



# Our 2020 Innovation Projects Portfolio



Funded by  
the European Union



# Foreword



Foreword by **Dr. Kirsten Dunlop**,  
Chief Executive Officer of EIT Climate-KIC

Societies worldwide are waking up to the need to prevent catastrophic climate change with unprecedented speed and urgency. The European Green Deal, for example, is intended to propel Europe towards a 55% cut in emissions by 2030 and climate neutrality by 2050. As the President of the European Commission Ursula von der Leyen said in her 2020 State of the Union speech, the EU Green Deal “is about making systemic modernisation across our economy, society and industry.” The EIT Climate-KIC community is here to stimulate exactly that kind of systemic change, leveraging the power of innovation, as outlined in our 2019-2022 strategy, *Transformation, in Time*.

**This report offers a snapshot of our 2020 portfolio of innovation projects.** The projects chosen range from transforming Europe’s most visited square kilometre in the City of Amsterdam into a green district, to replacing soy in animal feed or finding ways of insuring forests and their ecosystem services against extreme weather events. They include policy innovations, such as a framework for climate-friendly materials; and integrated technological innovations, like a solution to verify

land-use changes at scale using artificial intelligence combined with satellite imagery, augmented with drones and other sources. These are projects that address several of EIT Climate-KIC’s 12 impact goals and in many cases engage multiple leverage points for change. Although this collection shows a significant diversity of ideas and approaches, these 59 projects are only a part of our whole innovation portfolio. They complement synergistically our ecosystem projects, 8 **Deep Demonstrations** and extensive work in education and entrepreneurship that engages thousands of climate entrepreneurs in the making each year.

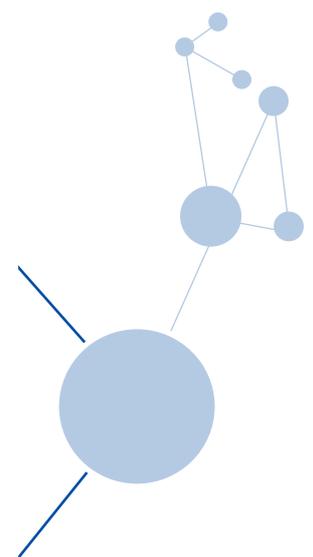
To find out more about EIT Climate-KIC’s innovation portfolio, or to connect with the lead of a specific project, please register at **climate-kic.cognitive.city/cognitive**. A **practical video user guide** shows you how to explore the portfolio and connect to get in touch with other innovators in our community.

The EIT Climate-KIC community is a powerful innovation infrastructure. Let’s use it to create a prosperous, inclusive, climate-resilient society together!



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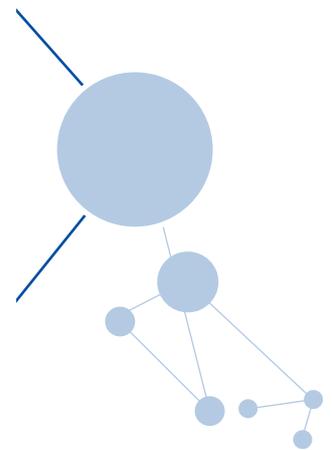
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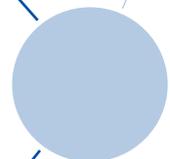
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# User Guide

How to use the project descriptions in this report.

The project name is marked bold. Visit the project index at the end of the document to see an A-Z overview of the project names.

## Project description

### IMPACT GOALS

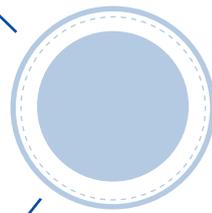
- 01 02 03 04 05 06
- 07 08 09 10 11 12

### LEVERS OF CHANGE

- Finance Information Flows Skills
- Technology Individual Behaviour
- Market Structures / Production Systems
- Policy Organisational Governance

- W
- Location
- LP

[Redacted project description content]



The levers that the project is using to create change are marked blue.

The innovation projects are usually focusing on one impact goal but can affect other impact goals in various degrees. Those impact goals affected are marked blue.

Please click on the website to see the full link to the project.

The innovation projects are usually experimenting in certain cities, regions or countries. The majority is scalable globally.

This dashboard only shows the lead partner of the project. To see the full list of partners involved and connect with the project leads, please visit [climate-kic.cognitive.city](https://climate-kic.cognitive.city). See our video [user guide](#) to unlock all functionalities of our Exaptive platform.

# Our Impact Goals

Our vision is of a prosperous, inclusive, climate-resilient society and a circular net zero emissions global economy by 2050. We focus on twelve impact goals to achieve this. They help focus our attention on the characteristics of the systems we are exploring, on what levers of change might constitute the most effective intervention points and on what outcomes we are looking to see.

- 1** Promote retrofit and decentralised energy: Drive a significant increase in urban retrofit rates and enable district-scale clean energy production, paving the way for deep cuts in emissions.
  - 2** Nurture nature-based resilience for cities: Create more liveable, resilient cities through substantially increasing the introduction of nature-based solutions and enhancing natural systems.
  - 3** Accelerate sustainable urban mobility: Trigger the switch to clean urban mobility to achieve considerable cuts in urban transport emissions.
  - 4** Make agriculture climate-smart: Instigate a substantial increase in the application of climate-smart agriculture solutions.
  - 5** Reform food systems: Transform climate-damaging food value chains and enhance the climate resilience of food supply.
  - 6** Nurture forests in integrated landscapes: Grow carbon sequestration in forests and linked value chains, while avoiding deforestation and protecting ecosystem services.
  - 7** Build circular material flows: Catalyse a switch to a circular economy and transform production for fossil-energy intensive materials.
  - 8** Reduce industry emissions: Partner with key industry stakeholders in cutting Scope 3 emissions to reach science-based targets.
  - 9** Reboot regional economies: Transition carbon-intensive regions to become zero-carbon innovation hotspots.
  - 10** Mainstream climate in financial markets: Advance metrics, standards and instruments that enable transparent, true-cost and benefit accounting for a well below 2°C pathway.
  - 11** Democratise climate risk information: Enhance access to risk information through capacity building and a major expansion of the climate services market.
  - 12** Foster bankable green assets in cities: Develop capacity in preparing projects and investment vehicles to boost the availability of sustainable investment assets in cities.
- Read more about the context of EIT Climate-KIC's impact goals in our *Transformation, in Time* strategy.**



Promote  
Retrofit and  
Decentralised  
Energy

1



## An affordable housing district that sets the bar

### IMPACT GOALS



### LEVERS OF CHANGE

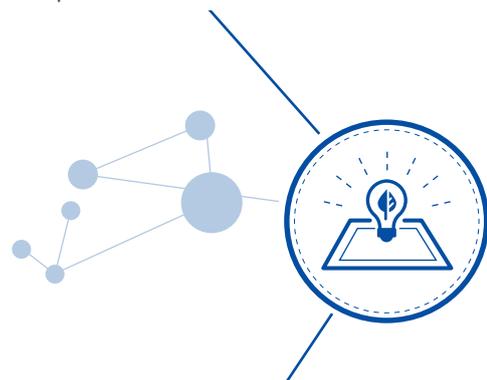


W [www.merezateplus.it](http://www.merezateplus.it)  
 L Milan, Italy  
 LP POLITECNICO DI MILANO

Unsustainable, inefficient energy and transport systems, the ineffective use of public and private resources and a lack of citizen awareness are some of the main hurdles for EU cities in tackling climate change. **Merezate+** is a living lab that aims to integrate clean energy, energy efficiency, sustainable mobility and circular economy in a sprawling urban development project. The project seeks to boost the use of technical and socially inclusive solutions by integrating them into the affordable housing district, **REDO Milano** in southeast Milan. 615 of the project's 800 apartments are dedicated to social housing. The idea is to engage residents, local public actors, and stakeholders such as housing associations and utilities in co-designing user-centred activities to bolster their effectiveness, create community and foster grassroots initiatives. The knowledge gained from Merezate+ will help guide similar initiatives in Milan and other European cities.

## Transforming the most visited square kilometre in Europe

This project transforms the most-visited square kilometre of Europe into a future proof, sustainable and prosperous area: Amsterdam's famous "Red Light District" will shift from "red" to "green". **The Green Light District** project activates the local community to co-create numerous projects, such as recycling hubs, retrofitting buildings for energy efficiency, waste-free shops or sustainable food bars. It supports sustainable initiatives by local residents and entrepreneurs to not only make the district greener – quite literally on pavements and roofs – but also to support social cohesion and a positive view of the historic neighbourhood. With a strong consortium of challenge owners, citizens, municipal authorities and sustainability experts, it aims for systemic change in an urban environment which is scalable to the national and European level. The project will also develop a digital tool that can support the transformation of other historic neighbourhoods through tailor-made advice and personalised roadmaps.



### IMPACT GOALS



### LEVERS OF CHANGE



W [www.greenlightdistrict.nu](http://www.greenlightdistrict.nu)  
 L Amsterdam, the Netherlands, Benelux  
 LP De Groene Grachten



## Future-proofing historic districts

### IMPACT GOALS



### LEVERS OF CHANGE

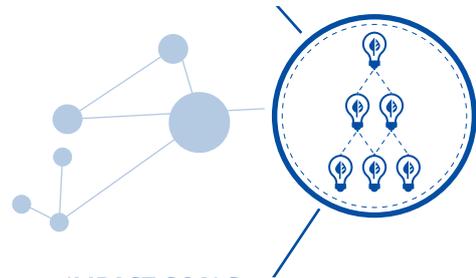


[www.sustainablehistoriccitydistricts.wordpress.com](http://www.sustainablehistoriccitydistricts.wordpress.com)

Six Mediterranean cities' districts: Lisbon, Ptuj, Nicosia, Savona, Sassari and Valletta

Universidade NOVA de Lisboa

The **Sustainable Historic Districts** project takes a collaborative approach to addressing common challenges in the historic districts of six cities from five EU Mediterranean countries [Lisbon (PT), Valletta (MT), Savona (IT), Ptuj (SI), Nicosia (CY), and Sassari (IT)]. The districts share information on common issues such as narrow streets, protected historic districts, lack of green spaces, lower energy transition levels, gentrification and the lack of a sense of community. The aim is to transform them into more sustainable, climate-resilient and inclusive communities. Through this collaborative approach, the cities will create sustainable plans, designed together with their communities. This common framework will include solutions for mobility and access, housing and buildings, and circular and nature systems, bringing together communities, municipal governments, local businesses and others. A participatory process with stakeholders and residents will address the unique characteristics of each district and ensure plans remain effective over the long term. The joint learning process will enable cities to take bolder steps in delivering local transformation through potentially replicable models.



