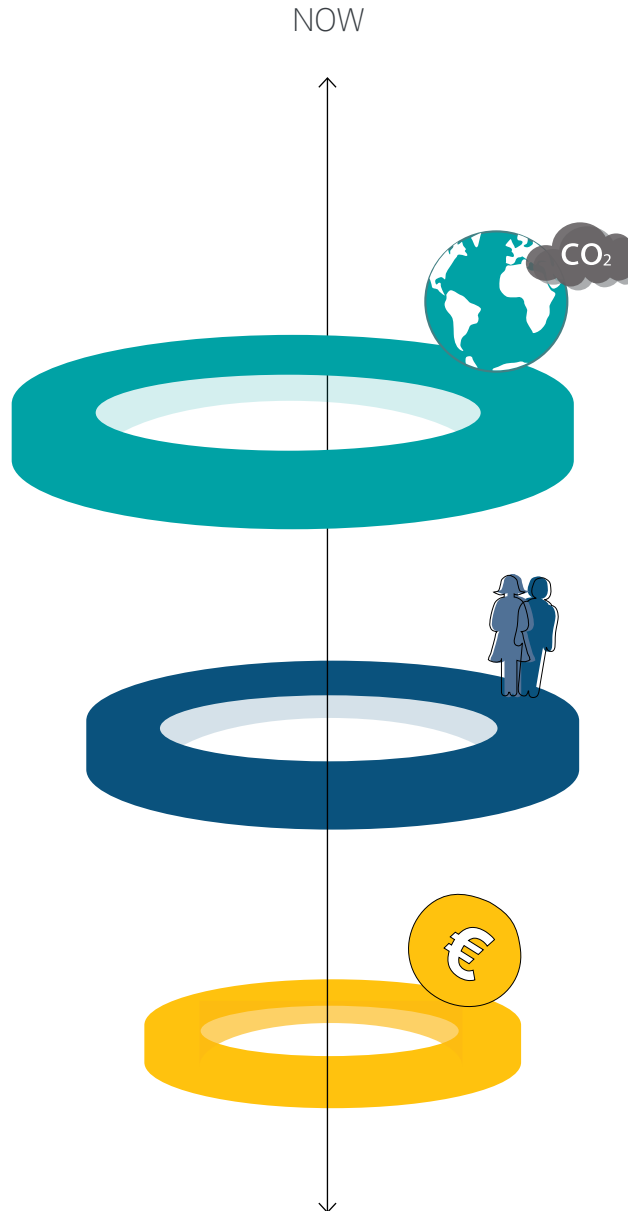
# PLANET PEOPLE PROFIT

**AUM:** approx. cumulative value of the portfolio companies **€1B**

**Partners:** Nityen Lal, Peter Van Gelderen

**Dealflow:** 2000 - 4000

**Portfolio managed:** 19



## CO<sub>2</sub> IMPACT

**2.85 M tonnes**

### PLANET

CO<sub>2</sub> impact: **2.85 M tonnes**

Companies utilizing sidestream as feedstock: **5**

Number of planetary boundaries addressed in portfolio: **7**

Number of SDGs addressed in portfolio: **10**

## PEOPLE

## WOMEN

**482**

**164**

### PEOPLE

Number of opportunities created: **482**

Women in the startup teams: **164** out of 482 employees (34% of the total headcount)

## FUNDS RAISED

## GROWTH STAGE PORTFOLIO

**€375 M**

**41%**

### PROFIT

Total funds raised by the portfolio: **€375 M** (approx.)

Growth stage portfolio (series B or sales €5M+): **41%**

Early stage portfolio: **41%**

Pre-A stage portfolio: **18%**





INNOVOPRO

**Innovopro** sparks a sustainable food revolution with cutting-edge chickpea protein.



**Focus Area:** Alternative Proteins, Food Systems  
**Year invested:** 2020  
**Country:** Israel

Innovopro is a rapidly growing FoodTech company that has developed a unique platform of chickpea protein ingredients for the global food and beverage industry. Innovopro aims to revolutionise the way people eat across the globe by empowering customers to create delicious, healthy, clean label and sustainable products.

ICF III Growth Investment



Climate Change



### UNIQUE METRICS

	(Since beginning)
Metric tonnes of CP-Pro70 produced	<b>330 +</b>
Number of products on market containing CP-Pro70 (per yer)	<b>110 +</b>
Impact growth over 2022/2023	<b>9%</b>

## IMPACT AT A GLANCE

Innovopro is producing alternative proteins with a weighted average carbon intensity lower than animal-based alternatives that it replaces such as meat and milk. In addition, Innovopro products use less land, less water and less harmful chemicals than meat-based alternatives.

### Carbon Intensity

Example: Plant based milk with 5% CP-Pro compared to dairy milk (Zhao et al., 2018; "ourworldindata.org")



Animal Based  
**1.12 - 3.15 kg CO<sub>2</sub> per kg**

Innovopro  
**0.4 - 0.72 kg CO<sub>2</sub> per kg**



### SDG



**3:** Innovopro products contain no additives or preservatives.



**12:** Producing a socially and environmentally conscious product.



**13:** Chickpeas require less land, water and have a lower CO<sub>2</sub> output than animal-based alternatives.



**14:** Plant based protein is used in fish replacement vegan meals



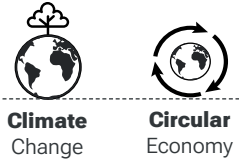
**15:** Chickpeas do not require nitrogen fertilizer, protecting the balance of local ecosystems.



