


EIT Climate-KIC Nordic

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We **connect and convene** the knowledge and expertise needed to catalyse **systemic innovation** that helps societies mitigate and adapt to climate change

Our activities include:

- Partnership-driven innovation in a unique community
- Business incubation and entrepreneurship
- Open innovation
- Education and capacity building



There is intense debate about how to **close the gap** between current climate policy and the long-term goal of the Paris Agreement: an economy with net zero emissions.

The substantial process emissions from the **production of materials** such as steel, cement, plastics

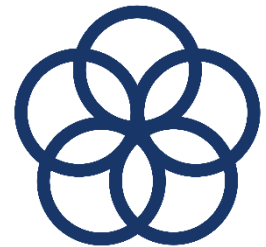
Partnerships-driven innovation, business incubation, Open Innovation and capacity development

The Sustainable Development Goals (SDGs) can only be realized with a strong commitment to global partnership and cooperation

The world today is more interconnected than ever before. Improving access to technology and knowledge is an important way to share ideas and foster innovation.

The goal 17 aim to enhance North-South and East-West cooperation by supporting national plans to achieve all the targets. Promoting international trade, and helping countries accelerate innovation, is all part of achieving sustainable global society that is fair and open, and benefits all.

17 PARTNERSHIPS
FOR THE GOALS





Cities in the Circular Economy - City of Tomorrow

How to use Circular Economy as a Planning tool in the Municipalities for strengthening capacity for systemic innovation

Cities and Circular Economy window of opportunity

Cities echo the “reduce, reuse, recycle” mantra and call for an acceleration and rethinking the approach to urban development. With their high densities, cities hold the potential to adopt circular and restorative economies where nothing is considered to be waste.

The United Nation’s Sustainable Development Goal number 12, “Responsible Consumption and Production,” clearly addresses the need for a broad implementation of the circular economy. Likewise the concept is high on the European Union’s political agenda, being the subject of the ambitious action plan “Closing the Loop” from 2015.

The circular economy in cities can shift the economic mix to increase the number of jobs and diversity businesses , create innovation and at the same time create more resilient cities with a lesser environmental footprint.

Why Cities should embrace Circular Economy?

PROXIMITY

Urban areas lend themselves particularly well to circular business models. This is due to the close proximity of citizens, retailers and service providers

SYSTEMS

Operational and strategic benefit that can building capacity for transformative innovation at a systems level

GROWTH

Increase jobs and diversity businesses, create innovation and more resilient cities with a lesser environmental footprint

CULTURE

If the municipalities can get the people who are the entrepreneurs, creators and makers – the early adopters – interested, then Circular Economy tends to spiral and is picked up more broadly

How can Circular Economy work as a Planning tool in the Municipalities

Most municipalities have a vision and strategy for how they will develop in the future. Visions help shape direction and give identity in plans and policies. A good vision makes it clear what the administrations need to vision for when the efforts are to be designed in everyday life. For the individual targets in the municipality, specific goals can be set and indicators are set. Circular economy is a strategic overall view that can help exploit the potential of the municipality's vision.

The circular economic thinking helps innovate because the municipality is going to have a long term perspective and because it basically is about how things can be made easier, smarter, cheaper and more resource efficient