### IMPACT GOALS



### LEVERS OF CHANGE



[www.celsiuscity.eu](http://www.celsiuscity.eu)

Pan-European

Johanneberg Science Park

## A space to promote district heating

In Europe, there is enough residual heat in to warm the continent's entire building stock and plenty of solutions to cut reliance on primary energy sources and thus CO2 emissions. District heating, for example, pipes residual heat from a city's electricity production into local buildings. But its average heating market share is only 10 per cent. The **Celsius 2.0** project aims to accelerate the energy transition by deploying smart and sustainable heating and cooling solutions in cities. Through its digital Celsius Toolbox, where stakeholders can connect, exchange ideas and foster innovation, the project supports knowledge-sharing and increases awareness of sustainable heating solutions. Celsius 2.0 also weighs in on European policymaking, supporting a legislative framework that empowers cities to pursue ambitious projects and policies that will reduce their carbon emissions footprint.



## A climate action ecosystem for logistics

### IMPACT GOALS



### LEVERS OF CHANGE



- [www.dec-log.com](http://www.dec-log.com)
- Metropolitan area of Bologna, Italy
- NOMISMA ENERGIA

The transport sector is a major source of greenhouse gas emissions. Changing how logistics hubs work can help reduce the sector's carbon footprint both locally and system-wide. The **Decarbonisation Community for Logistics** project brings together actors across the logistics supply chain in a "freight village" to foster decarbonisation. These actors include freight, transport and trade associations, logistics companies, local municipalities, and the community that uses freight village services. In a pilot project, Bologna Freight Village will test ways these stakeholders can identify potential solutions and work together. To create this 'climate action ecosystem', the project will connect directly with stakeholders and others through meetings, focus groups, workshops and seminars. The idea is to become a model for transforming other logistic hubs and the sector in general.

## A clean-growth innovation roadmap

Greater Manchester wants to reach carbon neutrality by 2038. This complex and ambitious project puts climate and the environment at the heart of city planning. Greater Manchester Combined Authority and partners have set out a five-year environment plan and local industrial strategy with a mission-oriented approach. The **Practice-based Learning in Cities for Climate Action (PELICAN)** project will design and deliver a clean-growth mission-oriented innovation roadmap for Greater Manchester, the first of its kind in the UK. The plan will include sectors from housing and construction to schools, local energy generation and nature preservation. In addition to supporting carbon neutrality, it will also aim to help reduce fuel poverty, and improve health and air quality.



### IMPACT GOALS



### LEVERS OF CHANGE



- [www.ucl.ac.uk](http://www.ucl.ac.uk)
- Greater Manchester, UK
- University College London



## Scaling financing for net zero homes

### IMPACT GOALS

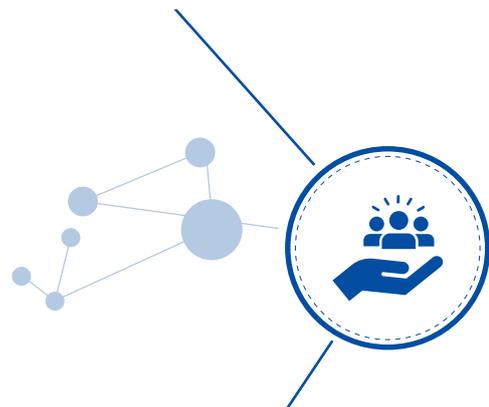


### LEVERS OF CHANGE



- W [www.economicboardutrecht.nl/resettle](http://www.economicboardutrecht.nl/resettle)
- Netherlands
- LP Economic Board Utrecht

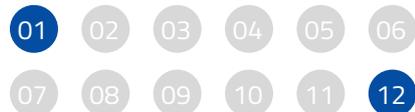
Currently less than 3 per cent of all homes in Europe have an A-energy label (which does not equal zero emissions) and more than 50 per cent are labelled G or worse. This means almost all homes in Europe need to be renovated. Current renovation rates are below 1 per cent per year and usually not focused on (near) zero emissions. Financing the renovation of individual homes is key, as homeowners are often reluctant to take out loans or can't borrow the full amount needed. Loan repayments are also often due before borrowers reap full energy cost savings. **RESETTLE! - The ecosystem for financing near-energy-neutral home refurbishments** aims to create inclusive financing instruments that will catalyse the financing of net zero home retrofits and make them scalable. It incorporates the perspectives of homeowners, funders and suppliers to solve the financing challenge.



## An experimental energy community

The **Green Energy Community (GECO)** project is a real-life sustainable energy experiment in the Pilastro – Roveri districts of Bologna. The project will establish and manage an energy community and provide energy services to its members in order to increase sustainability, reduce energy poverty and generate a low-carbon economic cycle. It will experiment with the newest smart solutions to maximise energy self-consumption, storage and decentralised energy resources. And it will foster flexibility through real-time monitoring, predictive analytics and automated response. The project is carried out by AESS, ENEA, UNIBO, with the support of CAAB/FICO, Agenzia Sviluppo Pilastro, Emilia Romagna Region, GSE, RSE, City of Bologna, local associations, businesses and citizens. It also aims to generate insights for policymakers to transpose EU regulation into national law.

### IMPACT GOALS



### LEVERS OF CHANGE



- W [www.gecocommunity.it](http://www.gecocommunity.it)
- Pilastro-Roveri districts in Bologna, Italy
- LP AESS



## Foreseeing a city's clean technology demand

### IMPACT GOALS



### LEVERS OF CHANGE

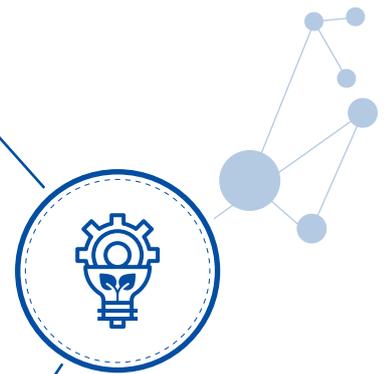


- communitydesk@climate-kic.org
- LONDON
- Greater London Authority

London's climate and environment sector is already worth £40 billion in sales per annum and is growing by over 10 per cent a year, according to Imperial College London. There are huge opportunities to accelerate this growth further utilising public sector procurement. **CleanTech London: Demonstrating demand for net zero-carbon cities** will assess London's clean technology demand over the next 10 - 20 years and work with local authorities to accelerate the procurement of cleantech goods and services utilising Thirty3 - a collaborative, city-wide procurement portal. The portal will facilitate the sharing of knowledge and learning amongst and across London's boroughs and other public bodies in order to aggregate and identify demand, whilst simultaneously giving cleantech SME's access to significant new aggregated procurement opportunities.

## A knowledge service to support net zero ambitions

Many UK cities have set ambitious targets for emissions reduction – Nottingham as early as 2028, Bristol, Edinburgh, Glasgow and Newcastle by 2030, London by 2050. And many are struggling with how to deliver at the scale and speed required. The **Zero Carbon Delivery** project provides knowledge and insights to UK city and regional authorities so they can translate their net zero-carbon ambitions into action. A partnership of leading UK practitioners on the built environment, mobility, energy, materials and finance will help these cities develop a holistic and integrated portfolio of innovative approaches. The Zero Carbon Lab responds directly to their need for added support, capacity and capability in achieving these ambitions. It will test and seed-fund the model with a view to it becoming a scalable and commercial model.



### IMPACT GOALS



### LEVERS OF CHANGE



- www.uk100.org
- UK
- EIT Climate-KIC



## Magnetic fields for an efficient city

### IMPACT GOALS



### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- Netherlands
- Technische Universiteit Delft

Cities emit vast amounts of waste heat below 100°C. But existing infrastructure only allows its use for domestic and industrial heating applications – and not always. The efficient transformation of waste heat into local and distributed electricity has not yet been feasible, but it would contribute immensely and immediately to a cleaner environment and systemic change in city energy. Converting magnetic energy into thermal energy is one way to harness this waste heat. Magnetocaloric materials heat up when exposed to a magnetic field and cool down once this field is removed. The project **Local, magnetocaloric power conversion opportunities for cities** aims to tackle a variety of challenges to allow the successful development, implementation and commercialisation of a magnetocaloric heat exchanger for cities. The project explores whether the current and expected advancements in this technology would meet customer expectations, ensure profitable operations and have a positive environmental impact in cities.

## A coordinated approach to retrofit

Carbon emissions from existing homes are probably the single biggest challenge facing the UK, and indeed much of Europe, in the transition to net zero. There is a systemic failure in tackling this challenge, compounded by piecemeal national policy, difficulties in engaging households to stimulate demand and a lack of sustainable business models. The **Accelerator Cities Programme** will help cities develop their own programmes for retrofitting homes to make them more energy efficient. It aims to unlock system change through coordinated action in and between cities that addresses barriers to retrofitting buildings. The project will build cities' capacity and capability to respond. In addition to sharing best practices, the programme will develop a coordinated approach for cities to link with financial institutions and funding opportunities.