**NapiFeryn** has developed a technology for extraction and isolation of rapeseed proteins.

**Focus Area:** Alternative Proteins, Food Systems  
**Year invested:** December 2022  
**Country:** Poland

NapiFeryn BioTech is a Polish innovator that developed and patented a unique technology for obtaining rapeseed protein from the side-streams of oil pressing. This is a unique innovation in that NapiFeryn technology makes it possible to retrieve all protein contained in rapeseed.



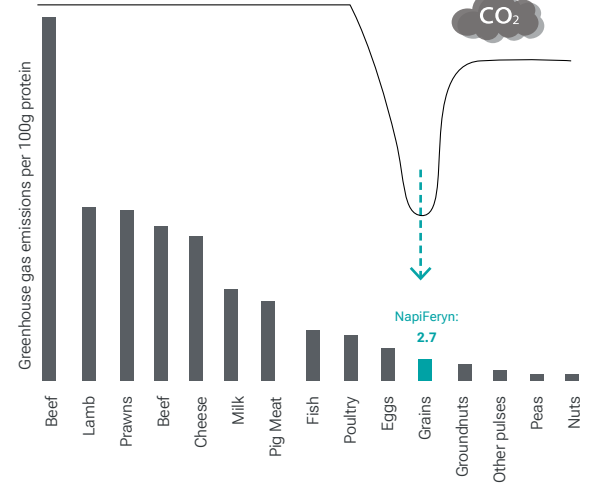
# IMPACT AT A GLANCE

NapiFeryn is producing protein from a sidestream after rapeseed oil pressing. This will have a significantly lower impact than animal-based alternatives. By utilising a sidestream as an input for their products, the CO<sub>2</sub> impact is further reduced and circular economy benefits are achieved.

## UNIQUE METRICS

Impact growth over 2022/2023  
**unaffected**

## Carbon Intensity



## SDG



- 3:** NapiFeryn products contain no additives or preservatives.
- 12:** Producing a circular and socially & environmentally conscious product.
- 13:** Using a sidestream requires less land, water and have a lower CO<sub>2</sub> output than animal-based alternatives.
- 14:** Plant based protein is used in fish replacement vegan meals
- 15:** Protecting biodiversity, decreasing land use, chemical use and water use to protect life on land and below water.

ICF III Growth Investment



**NutriLeads** is strengthening human health through the power of plants.

**Focus Area:** Health-promoting ingredients, food systems  
**Year invested:** 2019  
**Country:** the Netherlands

NutriLeads is a Health Ingredients innovator, harnessing the health-giving power of natural plant compounds to help people strengthen their health through nutrition, addressing top consumer demands. We develop and commercialise natural ingredients with clinically proven health benefits, which we market in partnership with food, beverage, and food (or dietary) supplement companies, incorporating our ingredients into their products.



ICF III Growth Investment



**Circular Economy**



UNIQUE METRICS

Number of products on the market containing BeniCaros®	<b>5</b>
Percentage of raw materials as sidestream	<b>6%</b>
Impact growth over 2022/2023	<b>16%</b>

# IMPACT AT A GLANCE

NutriLeads produces products that support human health. By utilising the sidestream of carrot pomace, they also support circular economy principles.

## Carbon Intensity

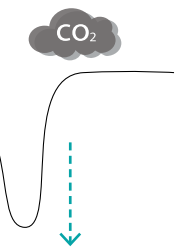
The carbon footprint of 1kg of root vegetables (including carrots) equals approx.

**0.4kg CO<sub>2</sub>**

NutriLeads valorise up to 6% of side-stream (carrot pomace) avoiding approx.

**42kg CO<sub>2</sub> emission**

**(6% \* 700kg production capacity).**



## SDG



**2:** NutriLeads are producing products that support human health. They have been clinically proven to improve immune response.



**12:** NutriLeads is producing with responsible and sustainable practices and utilising a sidestream, carrot pomace.





## Holiform produces biodegradable surfactants through fermentation.

**Focus Area:** Sustainable Chemicals, Circular Economy  
**Year invested:** 2019  
**Country:** United Kingdom

Holiform, a spin-out from the University of Manchester, develops sustainable and environmentally friendly processes for producing biochemicals, thus eliminating the need for the use of harmful petrochemicals in manufacturing. Based in the North West, Holiform has a research and development facility in Manchester and commercial plant in Liverpool. Holiform currently supplies sophorolipids, through its patented fermentation with integrated gravity separation technology, and will introduce rhamnolipids and MELs to the market in 2024.