Circular Cities Project

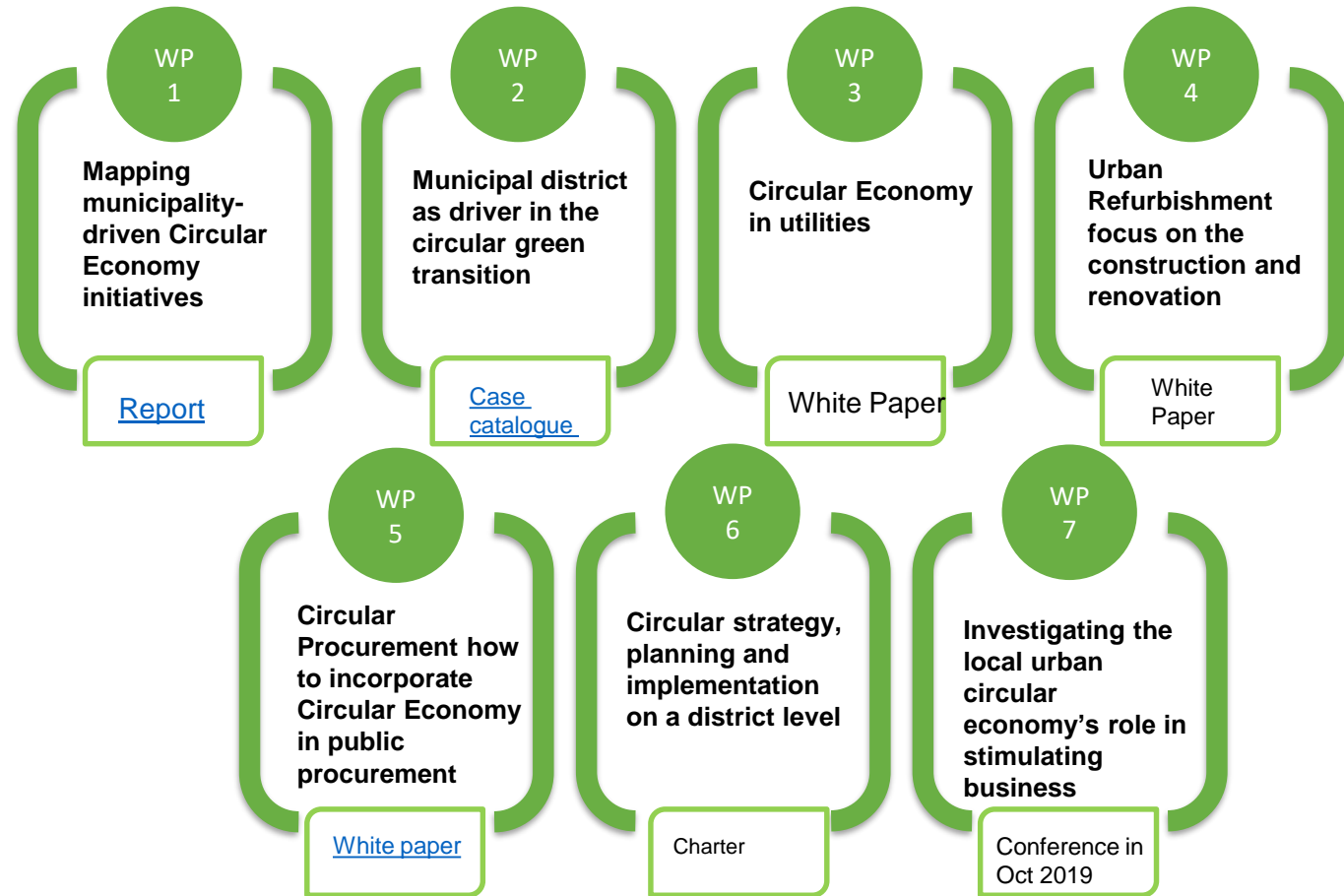
Objective

Facilitate collaboration and learning between businesses, researcher, political and administrative spheres with the intention of implementing Circular Economy principles into the city administration's day to day operations as well as the city's systems

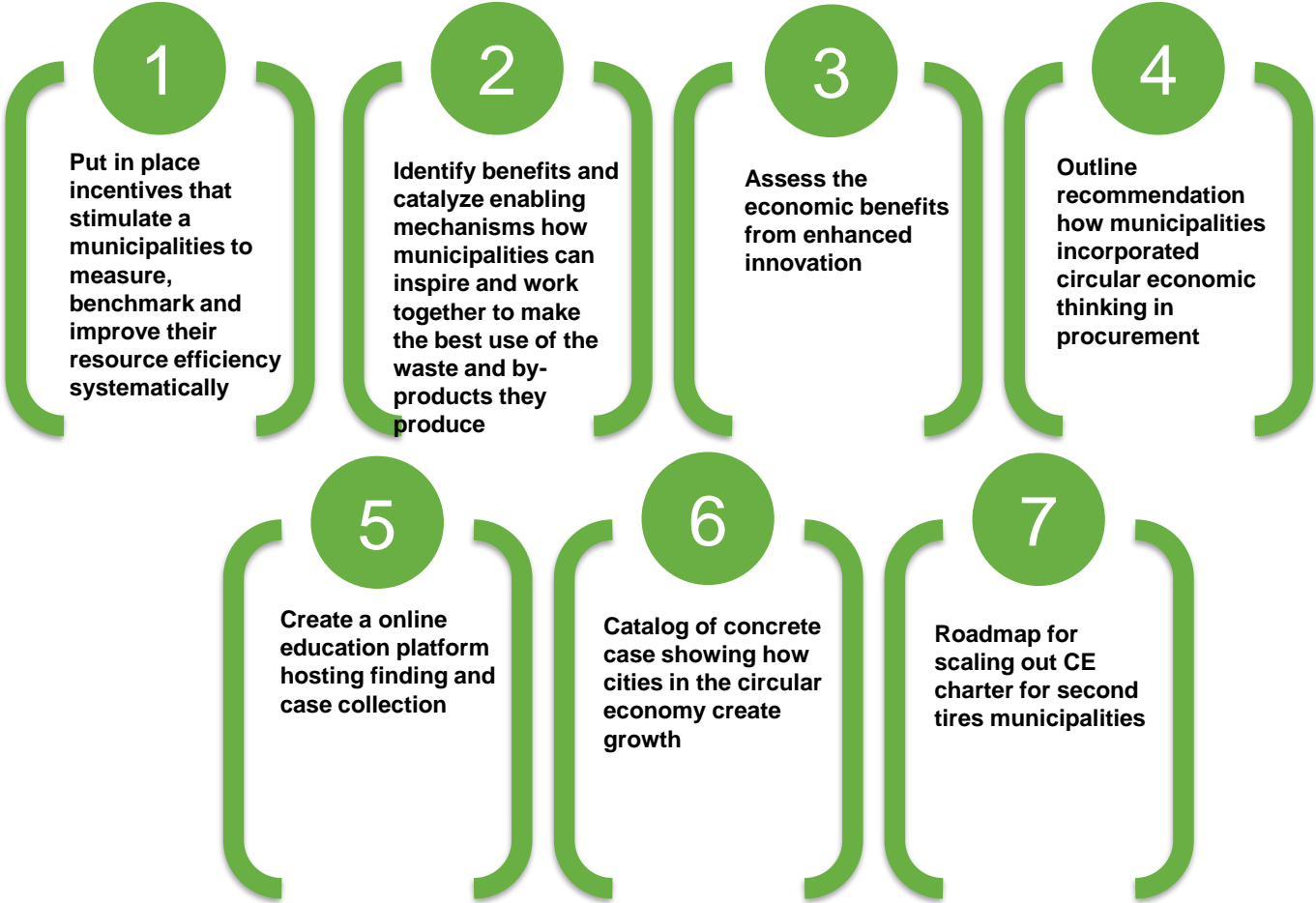
Tool

The Circular Cities project offers a knowledge exchange platform for both pioneering first mover cities and cities closely following behind with regards to embedding Circular Economy

