

# EFFICIENT SYNERGIES BETWEEN EU MISSIONS AND INDUSTRY

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# EIT Climate-KIC

Overview

May 2022

 @ClimateKIC



Co-funded by the  
European Union

EIT Climate-KIC is Europe's largest public-private partnership addressing climate change through innovation to build a **net-zero-carbon economy**.

We are supported by the **European Institute of Innovation and Technology (EIT)**, a body of the European Union.

Our response to climate emergency has been to focus our efforts on **systems innovation** to generate options and pathways for radical transformation.

## Our Vision

A prosperous, inclusive, climate-resilient society with a circular net-zero emissions economy

## Our Mission

To catalyse systemic change for climate action

## Our Promise

Transformation in time, through systems innovation

# Our track record in climate innovation

**1,800+**  
climate-positive  
start-ups incubated

**>€4.0bn**  
climate funding  
leveraged

**595**  
new products  
and services

**>€550m**  
total value of  
funds managed



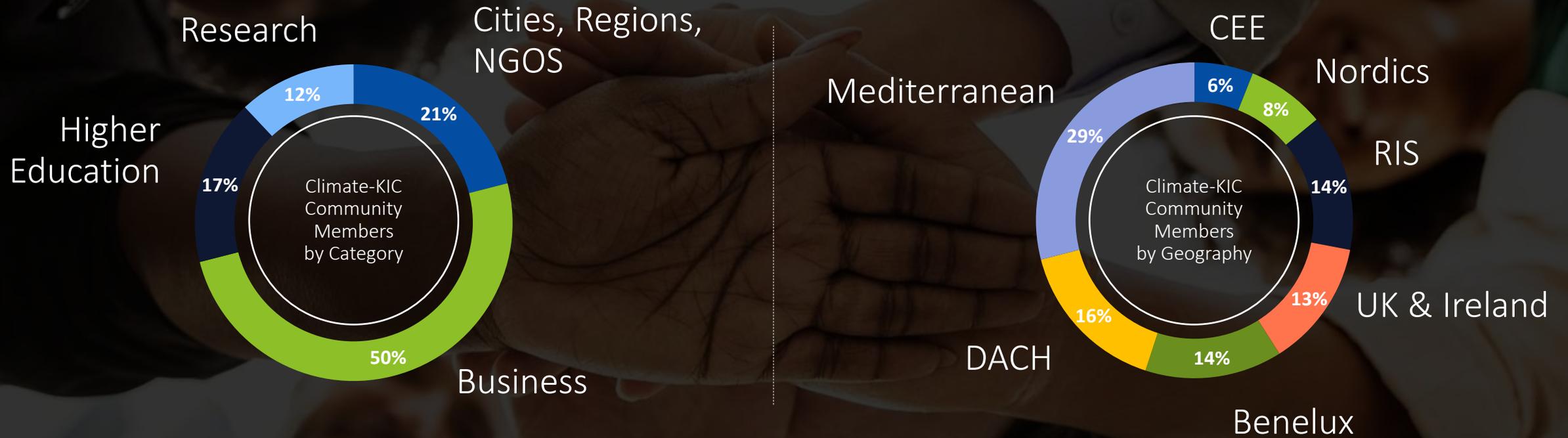
**440+**  
formal partners,  
across Europe  
(including *Linked 3<sup>rd</sup>*  
*Parties*)

**>€1.5bn**  
investment attracted  
to start-ups

**>10,000**  
full-time jobs created  
since 2010

**54,000**  
participants in our  
education activities

# EIT Climate-KIC Community



**385**

Total CKIC Community Members

**24**

of which Core Partners

**60**

Linked Third Parties (L3Ps)

**445**

Community Members including L3P total

#### 4 Sensemaking and feedback loops

We generate actionable intelligence to accelerate learning about how to achieve transformation at scale. Feedback loops inform policymaking and dynamic management of the innovation portfolio.

#### 3 Orchestrate a portfolio

For each challenge, we build and manage a portfolio of 30 – 100 connected innovations, designed to address leverage points identified in earlier stages. These may combine behaviour, technology, citizen engagement, policy, education and other levers of change.



#### 1 Establish intent and commitment

We engage Europe's most ambitious challenge owners – city mayors, regional leaders, govt ministers, citizen leaders and CEOs of major companies – to understand their unique 'problem space', identify current commitments, and secure a clear intent for transformational change.