ICF III Growth Investment



Climate Change



Circular Economy



### UNIQUE METRICS

Kilo Tons of Holiform biosurfactants capacity (per year)  
**1100 tonnes**

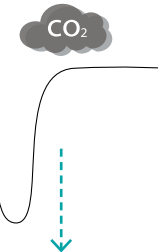
Kilotons of sidestream products utilization capacity (per yer)  
**1650 tonnes**

### Carbon Intensity

Carbon footprint of traditional surfactants:  
**2.5 tonne CO<sub>2</sub> per 1 tonne of product**

Carbon footprint of Holiform biobased surfactants:

**1.5 tonne CO<sub>2</sub> per 1 tonne of product**  
 1.5T of CO<sub>2</sub> x 1100T = **1650T of CO<sub>2</sub> avoidance**



### SDG



**12:** Holiform is providing a fossil free alternative that is completely biodegradable.



**14 & 15:** Traditional surfactants can cause bio toxicity in oceans and land environments. With a biodegradable alternative, ocean and land ecosystems are better protected.



**13:** Holiform aims to have a low carbon footprint and move towards net zero. The weighted carbon intensity of Holiforms biosurfactants is of key importance and ambitions are to improve even further.



**Carbon Clean** is a global leader in carbon capture solutions.

**Focus Area:** Carbon capture, Decarbonization  
**Country:** United Kingdom  
**Year invested:** 2019

Carbon Clean is a global leader in carbon capture solutions for hard-to-abate industries including cement, steel, refineries and energy from waste. The company's patented technology significantly reduces the costs of carbon capture when compared to conventional solutions. The company is an innovation leader in the CCUS market, with 81 active patent assets across 14 patent families covering 32 countries, and has developed a fully modular technology, CycloneCC, that is vital for scaling industrial carbon capture deployment to achieve global net zero targets.



ICF III Growth Investment



Climate Change



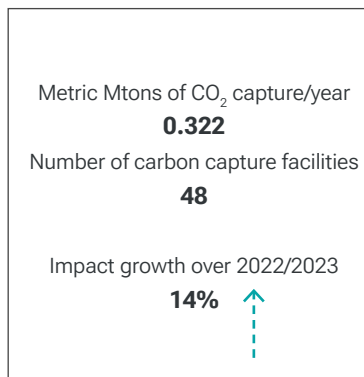
Circular Economy



Biodiversity



UNIQUE METRICS

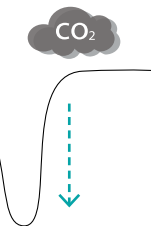


IMPACT AT A GLANCE

CO<sub>2</sub> intensity in the atmosphere is higher than ever in human history and passed the threshold. With point-source carbon capture technology, Carbon Clean has a cost competitive solution to prevent CO<sub>2</sub> from being released into the atmosphere, supporting the net zero transition.

**Carbon Intensity**

Since 2009 company **capture 2.3 Mton** of CO<sub>2</sub> by deploying our technology across sites globally.



**SDG**



**12:** Enabling net zero production in heavy industry



**13:** Carbon Cleans technology captures CO<sub>2</sub> at scale, minimizing the release GHGs in the atmosphere



**eAgronom** helps farmers generate additional revenue, improve soil quality and access better financing.

**Focus Area:** Carbon capture, Decarbonization, Ag Tech  
**Year invested:** 2023  
**Country:** Estonia

eAgronom goal is to provide solutions that encourage farmers to operate smarter and sustainably, with numerous other benefits. eAgronom helps farmers monitor and verify sustainable practices, generate carbon credits, increase agricultural efficiency, and gain better access to financing in the future.



ICF III Growth Investment



**Climate Change**



**Circular Economy**



**Biodiversity**

# IMPACT AT A GLANCE

Soil is the largest carbon sink outside of oceans, yet it is unnoticed in farming. Agriculture is a significant opportunity to reduce emissions in the air by capturing carbon in the soil. eAgronom allows farmers to get paid for creating Carbon Credits, improve the quality of their soil, reduce the cost of inputs and get access to better financing terms. All together, making carbon-neutral farming profitable.



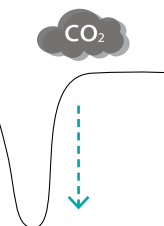
## UNIQUE METRICS

Area under monitoring [ha]	<b>1.7 M</b>
Number of farms	<b>3000+</b>
Impact growth over 2022/2023	<b>71%</b> ↑

## Carbon Intensity

Since 2021 eAgronom have adopted regenerative agriculture practises with 600 farms covers 350,000 ha that equals.

**496,000 tons of CO<sub>2</sub> sequestered.**



## SDG



**9:** eAgronom's innovative software enables farmers to increase efficiency and sustainability within agricultural production. Their cutting-edge digital tools enable to simultaneously simplify field management as well as track their performance transparently.



**12:** Financial benefits in the form of verified carbon credits and sustainable financing that our software solution enables, incentivize farmers to implement more efficient agricultural practices.