### IMPACT GOALS



### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- United Kingdom
- UK GREEN BUILDING COUNCIL LIMITED

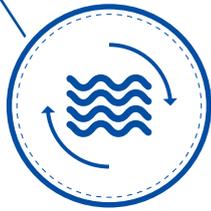


2

Nurture  
Nature-based  
Resilience  
for Cities

CaixaForum  
CaixaForum  
CaixaForum  
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CaixaForum  
CaixaForum





## A modular system for rainwater treatment, storage and reuse

### IMPACT GOALS



### LEVERS OF CHANGE

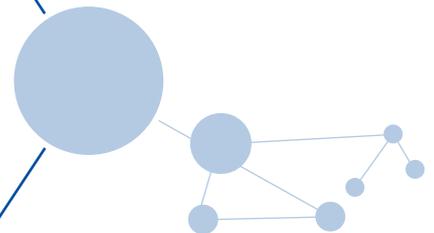


[www.circularwatersystems.eu](http://www.circularwatersystems.eu)

Belgium (Aartselaar), Spain (Madrid), The Netherlands (The Hague, Rotterdam, Delft)

Delft University of Technology

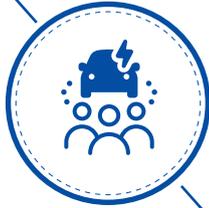
The growing urban population, together with more intense rainfall and extended droughts, present major challenges for urban infrastructure and the liveability of our cities. Enlarging the current centralised urban drainage and supply networks as a remedy is expensive and labour intensive. One solution can be **Bluebloqs**, a modular system for rainwater treatment, storage, and reuse. It combines biofiltration with aquifer storage technologies to achieve high treatment and recovery efficiencies. As a compact integrated system, Bluebloqs uses natural processes in a controlled manner, avoiding the need for large infrastructure. These small-scale circular water systems can be added to the existing infrastructure in urban retrofitting or development projects, enabling the transition to greener, cooler and water-resilient cities. This innovation was tested and implemented in a full-scale pilot application around the Sparta Stadium in Rotterdam in 2018. Four new demonstration sites will be implemented in different European cities to improve the technology further and to provide a thorough proof of concept for its commercial uptake.





3

Accelerate  
Clean Urban  
Mobility



## ⋮ A carsharing train

### IMPACT GOALS

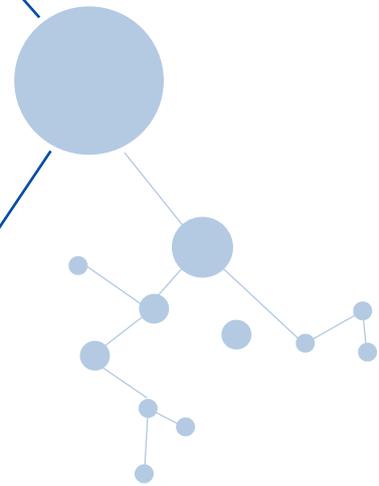


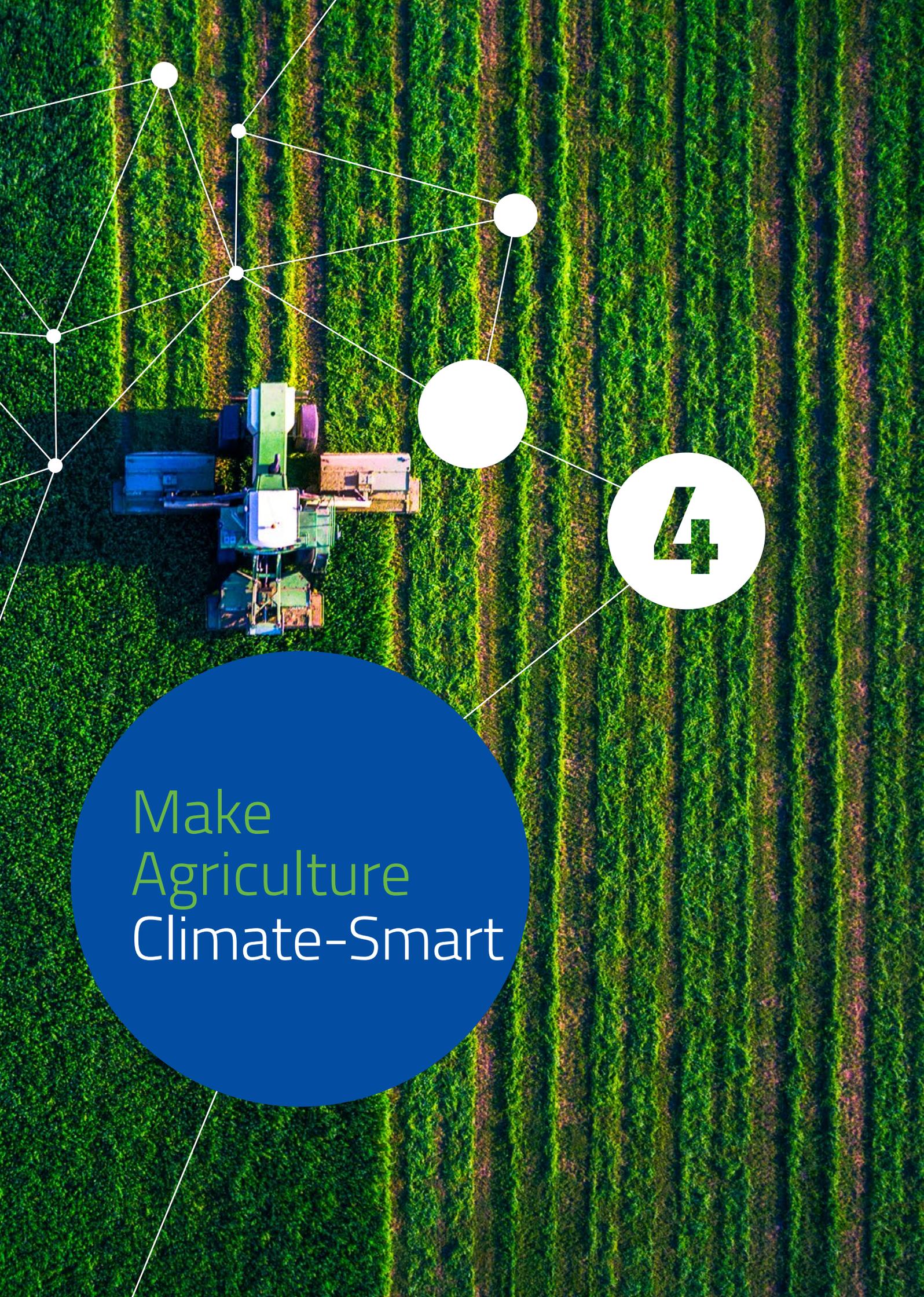
### LEVERS OF CHANGE



**DRIVE 2** is a transport system demonstration project developed within the EU's Horizon 2020 Easily diStributed Personal RapId Transit (ESPRIT) initiative. It enables users to drive an electric carsharing vehicle the short distance to and from public transportation. ESPRIT is a light vehicle based on an electric quadricycle, which can be nested together and distributed as a road train of eight to ten vehicles. ESPRIT could efficiently complement public transport by comprising between 5 and 20 per cent of all trips, depending on the configuration. To address this potential, the system will go through various evaluations based on two demonstrations taking place in Lyon with 150 people.

- communitydesk@climate-kic.org
- Lyon, France
- Commissariat a l'Energie Atomique et aux Energies Alternatives





4

Make  
Agriculture  
Climate-Smart



## ⋮ Better data on crop production

### IMPACT GOALS

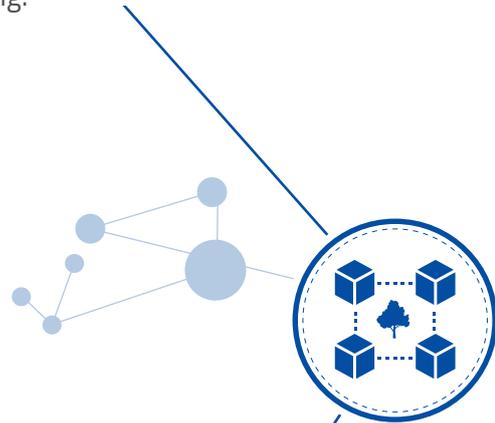


### LEVERS OF CHANGE



- [www.geofootprint.com](http://www.geofootprint.com)
- Switzerland, UK
- Quantis

Today, agriculture and forestry together account for over 20 per cent of global greenhouse gas emissions and are major drivers of soil and ecosystem degradation. Companies in crop-based industries that set ambitious environmental targets to reduce their footprint face massive data challenges in their supply chain management. Environmental data for agricultural production systems can be incomplete, inconsistent or too generic to identify hot spots and evaluate interventions meaningfully. **GeoFootprint** eases the burden of manually collecting and analysing sustainability metrics. The programme displays the best sources of publicly available environmental and crop production data on an intuitive and interactive online world map, delivering granular visibility (up to 10×10 km) that yields sharper insights for strategic decision-making.



## ⋮ Using blockchain technology to save water

The project **Sustainable Agricultural Practices and Incentives for ENvironmental Care Ecosystems (SAPIENCE)** deploys Internet of Things (IoT) technologies on farmlands to monitor agricultural practices and create a system that incentivises and rewards virtuous behaviours. In 2020, it focused on the efficient and sustainable use of irrigation water between different pilot sites dedicated to the production of wine and horticultural products. Besides monitoring and actuating purposes, which are quite common in many agritech use-cases, IoT devices will also deliver relevant data to a distributed ledger using blockchain technologies. These help to manage rewards and share profits among farmers whose virtuous behaviour contributed to achieving water savings targets.