#### 2 Define the intervention strategy

We map the system to identify where and how innovation can play a role in catalysing change dynamics, and start to design relevant innovation 'positions' or leverage points to address barriers and opportunities.



EUROPEAN UNION



# EU MISSIONS

**CLIMATE-NEUTRAL & SMART CITIES**

**Concrete solutions for our greatest challenges**

**! 377 submissions received !**



**#EUmissions #HorizonEU #MissionCities**

# MEET THE CITIES

## OBJECTIVES OF THE EU CITIES MISSION

- 100 **climate-neutral** and **smart cities** by 2030
- Ensure that these cities act as **experimentation and innovation hubs** to put all European cities in a position to become climate-neutral by 2050

## SELECTED CITIES

- 100 EU cities
- 12 cities from countries associated to Horizon Europe, the EU's research and innovation programme (2021-2027).



Cities from every Member State



Capital cities



Small, medium, large cities



Frontrunners and less prepared cities

## BENEFITS FOR CITIES

- **Tailor-made advice and assistance** from the Mission Platform (managed by the [NetZeroCities](#) consortium)
- Unlocking additional **funding and financing opportunities** through a Mission label
- **Research & Innovation funding opportunities** for cities to join large innovation actions, pilot projects and demonstrations (total budget from Horizon Europe for 2021-2023 is €360 million)
- Support through a national **coordination network**
- Networking opportunities, **learning and exchange of experiences** among cities
- Support with **Involving citizens in decision-making**
- **High visibility** – raised political profile and attractiveness for investment and skilled workers

## EU CITIES



## CITIES FROM ASSOCIATED COUNTRIES



**ALBANIA**  
Elbasan



**ISRAEL**  
Eilat



**TURKEY**  
Istanbul  
Izmir



**BOSNIA AND HERZEGOVINA**  
Sarajevo



**MONTENEGRO**  
Podgorica



**UNITED KINGDOM\***  
Bristol  
Glasgow



**ICELAND**  
Reykjavik



**NORWAY**  
Oslo  
Stavanger  
Trondheim

\*The United Kingdom is expected to become associated to Horizon Europe and will therefore have the same rights and obligations as other associated countries.

## NEXT STEPS

Cities will start working on their Climate City Contracts



Including climate action plan and investment strategy



Innovative city governance and citizen engagement



Involvement of EU, national and regional level

Climate City Contracts are drawn up by cities, involving citizens and partners, and set out their plans to achieve climate neutrality by 2030. The contracts are a clear and highly visible political commitment, but not legally binding.

EIT COMMUNITY BOOSTER

# Scaling up **New European Bauhaus** ventures



Community  
New European Bauhaus

Funded by the  
European Union



**APPLY  
NOW!**

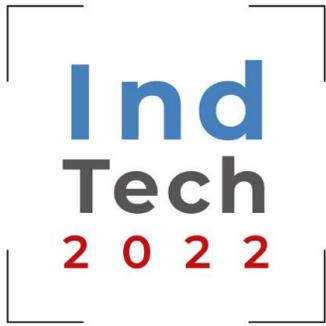


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 [@ClimateKIC](https://twitter.com/ClimateKIC)



Co-funded by the  
European Union



ASPIRE



PROCESSES4PLANET

# Industrial Technologies IndTech 2022

Efficient synergies between EU  
Missions and Industry

**Àngels Orduña**

A.SPIRE Executive Director  
28 June 2022 11:00-12:30



[www.aspire2050.eu](http://www.aspire2050.eu)



@ASPIRE\_P4Planet



aspire2050association

# Ambitions and Challenges





# Hubs for Circularity the rationale

## SEED: Energy Intensive Industries as H4Cs

*Process Industry: capacity to reintroduce bulk amounts of resources in the industrial system*

## H4CS ECOSYSTEM

- Regions with strong presence of Process Industry
- Value chain, SMEs, Academia, Research organisations
- Civil society, Investors, Public sector
- Cooperation across regions. Facilitation

## BUSINESS TO TERRITORY PLANS

Co-investment plans

## INNOVATIONS

- Full Scale I-U Symbiosis
- Closing energy, resources and data loops
- Alignment of industrial and regional ambitions on climate neutrality and circularity

## IMPACT

### PROCESS INDUSTRY

- 100% of total CO<sub>2</sub>eq emission reduction potential,
- 80% of waste and secondary raw materials reduction potential,
- 90% of wastewater reused/recycled potential
- Globally competitive Process Industry