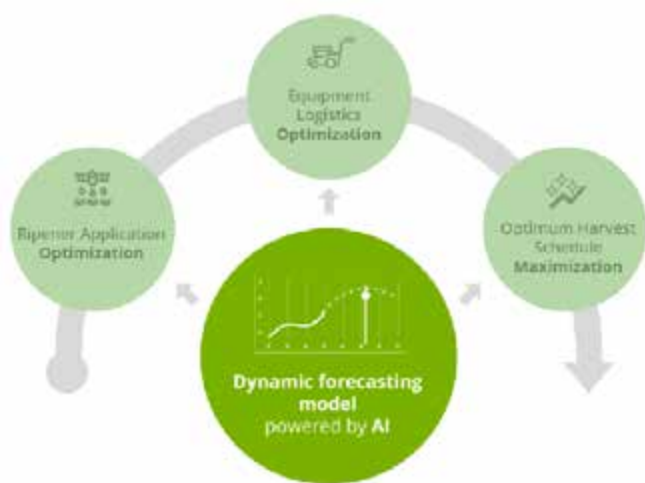


**13:** By implementing sustainable farming practices that we advise, farmers can take action to combat climate change by increasing carbon sequestration.



**15:** Our solutions promote sustainable and regenerative agriculture practices, thereby supporting the protection and restoration of terrestrial ecosystems.





**Gamaya** specialises in climate smart solutions for Sugarcane farming.

**Focus Area:** Carbon capture, Decarbonization, Ag Tech, Food systems

**Year invested:** 2017

**Country:** Switzerland

Gamaya develops automated crop intelligence solutions that help sugarcane farmers to implement more sustainable practices and reduce carbon footprint from sugarcane farming. For value chain players Gamaya tools help to ensure sustainability of supply chain, automatically measure and report carbon footprint related to sugarcane farming as well as tool set to implement and deliver corporate decarbonization targets.

ICF III Growth Investment



Climate Change

# IMPACT AT A GLANCE

Gamaya has all capabilities, data, and footprint to develop a solution to monitor regenerative practices (no-till, cover crops, crop rotation, etc.) on a large scale in Brazil for sugarcane and soybean crops as a starting point. Sugarcane given its ability for Carbon Sequestration could account for 25% of the market. The CO<sub>2</sub> captured by sugarcane is equal to 107 tons/ha/year, whereas up to 7 tons could be sequestered in the soil with regenerative practices application.



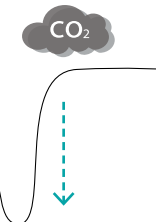
## UNIQUE METRICS

Area under monitoring (Mha)	<b>1.2</b>
Number of mills	<b>14</b>
Impact growth over 2022/2023	<b>unaffected</b>

## Carbon Intensity

1M hectares of sugarcane farms can sequester carbon up to 7 M tonnes of carbon (total potential).

**Gamaya covers approx. 1.2M ha of sugarcane that can be translated to 8.4 Mt tonnes of CO<sub>2</sub> sequestered per year.**



## SDG



**2:** Gamaya improves the efficiency and sustainability of crop production, therefore contributing to increase in yield.



**13:** Gamaya develops its solution for the purpose of carbon accounting. This will allow farmers to better estimate how much CO<sub>2</sub> their farms are absorbing and to which extent they contribute to mitigating climate changes.



# ReliaSol provides AI-based solutions for predictive and prescriptive maintenance.

**Focus Area:** Business intelligence, Sustainable industry  
**Year invested:** 2019  
**Country:** Poland

Industry is looking for new solutions to reduce its environmental impact. Predictive and prescriptive maintenance solutions help companies to take better care of their assets and extend their lifetime. It results in less frequent need for parts replacement and decreases waste coming from these activities. ReliaSol reduces failures by 80% and increases production profitability by 25%.



ICF III Growth Investment



Climate Change



## UNIQUE METRICS

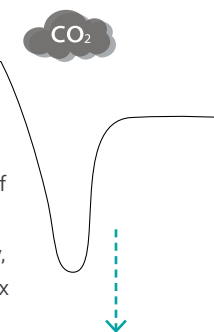
Amount of clients	<b>10</b>
Amount of CO <sub>2</sub> reduction per one client facility	<b>35 - 500 tons</b>
Impact growth over 2022/2023	<b>unaffected</b>

# IMPACT AT A GLANCE

ReliaSol's technology is beneficial for a range of industries, including energy companies. For energy companies, installation downtime and recommissioning can cause excessive CO and CO<sub>2</sub> emissions. The ReliaSol predictive model allows for preventing installation downtime avoiding up to 69% of carbon dioxide emissions that are related to its recommissioning.

## Carbon Intensity

The amount of CO<sub>2</sub> avoided by the emission of 1m<sup>3</sup> of flue gases generated by an industrial facility is equal approx. 0.14 tonne of CO<sub>2</sub>. Amount of CO/CO<sub>2</sub> reduction varies depending of client activity, i.e., flue gases emission and oscillates between **35-500 tons per client**. Currently, RS provides solution to 10 clients avoiding approx **35-40kT of CO<sub>2</sub>**.



## SDG



**9:** Reliability Solutions uses already existing data for automated thus, fast, and low cost implementation of data-driven, extremely accurate analytical models dedicated for predictive maintenance of industrial machinery. Its clients benefit in the form of failures and downtime minimization and increased profits from production.



**12:** Reliability solutions helps its clients to use assets effectively and minimize the risk of making wrong maintenance decisions. They help to minimize the losses coming from interrupted production, costs of corrective repairs and downtime failures and penalties connected with them.