### IMPACT GOALS



### LEVERS OF CHANGE



- [www.sapience.fbk.eu](http://www.sapience.fbk.eu)
- Italy (Trentino Alto Adige, Emilia Romagna and Sicily regions)
- Fondazione Bruno Kessler



## Turning waste to soil

### IMPACT GOALS

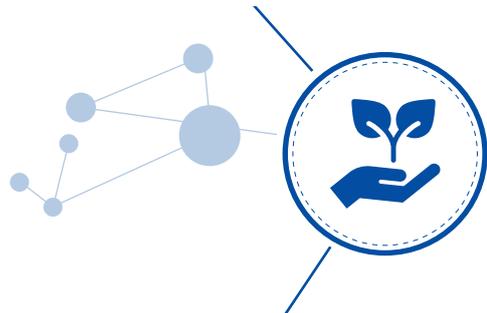


### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- Trentino (North-East), Italy
- University of Trento

Agriculture, forestry and land use contribute a significant portion (25 per cent) of global greenhouse gas emissions, increasing the imbalance between carbon release in the atmosphere and removal by natural sinks. Tackling this problem requires strategies to remove carbon from the atmosphere and store it over a long period in a stable form. Soils provide a large global reservoir of stabilised carbon, and soil carbon sinks can therefore reduce emissions. The organic fraction of municipal solid waste (OFMSW) offers an opportunity to recover nutrients and return them to the soil. Anaerobic Digestion is the most common of these solutions, and not only can help return nutrients to the soil, but also offsets fossil-fuel energy production by generating biogas. The **C2Land** project will create a viable scaling model to market a new soil amendment product – residual material from the anaerobic digestion of OFMSW which underwent hydrothermal carbonization and, possibly, composting. The project will evaluate soil performance and how the production process might increase capacities for biogas production.



## Creating a perfect balance for nitrogen in soil

Nitrogen is currently an essential nutrient for plants to grow and thrive. Unfortunately, nitrogen-polluted groundwater and crops have negative effects on human health and our climate. The ability to predict the optimal amount of nitrogen to add to a field or parts of a field is key to preventing leaching into the ecosystem beyond. There is a strong relationship between the amount, type and timing of nitrogen application and the degree of nitrogen leaching. The objective of the **Nitrogen Sensor for Soil Sustainability** project is to demonstrate and implement a service for estimating and predicting nitrogen content in soil, so that the timing and amount of fertilisation can be optimised for crops – mainly focusing on cereals. The customers of this sensor/service will be farmers and companies offering services to farmers. These could significantly improve their Farm Management Information Systems with benefits for the farmer and environment alike.

### IMPACT GOALS



### LEVERS OF CHANGE



- www.nitrogensensor.eu
- Finland, Denmark, Poland, Germany, Spain
- Technical University of Denmark



## Storing CO2 in soil

### IMPACT GOALS



### LEVERS OF CHANGE



Soils have vast potential to address climate change and advance a carbon-neutral or carbon-negative agriculture sector. Soil carbon sequestration (SCS) represents 90 per cent of the global agriculture sector’s potential to reduce greenhouse gas emissions. SCS is a natural process whereby CO<sub>2</sub> is removed from the atmosphere and stored in a soil carbon pool. Carbon farming refers to a variety of agricultural methods for sequestering carbon in soils. The **Carbon Farming** project taps into the potential of SCS by working with farmers and the food industry to define and roll out new farming practices, and to scale these up as “transformative cases”. The project includes co-designing solutions with local stakeholders, developing monitoring and certification tools and identifying scaling mechanisms.

- communitydesk@climate-kic.org
- France, Switzerland
- INRAE



## Financial products to support sustainable agriculture practices

Financial incentives that encourage farmers to adopt more resilient and sustainable practices could increase agricultural output in Africa and Europe and drive sustainability and climate resilience in the sector. The **Agriculture Resilience, Inclusive, and Sustainable Enterprise (ARISE)** project develops financial products to support long-term food security and establish de-risked value chains, based on farmers’ adoption of sustainable and climate-resilient crop practices and technologies.

### IMPACT GOALS



### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- United Kingdom, Tanzania, Italy, Zimbabwe, Uganda, and Ghana
- Imperial College of Science, Technology and Medicine



## Using alternative protein in the Nordics

### IMPACT GOALS



### LEVERS OF CHANGE

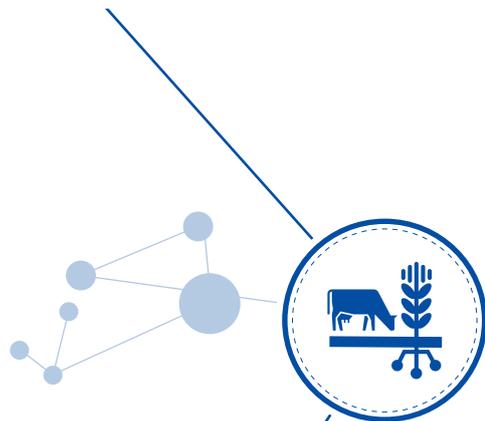


- communitydesk@climate-kic.org
- Denmark, Norway, Sweden, Finland
- Lund University

The existing agricultural system for food and feed production is focused mainly on unsustainable animal-based protein production. Innovative alternative proteins for food and feed not only reduce the climate impact of current sources, but also contribute significantly to the bioeconomy. The **SA Regional Nordic Hub** is a platform of experts from six top Nordic universities and research institutions. Their focus is on replacing animal-based proteins with the production of innovative alternative proteins and developing related new products as ingredients in the feed and food chains. The main service of the Hub is to provide knowledge and information about innovative cases that will accelerate the transition to alternative proteins and thus more sustainable food systems.

## Replacing soy in animal feed

**DryGro** is an agriculture technology company that has developed a new way to grow an animal feed protein ingredient called lemna. Lemna is a perfect supplement to the current industry standard for animal feed protein, soy. The project aims to tackle the global scarcity in protein ingredients for animal feed. This scarcity is currently especially acute in countries like Kenya, where it is difficult and expensive to obtain high-quality ingredients. Over the next few decades, this will become a much larger problem, as production will simply be unable to keep up with demand. To increase soy production capacity, rainforests in Brazil might be clear-cut. The technology for producing lemna allows DryGro to address this problem in two ways. First, lemna can grow on arid land that is currently not suitable for crops. Second, it grows at a much higher productivity rate than soy – at scale, over 10 times greater per unit area. Thus, this technology can reduce demand pressure on local soy markets and limit the need for mass deforestation.



### IMPACT GOALS



### LEVERS OF CHANGE



- www.drygro.com
- United Kingdom
- DryGro



## Cutting emissions in the fruit industry

### IMPACT GOALS



### LEVERS OF CHANGE



[www.agrisource.org](http://www.agrisource.org)

France, Italy, Spain, Czech Republic, the Netherlands and Morocco

INRAE

Fruit supply chains are already experiencing the negative impact of a warming climate and environmental degradation, particularly of soil. Early and erratic crop flowering, the reduction of fruit quality, the emergence of new diseases and water supply issues, as well as rising demand for inputs to sustain production all present unique challenges. Current fruit crop production uses high levels of polluting products in the form of pesticides and fertiliser. Sustainable initiatives like water management, improvements in soil quality, biodiversity protection and carbon capture can reduce greenhouse gas emissions across supply chains in the sector. The **Friendly Fruit** project aims to test environment-friendly agricultural practices in various regions and set up an appropriate structure to define, test, and promote them, starting with strawberries and apples. Several innovations are being introduced, such as pest-resistant and high-performing fruit varieties, mechanical weeding systems intended to decrease herbicide use, better management of fertilization, and sub-soil smart-sensors that monitor water levels.





5

Reform  
Food Systems



## Turning beer waste to meat

### IMPACT GOALS



### LEVERS OF CHANGE

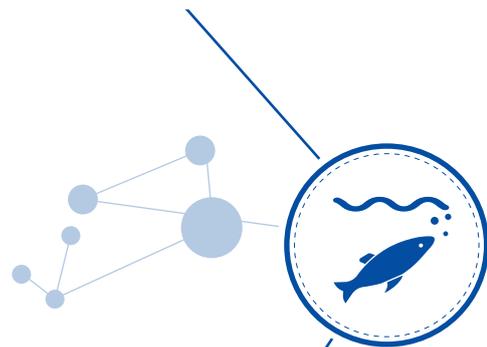


- communitydesk@climate-kic.org
- Denmark, Sweden, Netherlands, Germany, Ireland
- Technical University of Denmark

Meat and dairy products are still our main protein sources despite their major climate-damaging effects. Luckily, there is an increasing demand for more sustainable protein-rich foods like plant-based meat and dairy alternatives. The project **Tailoring starter cultures for the production of meat and dairy alternatives from Brewers Spent Grain** aims to produce plant-based meat and dairy substitutes with better taste, texture and nutritional value than currently available substitutes. The products will be based on the largest side-stream from the brewing industry: Brewers spent grain (BSG), which is currently regarded as having low or no value. This will be done by fermenting the BSG, using plant-isolated microorganisms to enhance taste, texture and nutritional value of the product in cooperation with the food industry. The project aims to develop a specialised starter culture for the fermentation of BSG by using and adapting carefully selected strains.

## New food for farmed fish and animals

Feeding the world has a tremendous environmental impact: global agricultural emissions grew by 8 per cent between 1990 and 2010, and they are expected to grow further – to 15 per cent above 2010 levels by 2030. By then, they will amount to almost 7 billion tonnes of greenhouse gases per year. In the animal production industry, for example, the majority of emissions are caused by animal feed. The **FEED-X** project wants to improve the sustainability performance of the feed industry through alternative feed solutions, starting with the salmon and shrimp value chains, because to survive, they have to find a fish oil alternative. The central idea is to shift 10 per cent of the global feed industry towards more sustainable production, drawing on novel alternative solutions by independent entrepreneurs and their faster market adoption. These are chosen based on their ability to reduce harmful environmental effects from deforestation, high carbon footprints and irresponsible fishing practices as well as food system circularity.