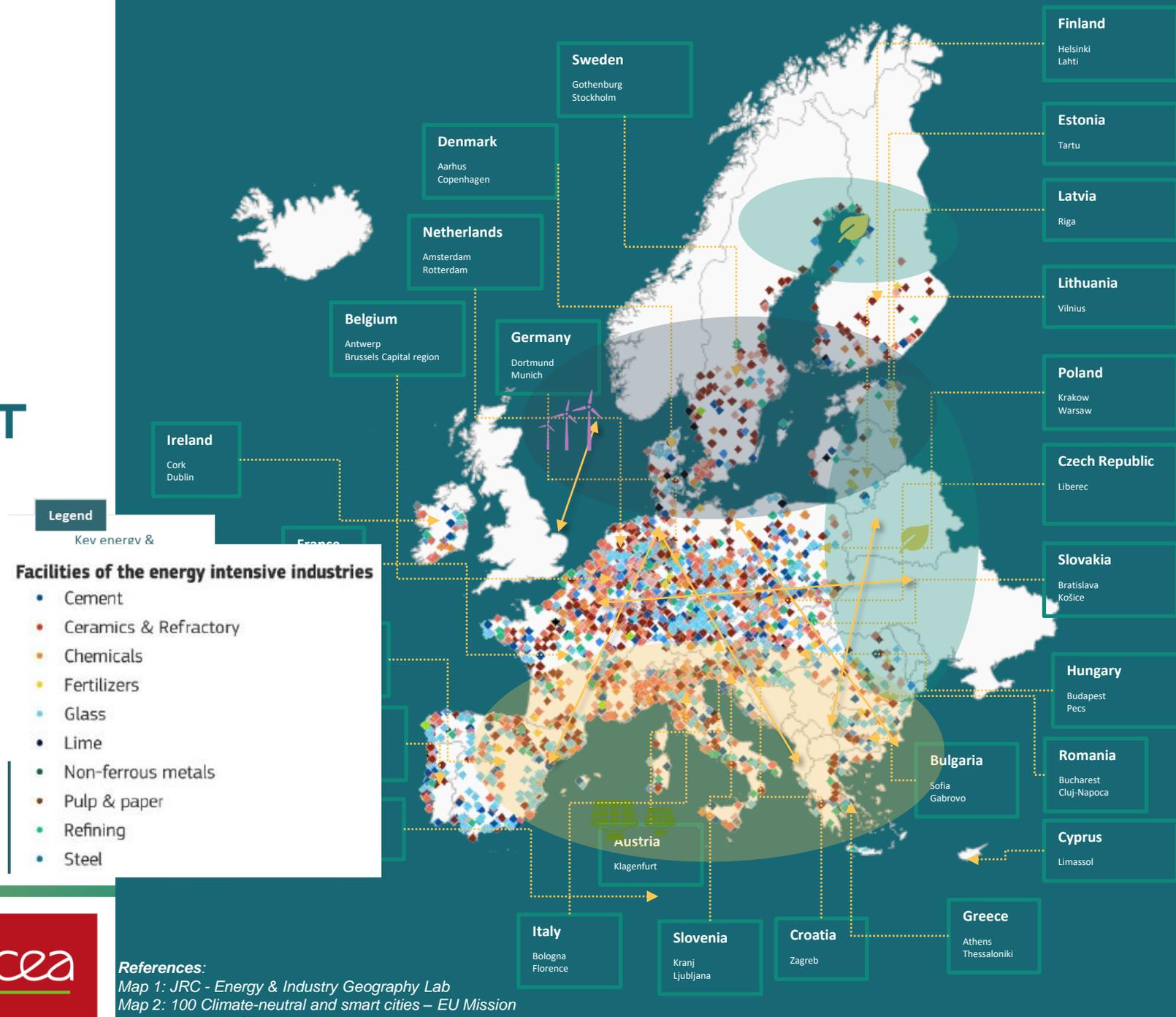


### REGIONS & CITIES

- Climate-neutral regions
- Waste-zero regions



# PROCESSES<sub>4</sub>PLANET and impact across EU regions



# Process Industry and cities: together in the climate neutrality journey

## SRIA 2050 PATHWAYS

### Climate Neutrality Pathway

Reducing emissions through energy efficiency  
Integrating renewable energy/feedstock  
Reducing emissions through CO/CO<sub>2</sub> capture & use