**14:** Use of predictive maintenance to reduce downtime and improve efficiency in marine, oil & gas equipment.



**Invert Robotics** is providing safer industrial inspections to maximise asset integrity and make working conditions safer.

**Focus Area:** Advanced manufacturing, Sustainable industry  
**Year invested:** 2019  
**Country:** Ireland

Invert Robotics provides climbing robots to perform maintenance inspections of industrial equipment. The robots make inspection work faster, safer and more accurate than traditional inspection methods. Not only do Invert Robotics offer bespoke inspections, the robots are also available to lease or buy.

ICF III Growth Investment



Climate Change



Circular Economy



Biodiversity

# IMPACT AT A GLANCE

Invert Robotics addresses the safety of workers by using robots to replace humans in industrial inspections. This removes the likelihood of dangerous scenarios that could result in injury. In addition, Invert Robotics minimises the distance its inspectors need to travel from their offices to the client side, lowering Scope 3 emissions connected to travel.

## UNIQUE METRICS

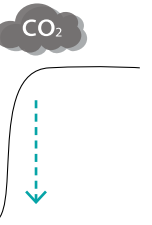
Inspections performed:  
**>300**

Average travel distance per inspection:  
**60 km**

Impact growth over 2022/2023  
**unaffected**

## Carbon Intensity

The carbon footprint of travel is measured in grams of carbon dioxide-equivalents per passenger kilometer and its equal to approx. 171g\* of CO<sub>2</sub>/km. Invert Robotics performed over 300 travel inspections equal to more than 18,000 km **avoiding approx. 3 tons of CO<sub>2</sub>.**



## SDG



**3:** Good health and well-being. The company addresses the challenge of removing workers from unsafe working spaces.



**8:** Decent work and economic growth. Enabling safety in industrial inspections minimises risk of injury for workers.



**12:** less water use to flush equipment and less chemical usage to clean equipment.



**14:** Use of invert robotics to improve uptime of marine and oil & gas equipment.



**Squirro** creates Insight Engine applying AI-driven Cognitive Search to unstructured data for new opportunities, next-best-actions, & 360° client cockpits.

**Focus Area:** Business intelligence, sustainable industry

**Year invested:** 2019

**Country:** Switzerland

Squirro is a leading provider of Augmented Intelligence solutions for search, analysis, and interpretation of unstructured information. Squirro is an ISO 27001 certified company. Thanks to its unique technology, marrying AI, Machine Learning, and Predictive Analytics, Squirro's solutions deliver measurable results for its customers in the form of revenue and efficiency gains, reduced risks and cost, as well as faster time to market.



ICF III Growth Investment



Climate Change



Circular Economy

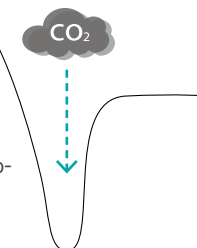
## IMPACT AT A GLANCE

Squirro is a leading provider of Augmented Intelligence solutions for search, analysis, and interpretation of unstructured information. Squirro is an ISO 27001 certified company. Thanks to its unique technology, marrying AI, Machine Learning, and Predictive Analytics, Squirro's solutions deliver measurable results for its customers in the form of revenue and efficiency gains, reduced risks and cost, as well as faster time to market.



### Carbon Intensity

The company is focused on achieving net zero emission by use of net zero data centers and other similar solutions. Their products can be used to improve insight in climate change problems and planning activities.



### SDG



**8:** Squirro improves efficiency of workers, in many cases reducing employee overtime and stress connected with that.



**9:** Squirro technology increase usage of existing resources and organizational growth through smart use of big data



**14:** Use of technology in various marine and water infrastructure projects to improve planning



**16:** Squirro technology is used by national banks such as Bank of England and European Central Bank to increase risk management and prevent fraud.





CarbonOrO

# Carbonoro capture solutions for industrial flue gases.

**Focus Area:** Carbon capture, Decarbonization  
**Year invested:** 2022  
**Country:** the Netherlands

CarbonOrO delivers carbon capture solutions to industrial CO<sub>2</sub> emitters across industries including waste management, energy, oil & gas and the production of glass, chemicals, steel, cement and concrete. In these hard-to-abate sectors, capturing and storing (or using) CO<sub>2</sub> is indispensable to reduce emissions.

ICF III Growth Investment



Climate Change



## UNIQUE METRICS

Number of pilot projects - 4

Carbon Dioxide Captured  
**10 kton/yr** of CO<sub>2</sub> per working unit

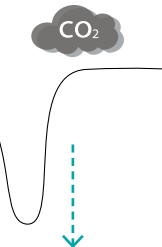
Energy usage (Gjoule/tonne of CO<sub>2</sub> captured) of amine technology  
**1.4**  
(40% less than traditional amine based systems used for carbon capture)

## Carbon Intensity

Plan to improved modular design and mimicking 1Mton/yr

40% less energy use in comparison to 1st generation amine-based carbon capture solutions

**10ktons / year CO<sub>2</sub> capture per unit**



## SDG



**3:** Good health and well-being. The company addresses the challenge of removing workers from unsafe working spaces.



**8:** Decent work and economic growth. Enabling safety in industrial inspections minimises risk of injury for workers.



**12:** less water use to flush equipment and less chemical usage to clean equipment.



**14:** Use of invert robotics to improve uptime of marine and oil & gas equipment.

# IMPACT AT A GLANCE

The bi-phasic amine technology of CarbonOrO is key to increasing the percentage of CO<sub>2</sub> capture in high and low temperatures. CarbonOrO captures CO<sub>2</sub> from flue gases, before it has the chance to enter and affect our atmosphere.