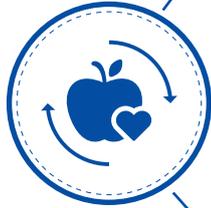
### IMPACT GOALS



### LEVERS OF CHANGE



- www.projectxglobal.com
- Norway, the Netherlands, UK, Australia, Chile, Sweden
- Project X



## Set sustainable food as a default

### IMPACT GOALS



### LEVERS OF CHANGE

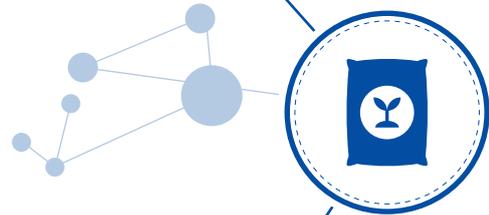


Copenhagen seeks to be a world-leading green and liveable city with a healthy and sustainable food system, but the city faces challenges in achieving this goal. While consulting other cities and using Copenhagen as a prototype, the project **Operationalizing Food System Targets for Health and Sustainability** aims to enable cities to set smarter and more ambitious food system targets. The objective is to achieve greater accountability and measurable benefits to climate, environment, public health, and societal well-being. The project is the first to operationalise the science, paving the way for a planetary diet.

- [www.eatforum.org](http://www.eatforum.org)
- Copenhagen, Denmark
- EAT Foundation

## Closing a loop in the food industry

This project looks into the sustainable use of phosphorus. It is a critical raw material, as its supply is scarce and finite. Unfortunately, a majority of the material ends up as waste, causing damage to the environment and biodiversity. The **Techno-economic and environmental feasibility study of Phosphorus recovery and reuse in fertilizers applied to Italian Prosumers** is a project that explores efficient ways to recover and reuse phosphorus from waste sourced in the food industry. The results will identify the main barriers and drivers for change in this field and help estimate the economic benefits of improved phosphorus management at a business- and EU-level. By showing more concrete data, the study aims to raise awareness of sensible ways to shift to a circular economy of this material.



### IMPACT GOALS



### LEVERS OF CHANGE



- [communitydesk@climate-kic.org](mailto:communitydesk@climate-kic.org)
- Italy
- Alma Mater Studiorum - Università di Bologna



6

Nurture  
Forests in  
Integrated  
Landscapes



## Giving ecosystem services a value

### IMPACT GOALS

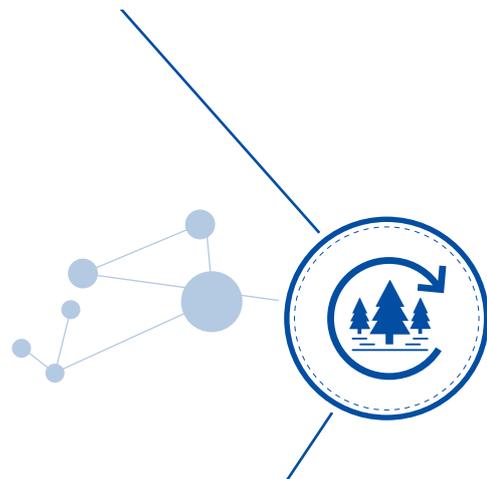


### LEVERS OF CHANGE



- W [www.madames-ax.info](http://www.madames-ax.info)
- 📍 Ferriere (Piacenza), Italy
- LP Meteorological Environmental Earth Observation

The Earth's ecosystems provide humanity with a wide range of benefits known as "ecosystem goods and services". These include services like water supply, air purification, natural recycling of waste, soil formation and more. Ecosystem services can be sold by one organisation managing an area (for example a forest owner) to another that wants to compensate for its environmental impact. One of the major challenges for ecosystem services is how to develop indicators and how to estimate the value of the services produced. The **MADAMES-AX** project works with forest owners, wood industry and schools in the Mediterranean Area to validate a scalable business model to support the sustainable management of forest ecosystems.



## Scaling the rewilding of landscapes

Since 1945, the rural landscapes of Finland have been ditched and developed for peat mining and forestry purposes. As a "Northern Sparsely Populated Area", most of Eastern and Northern Finland have lost their post-ice age habitats but contain millions of hectares of potential rewilded lands to return as carbon sinks, biodiversity hotspots and water protection sites. The Snowchange Cooperative is rewilding wetlands, marsh-mires and forests to restore carbon sinks, biodiversity hotspots, Indigenous and Community Conserved (ICCA) areas and to alleviate water pollution. The **Scaling Landscape Rewilding** project will create a service to provide reliable greenhouse gas measurements to support options for rural economic renewal and new land to benefit local economies and communities. A state-of-the-art website will be developed to communicate and co-learn with partners how to reach broader audiences in Europe with information on rewilding.

### IMPACT GOALS



### LEVERS OF CHANGE



- W [www.snowchange.org](http://www.snowchange.org)
- 📍 North Karelia, Lapland, Oulu region, and Pirkanmaa in Finland
- LP Snowchange Cooperative

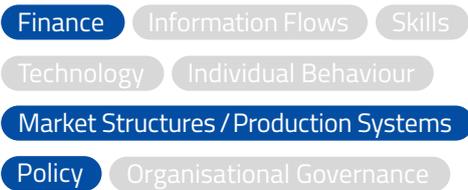


## Storing carbon in mangroves

### IMPACT GOALS

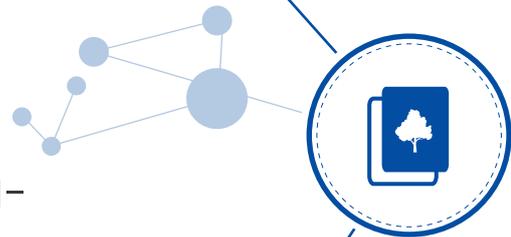


### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- Overseas France
- ECOACT

The **Label Bas Carbone** project aims to design a methodology for coastal carbon sink projects in French overseas territories. It aims to develop mangrove restoration and protection projects, with positive impacts on ecosystem services, by incentivising public and private investments. A pilot project will be set up to test the methodology, involving local partners and stakeholders. It will connect with different funding streams, including carbon markets and green bonds. Co-benefits for the tourism, fishing and insurance sectors will be assessed, including marine and land-based biodiversity, livelihoods of coastal populations and infrastructure protection.



## Activating data and the community for landscape restoration

The **ForLand Restoration** project aims to develop an online collaborative platform to support landscape restoration projects. This tool, co-designed with stakeholders in a given territory, will provide local actors with greater insight into the impact of land-use practices and help them make informed decisions for land restoration. It will take into account local needs and specifications, using a variety of data to offer users tailor-made restoration scenarios. The platform will be based on the latest remote sensing tools and cutting-edge modelling. It will allow optimal planning and decision-making for landscape restoration projects by combining both production and protection purposes while using multiple metrics.

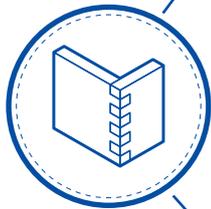
### IMPACT GOALS



### LEVERS OF CHANGE



- www.forland.io
- Scotland, Brazil
- ONF International



## Using wood in construction

### IMPACT GOALS



### LEVERS OF CHANGE

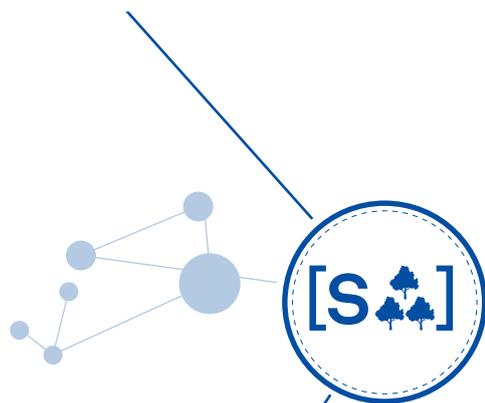


- communitydesk@climate-kic.org
- Sweden, Finland, Switzerland
- Chalmers University of Technology

Despite high demand among policymakers, city planners and building owners for more sustainable construction options, few approaches and processes exist for optimising wood usage in the construction sector. Research indicates that using wood could help reduce carbon emissions compared to other construction materials like concrete. Science-based methods for evaluating building sustainability could be one answer. The **SMARTA Wood** project aims to show how wood can be substituted in construction as an alternative for conventional materials like concrete. This project will develop a new decision-making tool that evaluates and provides indicators on the sustainability impact of wood construction technologies. Taken to market, this tool would be useful for municipal authorities, construction companies, building owners/developers, architects, and environmental experts.

## Understanding the full climate potential of forests

Forests have been on the front lines of climate change action recently. Yet views diverge on their role – whether as carbon sinks that require conservation and restoration, or as sources of wood products that store carbon and substitute fossil-based materials. A holistic perspective is needed to support policymaking, investment decisions and actions that balance the function of forests and wood products for climate and biodiversity benefits. The **3S Framework for Forests** project aims to develop an instrument for actors across multiple sectors to assess how their choices can maximise the climate change impact of forests and sustainable forest products. The instrument will help compare different scenarios in terms of carbon absorption and sequestration (the sink function), carbon storage (the biocarbon stored in wood-based products) and carbon substitution (the fossil carbon emissions avoided).



### IMPACT GOALS



### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- Germany, France, UK, Switzerland, Belgium, Finland, Sweden, Spain, and USA
- The Nature Conservancy



7

Build  
Circular  
Material  
Flows



## Turning waste to bioplastic

### IMPACT GOALS



### LEVERS OF CHANGE



Nearly 40 per cent of the chemical energy of food ends up in waste or wastewaters. Active wastewater treatment plants concentrate these wastewater organics. As treatment improves, the production of wastewater sludge is increasing. At the same time, worldwide plastic production is growing every year and now exceeds 400 Mtons/y. Around 6 per cent of plastic products end up in natural environments and the ocean. Biodegradable bioplastic can be an option to address this issue. The **B-PLAS DEMO** project creates a new plant that can convert wastewater sludge into biodegradable bioplastic, helping address the issue of plastic pollution.