### Circularity Pathway

Resource and water efficiency  
Circularity of carbon  
Ensuring real circularity & overhauling the use of waste and water

### Competitiveness Pathway

De-risking investment  
Making climate-neutral and circular industry solutions economically viable  
Reaping the full benefits of digital technologies  
Integration into the economic ecosystem across EU regions  
Reducing barriers for market uptake

## CONTRIBUTION TO EU MISSIONS

### Climate-Neutral and Smart Cities

CO<sub>2</sub>, waste and water valorisation  
Industrial waste heat as energy for district heating.  
Energy storage and buffering in combination with industry.  
ECOP linking the ecosystems to optimize upcycling and valorisation

### Restore Our Ocean and Waters

Water protection (treatment and recycling).  
Proper treatment of plastic waste, avoid littering rivers and oceans.  
Safe and sustainable by design approach.  
Membrane technology to eliminate plastics when treating water for re-use.

### Adaptation to Climate Change

Droughts have an impact on industrial activities.  
Cooling processes need to be designed in function of climate change by increasing water and energy efficiency.



# Climate-neutral and smart cities cases from the Process Industry

GRENOBLE



ANTWERP



KRAKOW



ZARAGOZA



## Arkema Jarrie Plant

Emphasis on modernization – a new membrane electrolysis unit opened in 2014

## Virtuous circle

Solvay’s urban energy partnership with Grenoble Metropolis



## BASF, Air Liquide CCS project in Antwerp

the world’s largest cross-border CCS value chain.



## CEMEX, ArcelorMittal

Existing supply chain routes can be used to create connections between different sites.

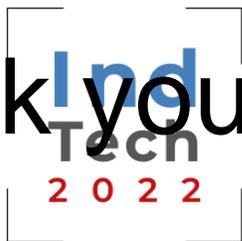


## An industrial technology park devoted to recycling.

Big Industrial – Urban Symbiosis potential in collaboration with the Process Industries.



Thank you!



PROCESSES4PLANET

Scan the QR code and  
Submit your **#PledgeForPlanet!**  
until Tuesday 28 June at midnight

Join us at P4Planet's Village on **Thursday 29 June at 10h00**  
for our **MORNING COFFEE FOR PLANET**  
*Gifts for the most ambitious pledges*



AMIRÈS



# Missions and Industry - the need for a new coalition

Wolfgang POLT

Joanneum Research & TRAMI

Session: Efficient synergies between EU Missions & industry

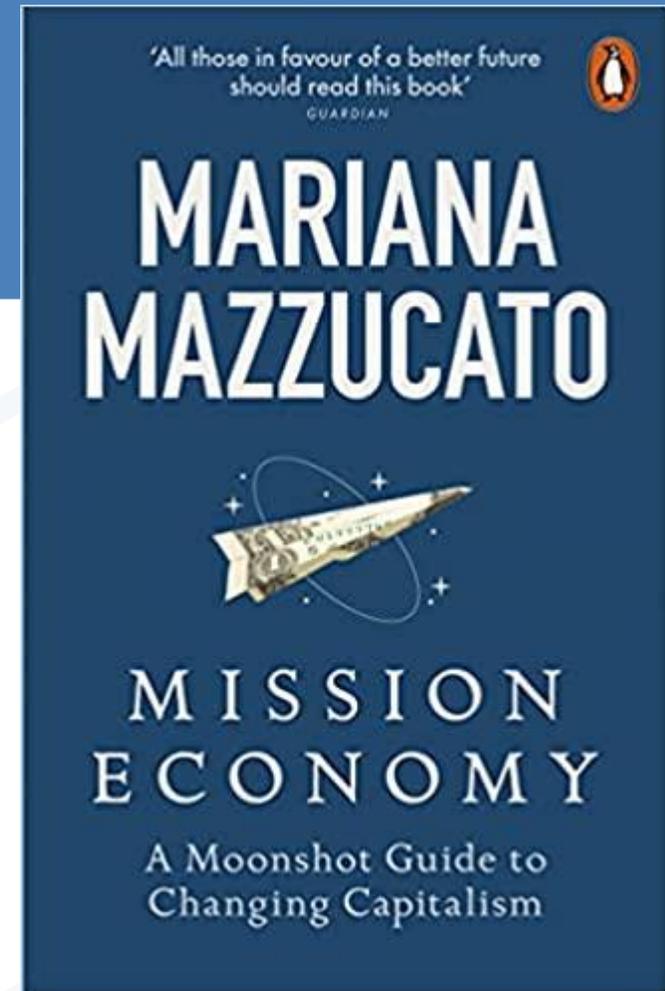
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# Towards a 'Mission Economy'