Work packages for the Cities in the Circular Economy



Expected Output of the CE Charter for Municipalities



Climate KIC Consortium partners


Copenhagen
Municipality


Malmö
Municipality


Helsinki
Municipality



Province
of
Utrecht

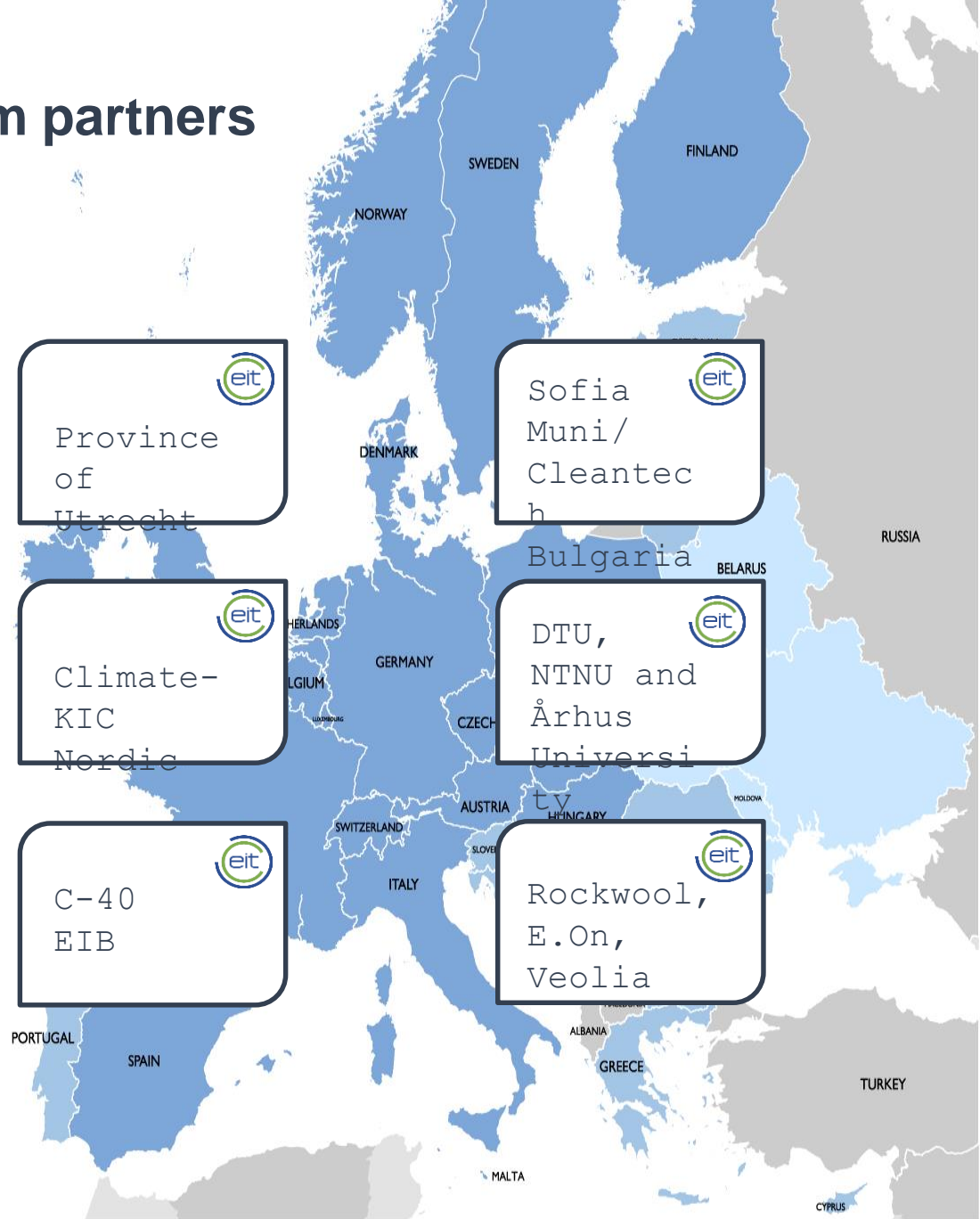

Climate-
KIC
Nordic


C-40
EIB


Sofia
Muni/
Cleantech


DTU,
NTNU and
Århus
University


Rockwool,
E.On,
Veolia



Climate KIC Consortium

Other Third Parties – Advisory network (Not subcontracted organisations)

UN Habitat

Ellen MacArthur Foundation

European Enterprise Network

Other Third Parties (Not subcontracted organisations)

City of St. Petersburg, **Russia**

City of Lusaka, **Zambia**

Municipality of Swakapomund, **Namibia**

Nanyang Technological University (NTU),
Singapore

City of Kristiansand and Business
Region Kristiansand

City of Belgrade/Nova Sad/**UNDP**

Ayfall çar **City of Kristiansand**



Circular Cities 2.0 TBD

The project consist of the following main work packages which all are aiming to creating more competitive economy at district scale:

WP1: **Learnings from Circular Cities**, roadmap to engaged a cohort of cities in East and South Europe Mapping municipality-driven Circular Economy initiatives – led by Malmö, supported by C40 and CKIC

WP2: **Municipal data and digitalisation as driver in the circular green transition** – led by Lisbon, Supported, Copenhagen and Maribor

WP3: **Using Circular Economy in Design and Entrepreneurship** – led by Aarhus Municipality, Supported Sofia and Trento

WP4: **Circular Economy and Urban Refurbishment**; Test and Validation of Circular Cities solutions – led by City of Sofia, supported by Malmö and Copenhagen

WP5: **'Circular Procurement'** – how to incorporate Circular Economy in public procurement – led by Maribor, supported by Helsinki and Aarhus

WP6: **Circular construction**, test of circular construction initiatives on a district level – led by Tallinn, Supported by RISE and Copenhagen

WP7: **Investigating the local urban circular economy's role in stimulating business** – led by Trento, Supported by Utrecht and Sofia, Climate KIC

WP8: **An Circular Cities Guide to the UN17 Sustainable Development Goals** – Led by Climate KIC, supported by Rockwool, C40



Open Innovation as a CKIC service

Open Innovation is the application of new or more effective discoveries for market needs



Climate-KIC is supported by the EIT, a body of the European Union

Aim of the Open Innovation process

Help solutions with positive climate impact reach the market faster, wider, and more efficiently than otherwise possible

Facilitate the first constructive meetings between potential suppliers and cities or cooperates as a potential customer

Other cities or private clients in the world face challenges similar to what our clients faces -> a proof in one city may lead to implementation/impact in more cities

Climate-KIC's unique value proposition

Climate-KIC's unique value proposition in Open Innovation as a service is that we are currently active in 25 countries internationally and work with a network of over 250 partners in academia, the private sector and local government to support climate entrepreneurship and catalyse market opportunities for the low carbon economy.