- [www.site.unibo.it](http://www.site.unibo.it)
- Italy, Spain, Hungary
- Alma Mater Studiorum - Università di Bologna



## Using old batteries for mobility services

A circular, responsible and just battery value chain is one of the major near-term drivers to realise the 2°C Paris Agreement goal in the transport and power sectors, setting course towards the 1.5°C goal if complemented with other technologies and collaborative efforts. **LIONS2LIFE** is a pilot project that supplies clean energy from photovoltaic panels to an eco-neighbourhood by using end-of-use lithium batteries and giving them a second life. These batteries come from sustainable mobility systems, such as e-scooters, and are re-used instead of being recycled for their materials. This project represents a small but necessary step towards the vision of a second-life energy storage system in a sustainable district, built from batteries sourced from a shared mobility service.

### IMPACT GOALS



### LEVERS OF CHANGE



- [communitydesk@climate-kic.org](mailto:communitydesk@climate-kic.org)
- Valencia's region of Spain and Milano (Italy)
- Universitat Politècnica de València



## Pushing the boundaries of plastic waste prevention

### IMPACT GOALS

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### LEVERS OF CHANGE

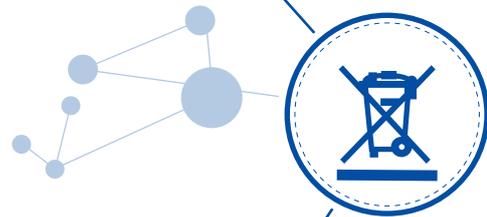
- Finance
- Information Flows
- Skills
- Technology
- Individual Behaviour
- Market Structures / Production Systems
- Policy
- Organisational Governance

W [www.ecircular.climate-kic.org](http://www.ecircular.climate-kic.org)

Italy, Germany, Netherlands, Austria, Sweden

LP Alma Mater Studiorum - Università di Bologna

49 million tons of plastic were used in the EU in 2015 for packaging, building and construction, automotive or electronics. Currently, less than 40 per cent of plastics are recycled, more than 30 per cent are burned for energy recovery, and the remainder ends up in landfills. The **eCircular flagship consortium** envisions a circular carbon-neutral plastic system in Europe by 2050. It fosters the circularity of plastic-based material systems and the reduction of urban plastic demand, using preventative and digital solutions. It engages with public and private regional stakeholders to boost smart manufacturing and to advance local policies and industry standards. eCircular wants to become the key European reference platform for radical digital innovation driving plastic waste prevention.



## A second life for electronic equipment

The collection of waste electrical and electronic equipment (WEEE) currently takes place through a complex chain that can leave space for illegal parallel channels. It is therefore necessary to improve the traceability of material flows and support cultural change through a reward system for virtuous behaviour. The **InnoWEEE** project intends to boost the collection of such waste through appropriate awareness and operative campaigns. It will help develop new business models for municipalities and retailers to improve the collection of WEEE in cities, for example through smart bins.

### IMPACT GOALS

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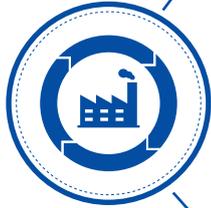
### LEVERS OF CHANGE

- Finance
- Information Flows
- Skills
- Technology
- Individual Behaviour
- Market Structures / Production Systems
- Policy
- Organisational Governance

W [www.innoweee.eu](http://www.innoweee.eu)

Italy, United Kingdom

LP Dedagroup Public Services



## Building a national platform for a circular Ireland

### IMPACT GOALS



### LEVERS OF CHANGE



- [www.circuleire.ie](http://www.circuleire.ie)
- Ireland
- Irish Manufacturing Research

The **CIRCULÉIRE – National Platform for Circular Manufacturing** will act as a service to Irish manufacturing companies. NPCM wants to accelerate the transition towards a zero-carbon circular economy in Ireland by embedding innovation in manufacturers and their supply chains. It is Ireland’s first major initiative in this area. The focus of this programme is to source, test, finance, and scale circular supply chains and circular business models. CIRCULÉIRE is targeting a more than 20 per cent absolute reduction in greenhouse gas emissions and waste production across the network. This initiative addresses the circular innovation gap in Ireland and seeks to act as the birthplace for the National Institute for the Circular Economy.



## A framework for climate-friendly materials

Industry and investors increasingly demand a robust policy framework to support the creation of markets for climate-friendly materials. At the same time, policymakers require robust evidence for policies aligning carbon pricing with carbon leakage protection and equity concerns. **Climate Friendly MaTeRials – mArket CreaTion through pOLicy iNnovation (CFM TRACTION)** engages a broad range of stakeholders to evaluate two key policy instruments: Climate Contribution for the automotive and construction sectors, and Project-based Carbon Contracts for Difference. The first instrument consists of a charge on carbon-intensive materials sold for final use in Europe. The second enables contracts between national governments and companies that ensure a guaranteed carbon price for a project. Together these instruments can create lead markets as well as longer-term perspectives for the climate-neutral production and use of basic materials.

### IMPACT GOALS



### LEVERS OF CHANGE



- [www.climatestrategies.org](http://www.climatestrategies.org)
- Berlin, Germany; Warsaw, Poland; Brussels, Belgium.
- Climate Strategies



## Triggering corporate action through plastic standards

### IMPACT GOALS

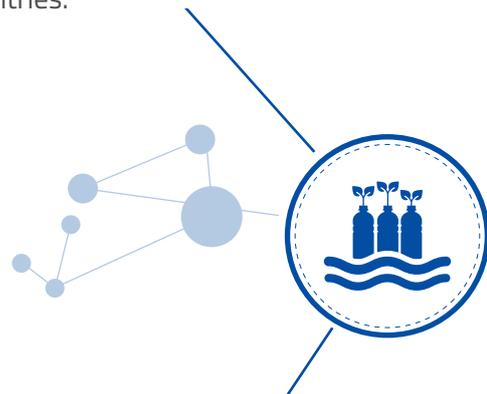


### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- France, Greece, Poland, India, Indonesia
- South Pole

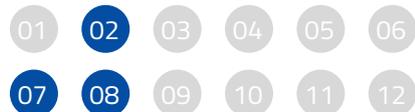
Over 30 per cent of plastic used worldwide escapes waste management systems, with a serious negative impact on the environment, while 95 per cent of plastic packaging material value is lost after its first use. In recent years, a greater understanding of the impact of plastic waste has led to many initiatives, alliances and projects, as well as an unprecedented number of commitments from companies seeking to develop circular, zero-waste plastic value chains. Despite this momentum, practical strategies for achieving zero waste or '100% circular plastics' are scarce. The **Catalysing Corporate Action Through Plastic Standards (CCAPS)** project contributes to the development of standards and guidelines for corporates and for plastic intervention projects. It is also developing a concept for a Plastic Action Fund to provide pre-financing for plastic recovery and recycling infrastructure in developing countries.



## Experiments to prevent single-use plastics

Plastic is everywhere. While it can play a useful role in the economy, it is often not designed for re-use or low-cost recycling. Systemic change is needed so communities can adopt and establish new behaviours and solutions to replace products made of single-use plastics (SUP). The project **Single-use plastic-free systemic local applications along the Mediterranean east coast** aims to support engagement between private and public actors in local communities on single-use plastics (non-SUP) innovations. The project will launch an online platform to help improve awareness, strategies and solutions in three Mediterranean countries: Italy, Croatia, and Greece. The objective is to design and implement innovative experiments at the local level with citizens to set up replicable voluntary protocols for the use of non-SUP food packaging.

### IMPACT GOALS



### LEVERS OF CHANGE



- communitydesk@climate-kic.org
- Italy, Croatia, Greece
- University of Bologna



8

Reduce  
Industry  
Emissions



## Reinforcing decarbonisation strategies for big emitters

### IMPACT GOALS



### LEVERS OF CHANGE

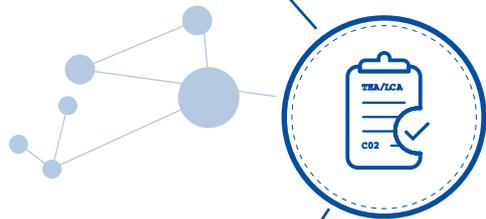


www.actinitiative.org

France

ADEME – French Environment and Energy Management Agency

The Global Climate Action Agenda of the UNFCCC secretariat has underlined the need for more transparency and evidence regarding companies' efforts to decarbonise, the efficiency of their strategies and the related lack of capacity building. Through **AENETA**, the Assessing low-Carbon Transition (ACT) Initiative will develop, test and approach companies' low-carbon strategies and associated methodologies in the top ten highest-emitting sectors and promote them in Europe. As a result, this project will foster transparency in supporting the actions of investors and policymakers.



## Assessing carbon capture and utilisation

Carbon Capture and Utilisation (CCU) involves capturing CO2 and transforming it into products or services. It has been touted as a technology that promotes connections between industrial sectors, offering economic opportunities and the reduction of environmental impacts. As CCU gains momentum as a possible solution to reduce global CO2 emissions, the need for a standardised assessment of CCU implementation is growing. The **Techno-Economic and Life Cycle Assessment Guidelines for CO2 Utilization (CO2nsistent)** project aims to support decision-making for emerging CCU processes, based on sound and comparable techno-economic (TEA) and life cycle assessments (LCA). Freely available guidance and documents will enable stakeholders and citizens to understand TEA and LCA and their role in decision-making.