- Missions are not (primarily) about 'fixing' markets, but creating new ones
- Missions need new governance models
- Missions need new interaction models between governments, society and industry

*“Government alone, no matter how ambitious and mission-oriented, cannot pursue a better path if it does not have a more productive relationship with business - and if business itself is not more long-term-minded and purposeful” (p.164)*



# Types of Missions - Types of Interactions

## Science Missions

- Goal: scientific breakthroughs
- Clear focus, mainly addressing scientific community
- Examples: Human Brain Project, Quantum Flagship, Cancer Moonshot, EU cancer mission

COVID Vaccine development

## Technology Missions

- Goal: technological breakthroughs and acceleration
- Clear focus on technological innovation, mainly addressing applied research actors and industry
- Examples: Apollo/Artemis-Mission, Nuclear powerplants, TGV, Concorde, **Important Projects of Common European Interest (IPCEI)**

## Transformative Missions

- Goal: Change of existing (large-scale) socio-technical systems, involving social, technological, organisational and institutional innovations
- Broader goal definition, multitude of actors, complex governance, long time horizon
- Examples: German ,Energiewende‘, **EU Missions on Cities, Climate Adaptation, Soil, Water (partly Cancer)**

Source: Polt/Weber 2018

# How to get there? How to engage industry?

## 5 EU Missions

Tasked with implementation of missions according to mission implementation plans. These include:

- Build up of (new) governance structures
- Identify stakeholders / communities
- Coherent use of existing instruments / creation of new ones
- Involving all stakeholders in 'co-creation' processes



Potential interfaces for enterprises

**trami** (Transnational cooperation on the mission approach)  
MAKING MISSIONS WORK

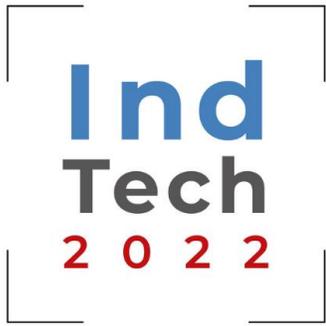
- Build and expand a **core network of organisations** engaged in mission-oriented policies at European, national, regional, local or thematic policy levels.
- Promote a **common vision of mission-oriented policy**, and enable **knowledge exchange, mutual learning and the testing** of mutually compatible practices of mission governance.
- Establish **partnerships and cooperation with regional and local actors** in order to guide and frame the initiatives of targeted mission hubs.
- Support these actors in **setting up suitable governance structures** aligning EU, national, regional/local levels of mission implementation.

Coming soon: a mission next to your  
business!



[wolfgang.polt@joanneum.at](mailto:wolfgang.polt@joanneum.at)  
<https://www.trami5missions.eu/>





# Grenoble-Alpes Métropole: the path to climate neutrality & the role of industry

Guillaume TOURNAIRE  
Grenoble-Alpes Métropole  
Grenoble, 28<sup>th</sup> of June 2022



- Increase of temperatures is **higher in mountain** regions than average one
- In Grenoble, increase of **heatwaves** ( $> 35^{\circ}$ ) to 40 / 80 days per year in the future (eg. 5 days per year during the 90's)
- Changes we already see : hotter autumns with more intense & erosive rains and cooler winters with less frost & snow.
- ***Already visible consequences:***
  - **On health and well-being:** heatwaves, allergies, mosquitos, ...
  - **On vegetation and biodiversity:** forest is drying, fauna & flora evolutions, ...
  - **On water resource:** the mountain water tank is decreasing every winter
  - **On natural hazards:** extreme events, stones falls, floods
  - **On agricultural and forestry :** dryer lands, changes in practices and kind of production

# Grenoble-Alpes climate neutrality in few words

- The commitment : acting to address climate change is not a matter of choice ... **climate change is a reality which is committing us!!**
- The **Metropole scale**: the first level for action with SECAP ...
- In Grenoble-Alpes, local neutrality is not a goal : acting as **faster** as possible & as **stronger** as possible are the goals !!! The challenge is global
- Accelerating ecological transition needs the **commitment of all** (institutions, citizens, civil society, economic actors, researchers and innovators ...)
- Ecological transitions needs a **change in the paradigm**: we have to invent a new way of living who lower our carbon footprint