ICF III Growth Investment

**FUL Foods** offers a sustainable nutrition solution by converting CO<sub>2</sub> into functional nutrition from spirulina, a blue green algae.

**Focus Area:** Food Ingredients, Food systems  
**Year invested:** December 2022  
**Country:** the Netherlands

Featured as a Fast Company “World Changing Idea”, FUL is a food tech startup on a mission to scale future-proof nutrition through its microalgae-based F&B brand. FUL has launched a proprietary biorefining technology that recycles CO<sub>2</sub> from carbon emissions to produce nutrients.



Climate Change



Circular Economy



### UNIQUE METRICS

Production capacity  
**8 tonnes**

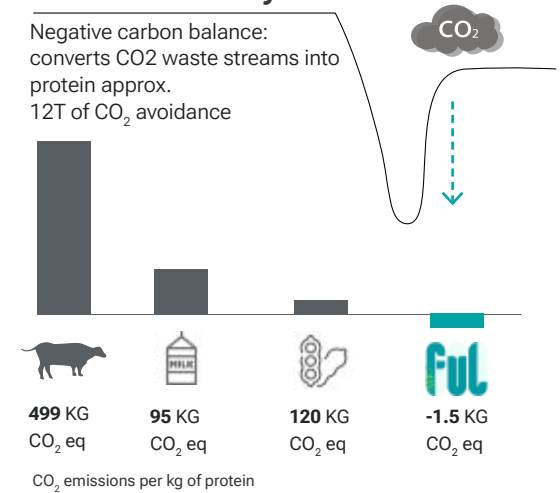
Impact growth over 2022/2023  
**50%**

## IMPACT AT A GLANCE

FUL uses CO<sub>2</sub> as a feedstock for micro-algae production. Industry standard uses bicarbonate or sugars and can't achieve a negative CO<sub>2</sub> balance that FUL can. In addition, the biomass utilisation is more than double industry standard, reducing the quantity discarded. FUL products use less (negative) CO<sub>2</sub>, less water, less land, no chemicals and no pesticides.

### Carbon Intensity

Negative carbon balance: converts CO<sub>2</sub> waste streams into protein approx. 12T of CO<sub>2</sub> avoidance



### SDG



**3:** Products contain antioxidants, vitamins and minerals such as vitamin C, calcium and iron. They also contain anti-inflammatory properties.



**12:** Producing a socially and environmentally conscious product that uses less land, raw materials, chemicals and water.



**13:** FUL produces products with (estimated, LCA in progress) lower carbon intensity compared to alternatives. Carbon balance is actually negative due to CO<sub>2</sub> as a feedstock.



**14&15:** A range of benefits that avoid negative impact on land and under water including less land, no fertilisers and no pesticides.



100% puur natuur



an  
tische  
svezels

ezonde  
flora:  
niteit  
htskontrol  
ole/preventie van diabetes type 2

**Whole Fiber** makes dried chicory root, naturally rich in prebiotic fiber, for a healthy gut flora.

**Focus Area:** Health-promoting ingredients, food systems  
**Year invested:** 2020  
**Country:** the Netherlands

Whole Fiber contains no less than 85% prebiotic fiber, promoting the growth of good bacteria in the gut. Their product, produced from Dutch chicory root and minimally processed, has a positive effect on the gut microbiome, digestion and overall health.



ICF III Growth Investment



Climate Change

# IMPACT AT A GLANCE

WholeFiber is producing inulin fiber from chicory with minimal processing which reduces carbon footprint. The whole ingredient here is utilised, minimising potential waste.



## UNIQUE METRICS

Number of products on the market

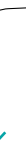
**1**

Impact growth over 2022/2023

**unaffected**

## Carbon Intensity

Weighted average carbon intensity compared to industry standards: Initial estimates show a **30-60% lower** carbon intensity than inulin technology



## SDG



**2:** Prebiotic fiber is a key to a healthy gut microbiome which benefits general health and wellbeing.



**12:** Wholefiber is producing with responsible and sustainable practices by using the whole product and minimising waste.



1-2taste

**1-2-Taste** is the digital business to business marketplace for food ingredients and food product development.

**Focus Area:** Food Ingredients, Food Systems

**Year invested:** 2023

**Country:** the Netherlands

1-2-Taste is the world's first platform that allows all food & beverages companies easy access to food & beverage ingredients: Easy to find, easy to select and easy to order. Without access to the right food ingredients and services food innovation or even manufacturing cannot happen. The 1-2-Taste marketplace provides digital access to the right food ingredients and helps food manufacturers find the right ingredients and services from dozens of categories with multiple suppliers to choose from.