### IMPACT GOALS



### LEVERS OF CHANGE



www.globalco2initiative.org/research/co2nsistent-project/

Germany, Switzerland, UK, USA and Canada

RWTH Aachen



## Setting a new standard for innovation assessments

### IMPACT GOALS



### LEVERS OF CHANGE



- W [www.misolutionframework.net](http://www.misolutionframework.net)
- 📍 Sweden, UK and global
- LP RISE Research Institutes of Sweden

Cost and risk reductions cannot be the only factors driving companies to reduce their carbon emissions. Companies must also use their capacity for innovation to deliver solutions. Thus, providers of solutions need the tools and credibility to demonstrate their positive impact on society. **Mission Innovation's Net-Zero Compatible Innovations Initiative** (NCI) aims for its Avoided Emissions Framework and other assessment frameworks to become the standard for assessing innovations and accelerating climate solutions. The initiative has already identified over 1,000 solutions using these frameworks during its first two years. Many of these solutions are products or services introduced in countries supporting "Mission Innovation", a global initiative of 24 countries plus the European Commission, launched at COP21.

## Creating a circular kitchen

The kitchen is a central place in the home for both cooking and social interaction and is renovated more often than the house itself. Previous studies have shown that premature alterations and replacements of the kitchen and its appliances lead to unnecessary material flows and high climate impact. The way they are currently made, sold, placed, used and discarded contributes to avoidable material use, environmental pollution and greenhouse gas emissions. The **Circular Kitchen** project develops easily adaptable modules made from high-quality, environmentally friendly materials. This concept enables a kitchen design that can easily produce variants tailored to individual preferences, and that allows the continuous reuse of components. The high-quality materials cause higher initial costs, counterbalanced with long durability and much lower environmental impact.



### IMPACT GOALS



### LEVERS OF CHANGE



- W [www.tudelft.nl](http://www.tudelft.nl)
- 📍 Netherlands, Sweden
- LP TU Delft



Reboot  
Regional  
Economies

9



## Stopping population loss through good public transport and active mobility

### IMPACT GOALS

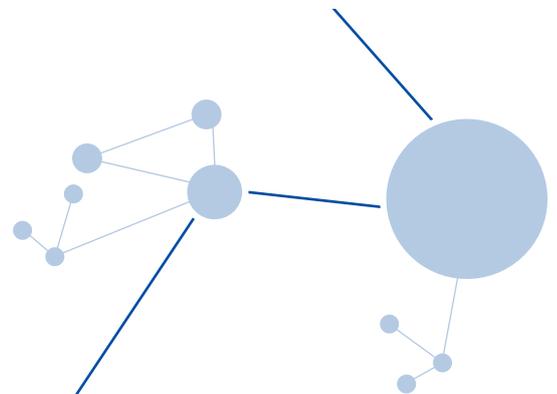


### LEVERS OF CHANGE



- [www.metropolidipaesaggio.it](http://www.metropolidipaesaggio.it)
- Province of Ferrara, Italy
- AESS Modena

The **Landscape Metropolis** strategy was started in 2016 by a group of local stakeholders in Ferrara. Its main objective is the development of a sustainable mobility network in the Po river delta to improve connectivity between the City of Ferrara and surrounding municipalities, with the broader goal of regenerating the delta landscape and reversing trends of population loss affecting rural communities. The mobility network builds on elements of the human-made landscape: existing and renovated waterways, towpaths alongside canals, piers and bridges, cycle and bus lanes, railway lines and walking trails. A series of experiments are designed for citizens to experience new and clean ways of travel via water and land. Through an iterative approach and hands-on learning, the initiators of Landscape Metropolis want to understand how to make public transport and active mobility more attractive, incentivise people to permanently shift their everyday behaviours and reduce their car dependency. In the long run, the project's stakeholders aim to align political support for policy shifts and unlock sustainable infrastructure investments needed to make Landscape Metropolis a reality.



10

# Mainstream Climate in Financial Markets



## ⋮ Data for a green building stock

### IMPACT GOALS



### LEVERS OF CHANGE

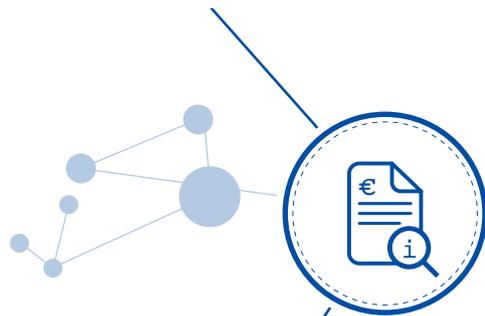


- W [www.msci.com](http://www.msci.com)
- Zurich, Switzerland
- LP Carbon Delta AG

Buildings are likely to suffer significant damage costs from the impact of climate change. They are energy-intensive to build and operate, so they are key targets in global efforts to reduce carbon emissions. As two-thirds of the current building stock in most countries is expected to be in place in 2050, many will need deep and potentially costly retrofits to increase energy efficiency and switch to lower carbon power sources. The goal of the **Real Estate Climate Asset Mapping Project** (RECAM) is to provide a data-based solution to quantify how climate change may impact the value of real estate assets. The aim is that real estate asset owners use this data to make decisions that will lead to a more efficient use of energy and natural resources. The data should also help to shift capital towards buildings that are less carbon intensive and located in areas less likely to suffer from damaging climate events. The work will help financial players report their progress to the market and so fulfil upcoming regulations.

## ⋮ Help financial advisors to sell green finance products

Most financial advisors do not ask about their clients' sustainability preferences and often have trouble identifying and recommending suitable products. The **Elicit Sustainability Investment Preferences** project wants to establish and implement a scientific method to assess individuals' sustainability investment objectives. This method should also evaluate how financial advisors affect their clients' decisions. To achieve this, the team will implement behavioural finance field experiments involving thousands of individuals, field visits involving hundreds of financial advisors and an online experiment involving both groups. The results will help to estimate the demand for sustainable investment products and understand the behavioural barriers to investing in these products. These insights will be used to develop a market research toolbox for investment product retailers.



### IMPACT GOALS



### LEVERS OF CHANGE



- M [communitydesk@climate-kic.org](mailto:communitydesk@climate-kic.org)
- Romania, Luxembourg, Estonia, Denmark, Greece, Netherlands, Germany, France
- LP 2° Investing Initiative



## ⋮ Moving stagnant data lakes

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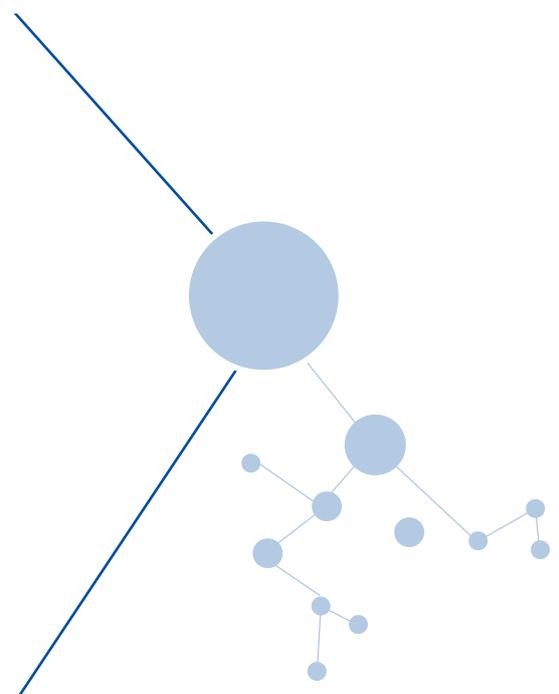


🌐 [www.icebreakerone.org](http://www.icebreakerone.org)

📍 London, Cape Town

🏢 Icebreaker One Limited

There is an ocean of available capital that could address today's environmental crisis. Unfortunately, the absence of a reliable flow of data leads to the misallocation of resources, missed opportunities and creates huge risks on our global balance sheets. The problem is not the technology, but the culture – organisations are stuck in 'closed' models, negotiating case-by-case. In April 2020, **Icebreaker One** launched SERI (Standard for Environmental Risk and Insurance), intending to build the shared data infrastructure that's needed to deliver net zero across financial services, including insurance. SERI brings together partner organisations and leading institutions to create bridges across which finance and climate change data can flow. The project will develop financial products that will deliver demonstrable net-zero outcomes, alongside the shared data infrastructure underpinning them.





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Democratise  
Climate Risk  
Information



## AI for Climate Action

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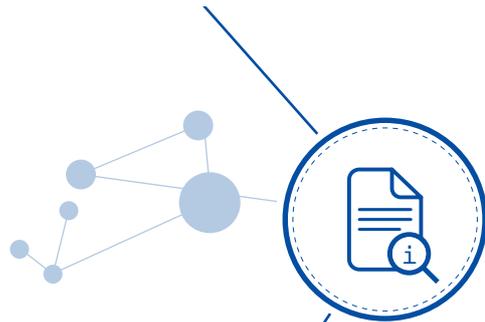


W www.opensurface.io

Chile

LP South Pole

The **OpenSurface** project explores new ways of monitoring land-use changes on the ground, such as deforestation. Currently, most of these changes go unnoticed, and those that are noticed typically need to be verified by a person – which makes monitoring at this scale too intensive and time-consuming to be practical. The OpenSurface tool applies new AI techniques to satellite imagery, augmenting this with drones, mobile device data and other sources where available. By connecting automatically verified changes on the ground to tailored alerts, or any digital service, the tool can drive the right response at the right time. Additionally, it gives stakeholders (governments, companies, individuals) the real-time data-base and transparency they need for effective climate action. This, in turn, enables new kinds of financial instruments and mechanisms. These can work across borders and industries to channel capital towards climate action, at scales – both large and small – not previously viable.



## A risk information starter kit for citizens

Urban citizens and policymakers often do not know how to access climate risk information and use it to make decisions. The **Urban Climate Action Starter Kit** seeks to develop a range of materials, youth training modules, experiential learning activities and public engagement events to help people make informed decisions about climate risks. These materials and activities will help to expand the availability of current climate data and help businesses, civil society, academia and government stakeholders to understand the emerging climate challenges.