Climate-KIC can by way of Open Innovation provide specific climate related solutions within all our four theme. Climate-KIC sees Open Innovation as a way forward in accelerating implementation of climate solution and creating business opportunities on climate change.

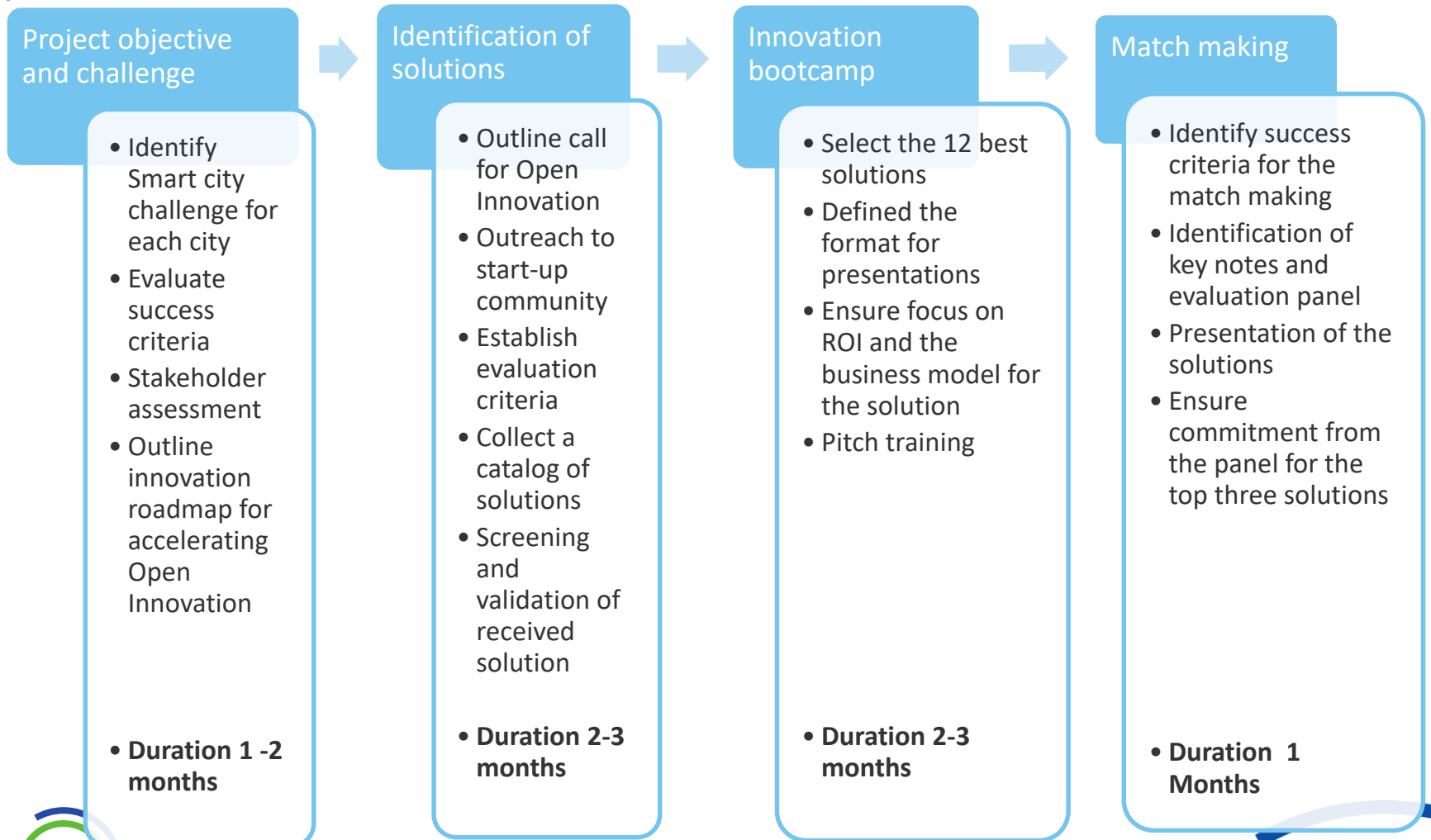
Open Innovation White Paper [HERE](#)