ICF III Growth Investment



Climate Change



Circular Economy



Biodiversity

# IMPACT AT A GLANCE

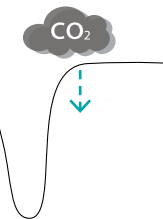
1-2-Taste has a deep understanding of the food ingredients market combined with the tech understanding of platform dynamics. Both are crucial in digitizing the sales process for food ingredients. Key drivers for success are speedy sampling, a large offering and competitive pricing. 1-2-Taste offers 2000+ ingredients from over 2000+ suppliers. As a reference an average distributor has approximately 20-30 suppliers.



## Carbon Intensity

1-2-taste enable food manufacturers to choose ingredients based on CO<sub>2</sub> footprint, creating a more efficient supply chain.

The company helps food manufacturers to create more healthy and sustainable products



## SDG



**3:** 1-2-Taste enable manufacturers to directly source sustainable and responsible ingredients online from many suppliers that feature sustainable ingredients. By that producers can create more healthy and products.



**9:** 1-2-Taste develop and offer new supply sources and services for sustainable and regenerative sourced ingredients



**13:** The company enable their customers to choose ingredients based on CO<sub>2</sub> footprint and help them





## NoPalm Ingredients is brewing sustainable palm alternatives from food waste.

**Focus Area:** Ingredients, Food Systems

**Year invested:** 2022

**Country:** the Netherlands

NoPalm Ingredients is a start-up brewing a better world by upcycling agri-food waste streams into versatile and affordable palm oil alternatives. NoPalm Ingredients developed an efficient fermentation platform that solves two challenges with one solution:

1. cutting down agri-food waste,
2. to produce sustainable, circular, and local alternatives to palm oil, reducing GHG emissions by 90% and land use by 99% compared to palm oil.

ICF III Growth Investment



**Climate Change**



**Circular Economy**



**Biodiversity**

## IMPACT AT A GLANCE

NoPalm is a unique impact story in that it addresses problems across climate, biodiversity and circularity. NoPalm's local approach and sidestream utilisation cuts CO<sub>2</sub> emissions compared to other plant oils and contributes to the circular economy. In addition, the avoided deforestation has considerable climate and biodiversity impact.

### UNIQUE METRICS

Production capacity

**200-400kg**

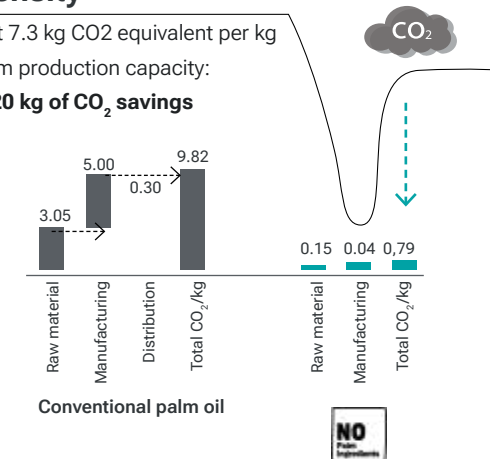
Impact growth over 2022/2023

**25%**

### Carbon Intensity

Emission of about 7.3 kg CO<sub>2</sub> equivalent per kg of palm oil. NoPalm production capacity:

400 x 7.3kg = **2920 kg of CO<sub>2</sub> savings**



### SDG



**12:** NoPalm are ensuring sustainable production practices with negative impact on biodiversity, climate change and pollution significantly reduced.



**13:** Using a sidestream requires less land, water and have a lower CO<sub>2</sub> output than palm oil.



**14:** Palm oil production traditionally causes major impact on water including scarcity and pollution of water



**15:** Traditional alternatives to palm oil and other ingredients require large deforestation to produce monoculture crops. NoPalm prevents further deforestation, protecting land, ecosystems and the biodiverse organisms within them.



# FOTONIQ helping growers increase production in a sustainable way

**Focus Area:** Ag Tech, Chemical & Materials  
**Year invested:** 2022  
**Country:** the Netherlands

Manufacturer of a horticulture spray coating intended to enhance light diffusivity inside a greenhouse without reducing grow light. The company's spray coating specializes in making sunlight diffuse before it enters the greenhouse eliminating the need for seasonal coatings and reducing the need to air the greenhouse, enabling clients to use this greenhouse spray coating and get more evenly distributed light and heat, allowing it to go deeper into the greenhouse to reach the lower parts of the crops, thus improving the crop yield and reducing waste material.



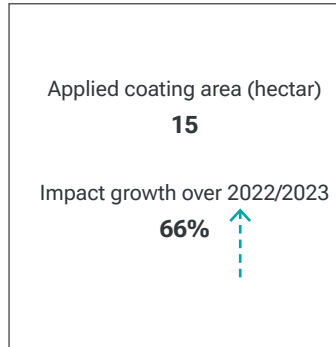
ICF III Growth Investment



Climate Change



## UNIQUE METRICS

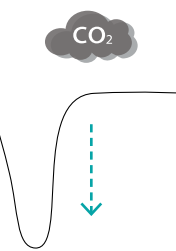


# IMPACT AT A GLANCE

Distribute light conditions evenly in greenhouse increase crop yield with at least 8% for 8 years, eliminating the waste material of seasonal coatings with our environmentally certified coating and lowering greenhouse indoor temperature.