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M communitydesk@climate-kic.org

Europe, Africa

LP Red Cross Red Crescent Climate Centre



## Unlocking risk information for vulnerable cities

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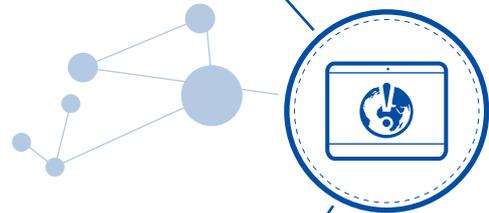
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- W [www.resurgence.io](http://www.resurgence.io)
- 📍 10 cities in Africa, Asia and the Caribbean
- LP Resurgence

There's a clear gap between weather and climate risk information generators (catastrophic risk modellers, national weather agencies, flood risk experts) and those who need actionable information. **Unlocking City Climate Risk Information (UCCRI)** deploys services to accelerate the use of weather and climate risk information by people residing in informal settlements and by official city stakeholders. The project will address the user needs of 10 vulnerable cities in Africa, Asia and the Caribbean. It will provide these cities with activities, tools and approaches that avoid single-point technology innovation, and will co-design and implement solutions with multiple stakeholders, using a proven set of methods, tools and platforms relevant to weather and climate risk information.

## A tool to assess local climate impacts early



Short time horizons and the difficulty of estimating impacts based on near-term climate forecasts make it increasingly difficult for cities to act on climate change and related natural disasters. The project **Climate Risk Information for Supporting ADaptation Planning and operation– Phase II (CRISI-ADAPT II)** will develop an innovative tool to assess climate change impacts early on and prevent them at the local level. This tool aims to challenge cities to monitor and improve their adaptation planning. The project will focus on four strategic sectors: flooding/emergency response, water management for agriculture, energy planning and ports. This and other available tools and data will be used to support city governments, modellers, investors, and traders related to all sectors potentially affected by climate impacts.

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- W [www.crisi-adapt2.eu](http://www.crisi-adapt2.eu)
- 📍 Spain, Malta, Cyprus, Italy, Portugal
- LP CLIMATE RESEARCH FOUNDATION



## ⋮ A cloud-based service addressing urban floods

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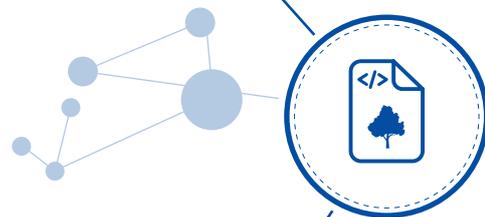


W [www.saferplaces.co](http://www.saferplaces.co)

📍 Italy, Spain, Germany, Austria

LP GECOSISTEMA

**Saferplaces** employs innovative climate, hydrological (occurrence of water) and hydraulic (movement of water), topographic and economic modelling techniques to assess rain, river and coastal flood hazards and risks in urban environments under current and future climate scenarios. The project will test an advisory service on flood-risk mitigation measures and will inform on climate adaptation and disaster risk reduction strategies. Co-design and co-development activities will help foster multi-stakeholder agreements and partnerships to improve urban resilience.



## ⋮ Insuring forests against extreme events

Extreme meteorological phenomena like violent windstorms, heavy rain or fires are occurring in forests worldwide with increasing frequency. When an extreme event happens, stakeholders wait for public intervention to re-establish previous conditions. Major challenges for insuring against wind damage, for example, are the calculation of the correct premium, the awareness and willingness of forest owners to purchase insurance because of their perception of a low risk, and the fluctuating value of timber. In addition, extreme windstorms may be infrequent but they cause very large claims, which can overwhelm insurance and re-insurance companies. Some governments and regions have funding mechanisms permanently in place to help restore forests after storm damage. Still, there is currently neither a systematic solution across Europe nor any direct link to the insurance sector. The focus of the **Holistic resilience of territories to extreme events** project is to boost local resilience by developing a dedicated insurance scheme that merges the stability of industrial and productive needs with ecological and hydro-geological protection.

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W [www.r.unitn.it](http://www.r.unitn.it)

📍 Europe

LP University of Trento



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Foster  
Bankable  
Green Assets  
in Cities



## Renting appliances for a circular real estate market

### IMPACT GOALS

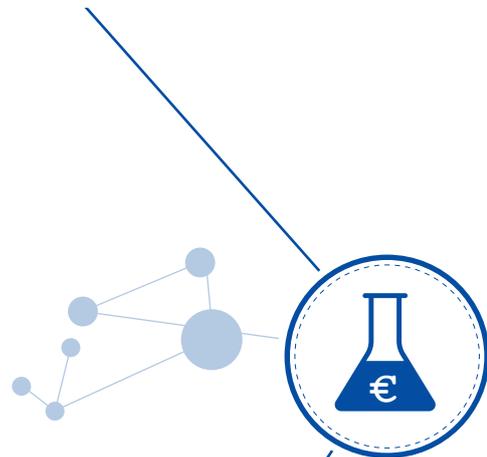


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The **Circular Housing** project aims to develop an innovative circular economy model in the real estate sector. The project evaluates a model in which tenants can rent appliances and furniture – from refrigerators to bookshelves, which will be refurbished after the tenant leaves the apartment. A user-centred approach will help define a business model that takes the needs and desires of different actors into consideration, defining an ideal solution for all stakeholders. The involvement of relevant actors in the value chain, such as producers and waste management operators, will help identify innovative solutions that are adaptable and replicable in different environments.

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- Milan and Northern Italy regions
- Redo Sgr s.p.a.



## Remove barriers for green investments in cities

Up to €1 trillion in annual investments are necessary to ensure that essential urban infrastructure is low-carbon and climate-resilient. Barriers to this green transition include high transaction costs, uncertainty about national and international policies, a lack of resources for making green and sustainable projects attractive to investors and knowledge gaps about finance options and mechanisms. The **City Finance Lab** is Europe's first dedicated platform to developing innovative finance solutions for green urban projects. The project aims to help cities gain access to public and private climate finance. It is set up to help remove barriers for such investments and develop innovative financing solutions for public and private stakeholders. Since 2018, this platform has supported solutions in Poland, Portugal, France, Cyprus, Norway, Germany and the United Kingdom, including community forest trusts, green funds for SMEs, participatory budgets or municipality-issued credit cards that promote green investments.

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- www.cfl.southpole.com
- Europe
- South Pole



## Re-coding to capitalise civic goods

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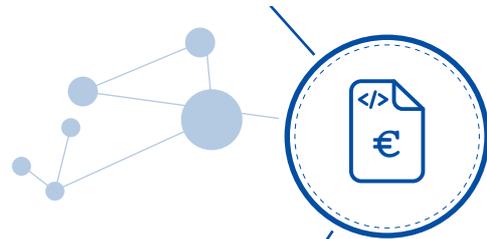
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- W [www.darkmatterlabs.org](http://www.darkmatterlabs.org)
- L Europe and Canada
- LP Dark Matter Laboratories

Our cities are packed with a diversity of assets and shared resources – parks, schools, public transport, energy systems, collective intelligence and data. They are the foundation of our current and future wealth, and they mitigate against future shared risks. Society recognises the value of such civic assets, but we are failing to preserve and enhance them and to provide the capital to secure their future. The project **Re-Coding for a Civic Capital Economy (RE.CO)** will design new investment models to steer capital toward civic goods and create public value. The core project aim is to demonstrate how a next generation of coding tools (e.g. smart contracts, real-time sensor data, etc.) can bring about a shift in our economy, unlocking new financial, regulatory and legal instruments that preserve and enhance public goods. The project aims to develop a proof of possibilities across five different areas (contracts, trees, streets, floods and urban data) and build the case for transformative ‘civic asset business models’ that alter how we deploy capital for shared civic benefit.

## Financing the green transition



The European Commission’s European Green Deal estimates that achieving its 2030 climate and energy targets will require €260 billion of additional annual investment. The next years represent a critical window to shift financial flows toward this green transition. **Priming Public Financial Institutions for Green Innovation (PUFFIN)** aims to identify barriers to and enablers for financing the green transition and to use these insights to influence the missions, mandates, policies and activities of public sector financial institutions to align them with climate objectives. Specifically, the project works with central banks and national promotional banks, given their ability to act as catalysts to private financial markets.

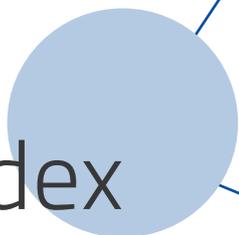
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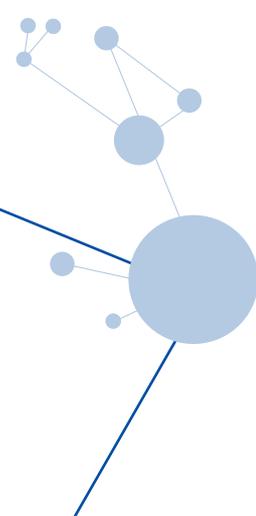
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- W [www.ucl.ac.uk](http://www.ucl.ac.uk)
- L Global
- LP University College London



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# About



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EIT Climate-KIC is the EU's climate innovation initiative, working to accelerate the transition to a zero-carbon and resilient world by enabling systems transformation. Headquartered in Amsterdam, it operates from 13 hubs across Europe and is active in 39 countries. EIT Climate-KIC was established in 2010 and is predominately funded by the European Institute of Innovation and Technology (EIT), a body of the European Union.

As a Knowledge and Innovation Community (KIC), it brings together more than 400 partners from business, academia, the public and non-profit sectors to create networks of expertise, through which innovative products, services and systems are developed, brought to market and scaled-up for impact.

[www.climate-kic.org](http://www.climate-kic.org)

EIT Climate-KIC's whole project portfolio:  
[climate-kic.cognitive.city](http://climate-kic.cognitive.city) (See user guide)

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