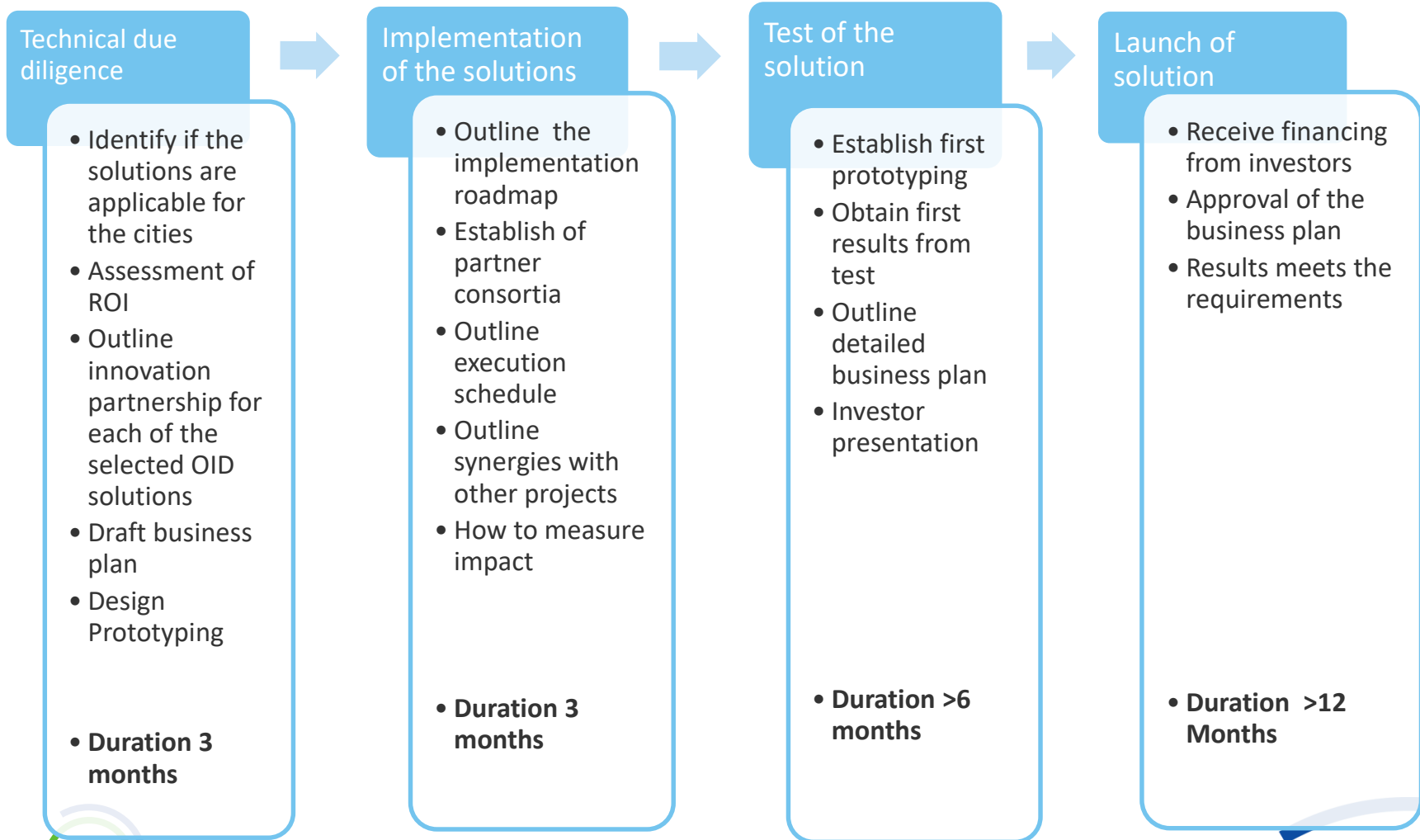
Method

- The City or private partner defines 3-5 climate challenges
- Climate-KIC outlines a call for solutions to the identified challenges of the city / private partner
- Climate-KIC sends out the call to potential solution providers all over Europe
- The client and Climate-KIC invites a shortlist of applicants to present their solution for the client
- The shortlisted solution providers are given a format for their presentations as well as coaching regarding what to present and how to give an impactful pitch.
- Internal decision makers are identification of members of city council and investors who participate in Q&A panels for the presentations
- 6-8 keynotes were invited to give presentations to set the challenges into a larger perspective

Open Innovation framework – Phase I



From Innovation to Implementation – Phase II



Risk

- Idea to product through Open Innovation is a time consuming process – many collaborators makes the process more demanding than traditional innovation processes.
- Discontinuity between the beginnings of integration and actual implementation due to client budget cycles etc. (e.g. a start-up often hopes and expects to achieve results very quickly whereas a municipality is typically less agile their work ways and decision making processes).
- Cultural differences and work cultures will impact implementation plans substantially
- Saturation of market for attracting solutions

Cases and achievements

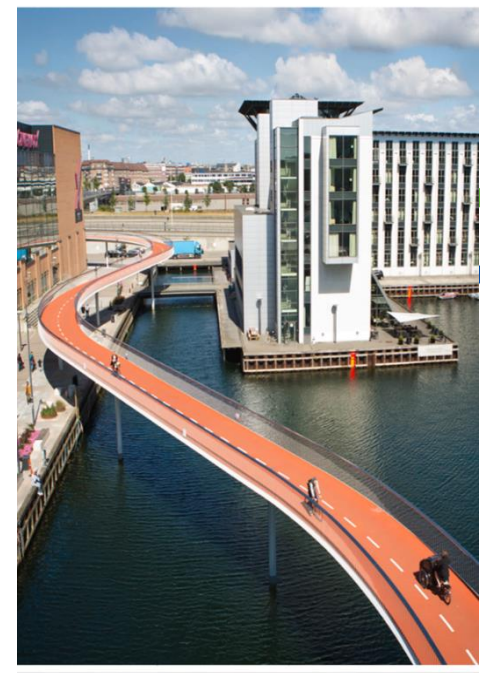
The Challenges in the CPH 2025 Climate Plan

Copenhagen aims to be the world's first CO2 neutral capital by 2025, where sustainable urban development is integrated into all aspects of the city district.

The City is continuously looking for good ideas for reductions in CO2, which can be included in its 2025 Climate Plan. In cooperation with Climate-KIC, an Open Innovation Call was launched in Oct 2015 to create lighthouse projects both in new low energy constructions and energy retrofitting, and ultimately to roll-out applicable solutions on a large-scale.