## Carbon Intensity

FOTONIQ developed green coating formulation Replacing conventional coating FOTONIQ CO<sub>2</sub> avoidance equal approx 6000 kg of CO<sub>2</sub> per hectare  
**15x 6000kg of CO<sub>2</sub> = 90T of CO<sub>2</sub> avoidance**



## SDG



**2:** FOTONIQ improves the efficiency and sustainability of crop production, therefore contributing to increase in yield.



**12:** PAR+ coating provide a controlled climate environment in greenhouses, allowing control water, pesticides and energy consumption



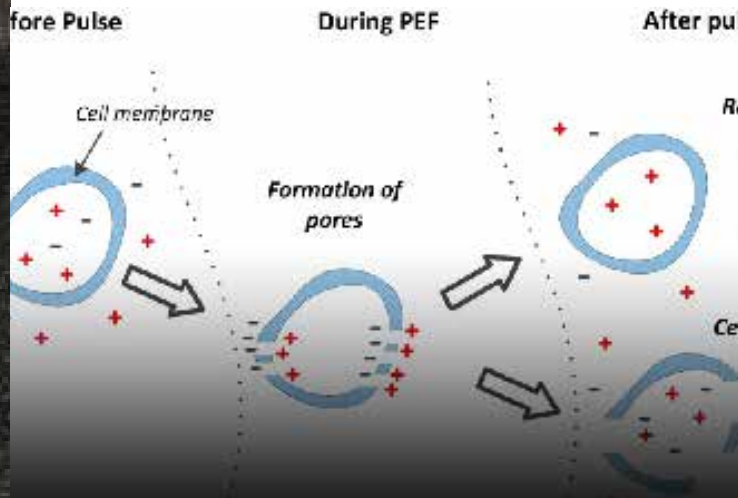
**13:** FOTONIQ solution allows to avoid up to 6t of CO<sub>2</sub> in comparison with conventional/seasonal coatings



**PEF** uses pulsed electric field (PEF) processing as a new, energy efficient food pasteurisation method.

**Focus Area:** Advanced manufacturing, sustainable industry  
**Year invested:** 2022  
**Country:** the Netherlands

Current pasteurisation techniques not only consume a lot of energy but affect important nutritional value during the processing. NanoPEF processing is an energy efficient alternative solution for preservation of liquid foods at lower temperatures compared to conventional pasteurisation without causing changes of taste, colour and nutrients.



**Climate Change**

# IMPACT AT A GLANCE

By using pulsed electric field technology instead of heat to pasteurise, PEF achieves energy savings and thus a lower footprint

## UNIQUE METRICS

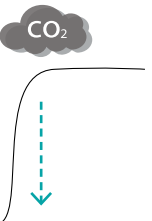
Total energy saved by PEF machines that were sold during the period 2023-2030, kWh/year  
**7,500,000**

Impact growth over 2022/2023  
**unaffected**

## Carbon Intensity

The energy saving of PEF machine comparing to the conventional pasteurizer equals 230,000 kWh/year.

**Total energy savings up today**  
**7,500,000 kWh/year avoids 7kT of CO<sub>2</sub>e**



## SDG



**12:** Lowering energy consumption and contributing to net zero production in food and beverage industries.



**13:** Lowering the carbon footprint and avoiding CO<sub>2</sub>e emissions.





**Rainmaker** is providing communities with fresh drinking water worldwide.

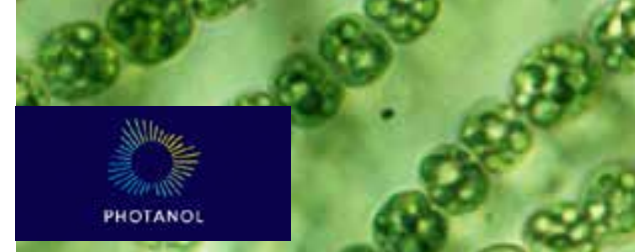
**Focus Area:** Advanced manufacturing, Sustainable Industry

**Invested:** 2007

**Country:** the Netherlands

Today, more than 800 million people live without access to a source of safe drinking water. As the world population continues to grow, millions more suffer from water scarcity. Rainmaker's mission is to produce safe drinking water in places where this is not available.

### SDG



**Photanol** turns CO<sub>2</sub> into renewable chemicals.

**Focus Area:** Carbon Capture, Decarbonisation

**Invested:** 2011

**Country:** United Kingdom

Petro-chemicals mean mining more fossil fuel, emitting more carbon. They're also resource, land and time thirsty - the kind of industry that has led to a planet out of balance. The Photanol solution helps reset that balance by optimizing the bacteria to absorb more CO<sub>2</sub>, adapting its metabolic pathways to produce a desired chemical.

### SDG







# ICOS TEAM



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**Peter van Gelderen**  
Partner



**John van Grootel**  
Chair Investment Committee



**Rudi Dupper**  
CFO



**Marieke Plasmeijer**  
Coordination & Logistic



**Sandro Fazio**  
Chef & Senior Analyst



**Katarzyna Gil**  
Principal  
Sustainable Industry



**Ewelina Kuna**  
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**Adonis Hilal**  
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Food System



**Małgorzata Bołt**  
Analyst  
Decarbonization



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