The five climate challenges that Copenhagen faces:

- i) Flooding of the city:** Copenhagen has been hit by severe flooding twice in the last five years, and expects such flooding to become more frequent.
- ii) Flooding of citizens' property:** Solutions that can help private households handle flooding are also required.
- iii) Buildings:** Retrofit existing residential and commercial buildings to become more energy efficient and build new low energy constructions
- iv) Smart city:** Copenhagen wants future smart-energy technologies, innovative business models and new operational solutions on all scales e.g. components, buildings, grid infrastructures, system level



Lead Partner	Key Project Partners	Duration	Budget
v) Copenhagen Municipality	Urban Heat Island: The city seeks solutions that use water shadows, air circulation, and regulation of surface temperatures to prevent heat waves Danish Technical University Henning Larsen Architects	7 months 3.2015 12.2015	EIT Grant: €65,00 Partner Co-funding: 0 €25.00 0



RESULTS from Copenhagen

- 80 guests at the town hall
- 57 applications
- 16 countries
- 15 shortlisted
- 14 selected for further talks with Copenhagen
 - Step 1: 12 Technical due diligence
 - Step 2: 3 Pilot
 - Step 3: 3 Implementation/Tender

Further info: [Open Innovation in Copenhagen](#)

The Challenges in the Gothenburg

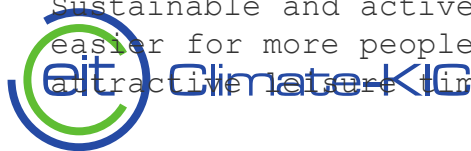
The City of Gothenburg faces a number of climate-related challenges and is together with Climate-KIC Nordic seeking innovative green-tech solutions that contribute to sustainable consumption. These must have a positive climate impact and be able to reach a wide market faster and more efficiently than has previously been possible. The aim of the Open Innovation Day is to identify tools that can help the inhabitants of Gothenburg make better and more informed climate friendly choices in their everyday life. The Open Innovation process sought innovations that can solve any of these five challenges:

- i) Easy and attractive ways to make low carbon choices: How do we make it easy and obvious to make climate smart decisions when choosing goods and services both online and in stores?
- ii) Circular and sharing economy - Reuse/Share/Repair/Redesign/Recycle: What additional services are available which can create a circular and sharing economy?
- iii) Efficient and sustainable use of transport: How can transport needs and resource consumption be reduced without limiting the citizens' choice?
- iv) Sustainable and active leisure hours: How can we make it easier for more people to have an adventurous and attractive leisure time with a low carbon footprint?

Lead Partner	Key Project Partners	Duration
Goteborg Municipality	Business Region Gothenburg	5 months 6.2016 - 12.2016



Budget	
EIT Grant:	€35,00
Partner Co-funding:	0
	€25.00
	0



RESULTS from Gothenburg

- 110 guest at Folkes hus
- 43 applications
- 12 countries
- 11 shortlisted
- 8 selected for further talks with Gothenburg
 - Step 1: 6 Technical due diligence
 - Step 2: 2 Pilot
 - Step 3: 1 Implementation/Tender

Further info: [Open Innovation Gothenburg](#)

Urban food from Residual heat

The Swedish cities of Malmö, Lund, Oskarshamn and Bjuv in collaboration with E.ON, ICA Fastigheter, Veolia and more, are looking for creative partners with innovative solutions to be involved in a new venture. This new venture will use wasted heat energy emitted from industrial sources to accelerate production of food or other biological products within the urban environment. Residual heat often emitted as clean warm water represents a waste of both energy and resources that is ultimately detrimental to the local and global environment.

They aim to incorporate the concepts of sustainability, the circular economy and zero waste into a new local service, one which will have positive socioeconomic benefits for the cities, such as employment, education and urban gentrification

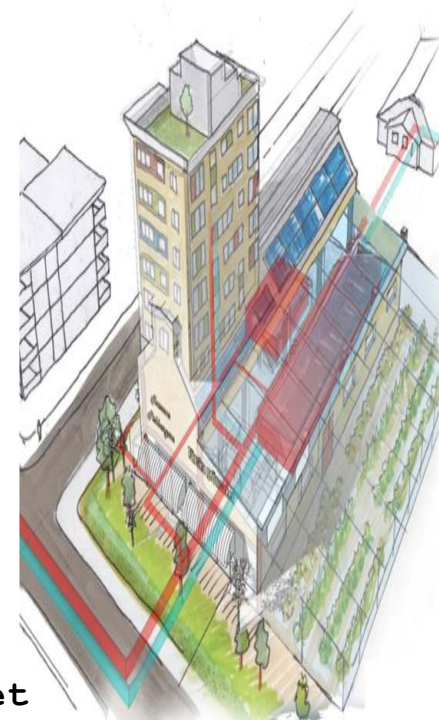
Open Innovation Challenge Areas:

- i) #1 Technical challenges - How can we feasibly capture residual heat, transport it, store it on site and use it to accelerate urban food production?
- ii) #2 The biological production challenges - The production unit, how should it look? How should it operate? How can we maximise its production potential by using residual heat?
- iii) #3 Business challenges - How can we design a business model that allows the project to be self sufficient, create social value for the area and uphold the projects circular economy / zero-waste principles?

Lead Partner	Key Project Partners
Swedish Agricultural University (SLU)	E.On, Velolia, ICA, Sustainable Business Hub,

Duration
14 months
2.2017 -
04.2018

Budget
Vinnova Grant €105,000
Partner Co- funding: €105.000



RESULTS from Skåne

- The Swedish cities of Malmo, Lund, Oskarshamn and Bjuv are looking for creative partners with innovative solutions that can be involved in a new venture, to convert waste heat into urban food or other biological production
- The call for solution is now closed and the next step of the matchmaking will happen the 3. oct.
- 48 application
- 18 countries
- 30 solutions pre-selected

Further info: [Urban Food from Residual heat](#)

How will you design an Urban Eco-Cluster

URBAN Eco Clusters are crucial in reaching sustainable production and consumption patterns today and in the future. The focus of the project is to build an URBAN Eco Cluster cooperation platform that will facilitate a dialog process to collect green smart city and public engaging area in St Petersburg, resulting in increased sustainable growth and improved climate adaptation facilities

Recommendation for: 1) Scientific and educational segment, 2) Technological segment, 3) Demonstration segment, 4). Wildlife Rehabilitation complex

TASK

Name project partners

List capabilities

List SDG to achieve

Open Innovation





Climathon



Join the Climathon movement,
drive climate action

#Climathon
climathon.climate-kic.org

Climate-KIC is supported by the EIT,
a body of the European Union

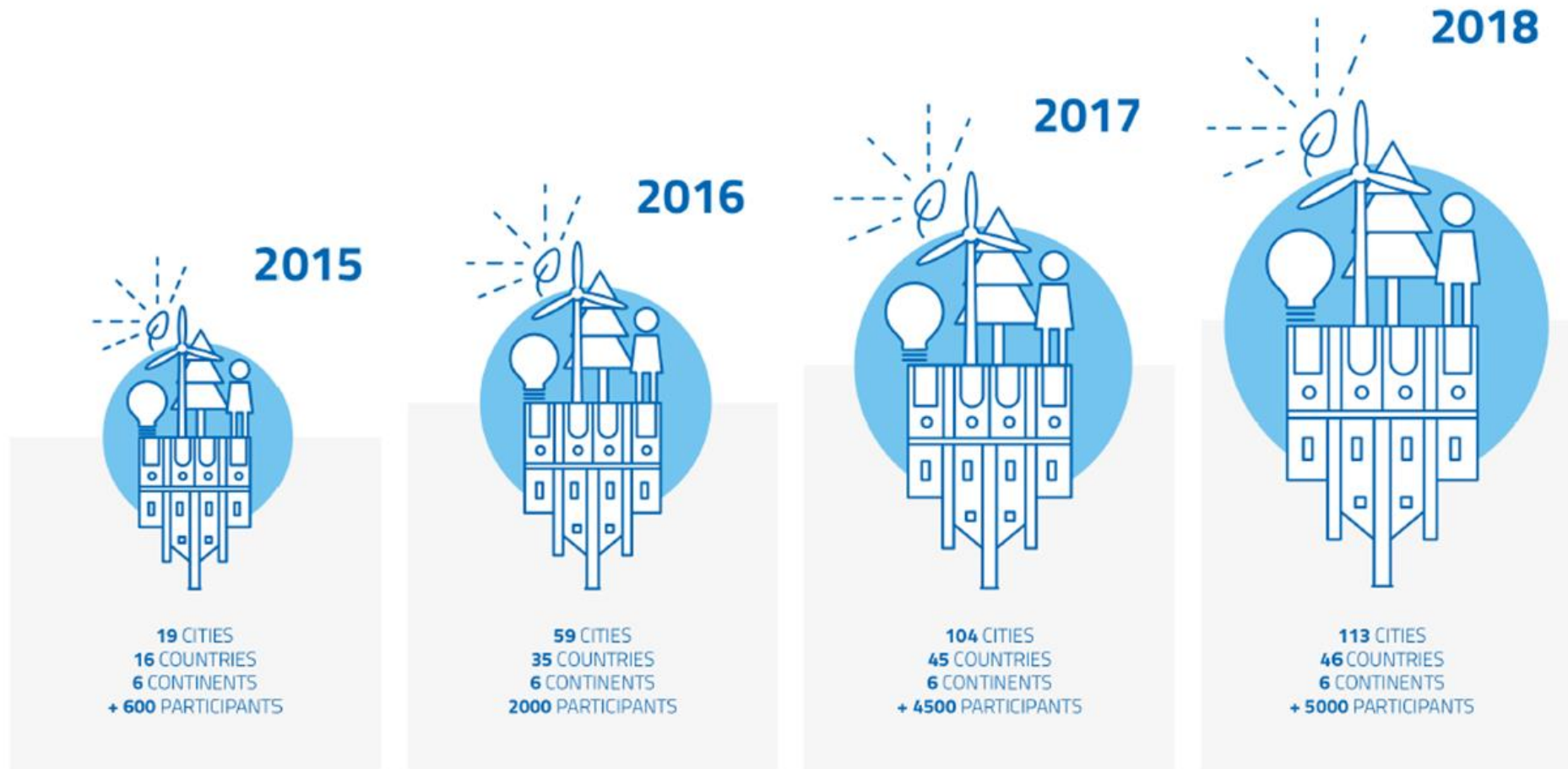




- Climathon is Climate-KIC's instrument for global citizen engagement

- Climathon is a global movement and increasingly becoming more than just a 24-hour hackathon

Climate Action Hackathons



Citizens around the world take direct climate action by coming up with innovative solutions to city's climate change challenges



Entrepreneurs, developers, students and professionals meet simultaneously to create solutions during the 24-hour hackathon.



City authorities and municipalities, start-up networks, Universities and corporates around the world take part in Climathon

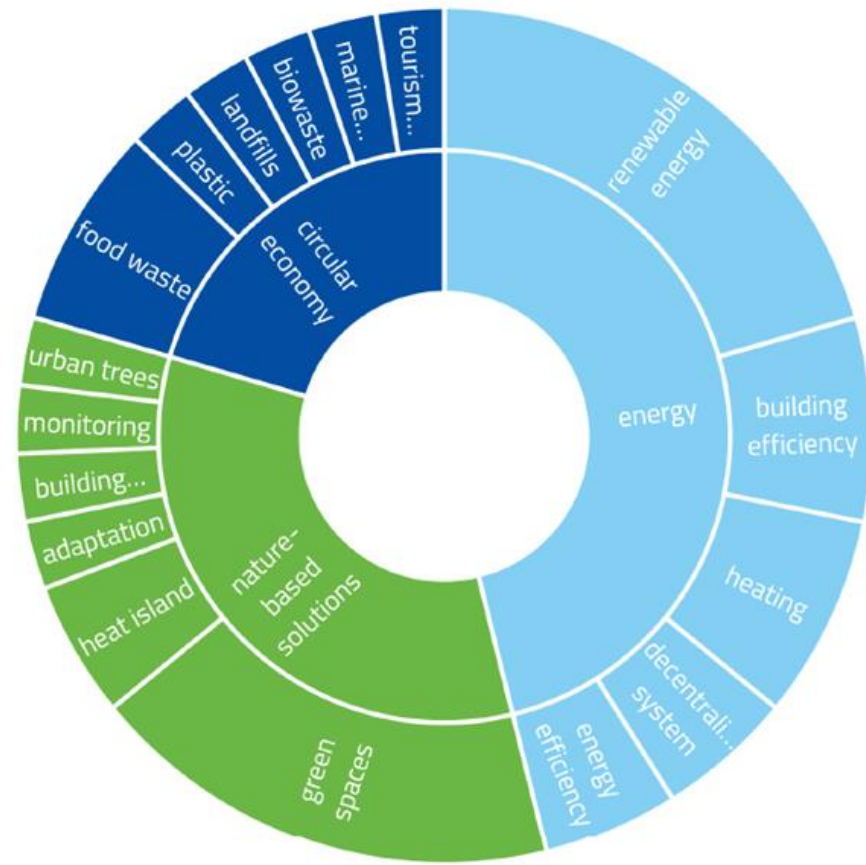
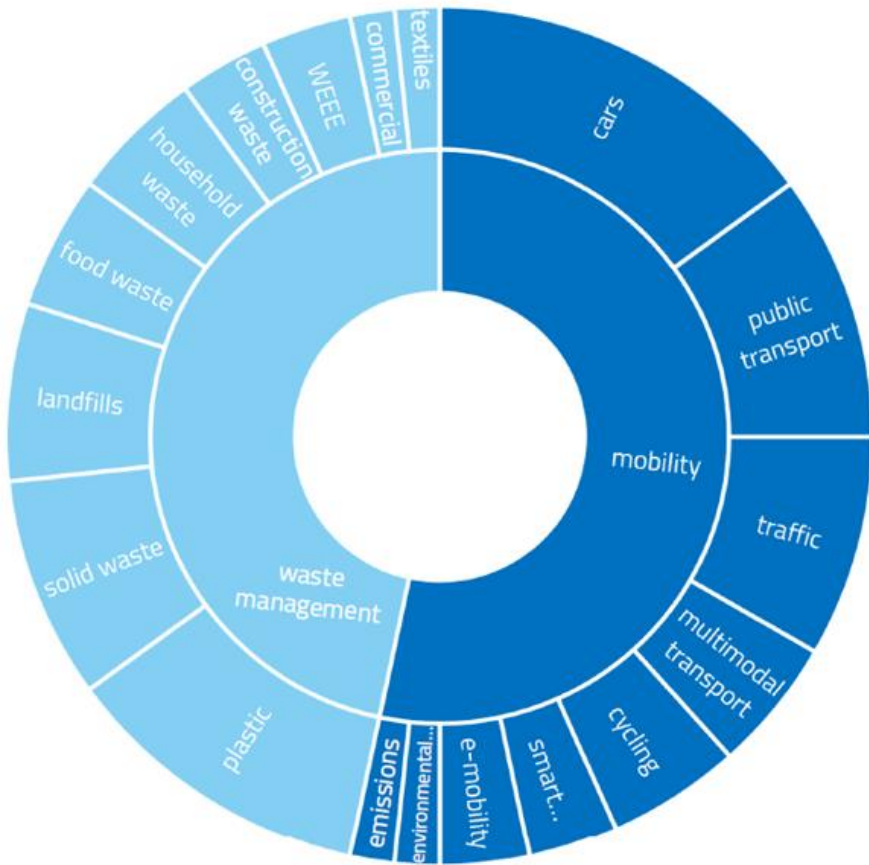
Create your challenge



A good challenge will:

- Address a local climate change problem
- Provide data sets or interesting information for hackers to work with
- Have an engaged set of stakeholders who have an interest in solving the challenge and will support the Climathon with input, data, and mentoring

Climathon's City's Climate Challenge Areas



Green Hackatons - What is your wish?

Educating the next generation of Climate Entrepreneurs

ReCities – Reinventing city living

Join us to form the first Nordic physical Smart city showroom “ReCities” to be located in Copenhagen ready for the C40 Mayor summit October 2019

The purpose of the ReCities is to create a physical showcase in order to accelerate export of European innovative and integrated smart city solutions and connect Recities hubs to foreign cities. As a showroom ReCities require a digital, decentralised ledger that keeps a record of all transactions that take place across the peer-to-peer network. MANIFEST

FUTURE CITIES

20/03/2019

EFFEKT



Why develop a physical Smart City showroom?

The ReCities goal is to create a physical “city-in-a-city”, displaying the best and most innovative urban solutions.

In addition, we want to create a platform for innovation dialogue at the C40 Mayor Summit on how to use blockchain and the SDGs as a tool for creating better, healthier and more engaging urban spaces for people around the world.

We want to demonstrate and integrate rather than illustrate and imitate modern technologies, mechanics, and thinking, coming from the most innovative companies and organizations in the Climate KIC Community. Besides creating the largest showroom ever built we want to accelerate the transition to more sustainable cities by developing, experimenting, discussing, and promoting action around Smart City

We want to create a platform for dialogue on how to use available smart city concept to measure and promote future way of living, new tech/high tech, urban solutions, mobility, waste management, and upcycling, renewable energy, healthy living and much more.





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CLIMATE LEADERSHIP GROUP

An Architecture Guide to the UN 17 Sustainable Development Goals

Case for the Circular Economy guide to the UN17 SDGs?

LINK to the publication [HERE](#)

Thanks for your attention



Climate-KIC is supported by the
EIT, a body of the European Union

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www.climate-kic.org