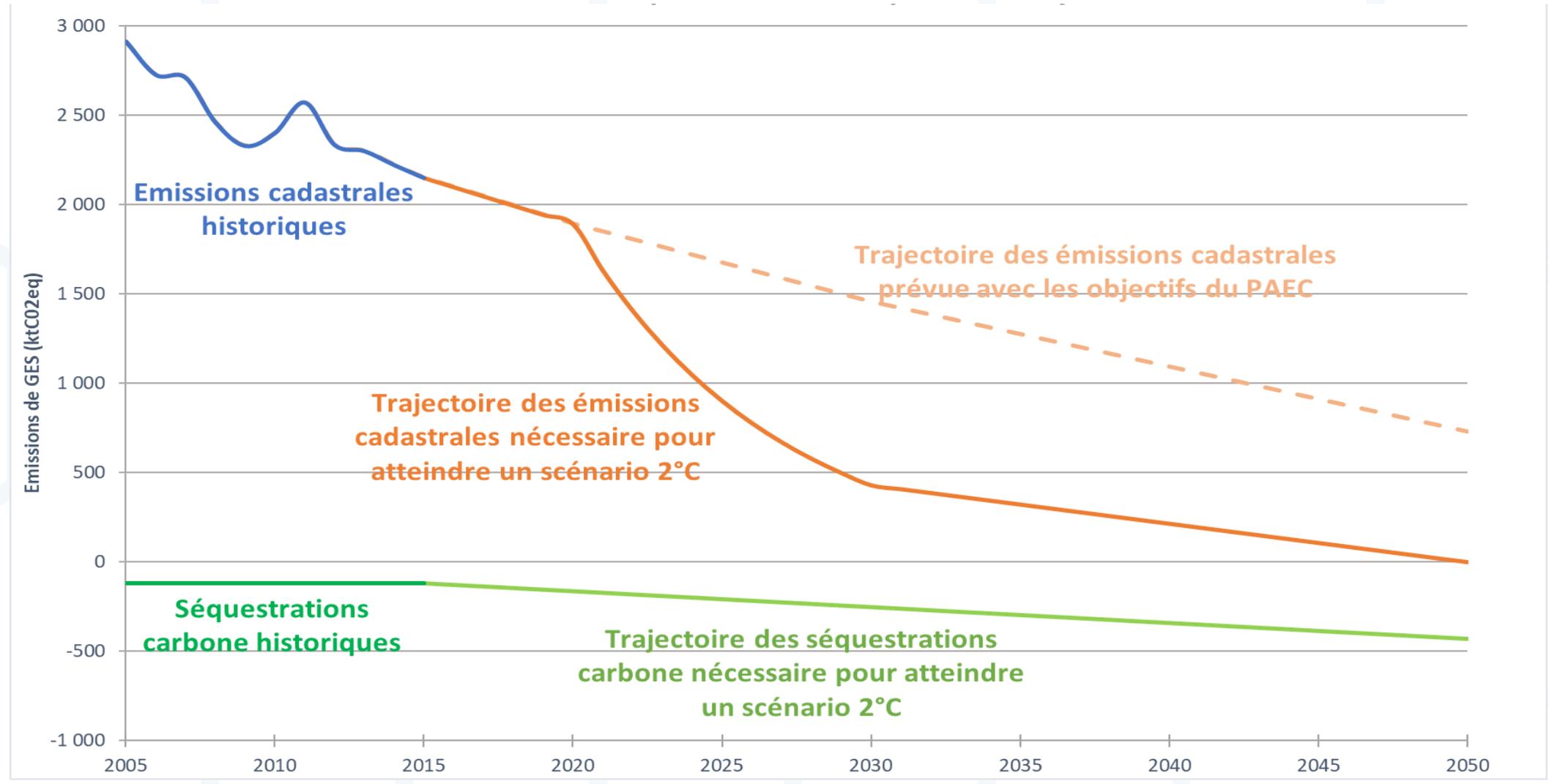
The SECAP 2020-2030, a “Fit for 55” strategy at the cornerstone of all metropolitan policies



Integrated  
Resilient  
Coherent

In 2022, a new stage with the “*breakdown scenario*” for a more ambitious SECAP

# Breaking the curve : the hard challenge to address



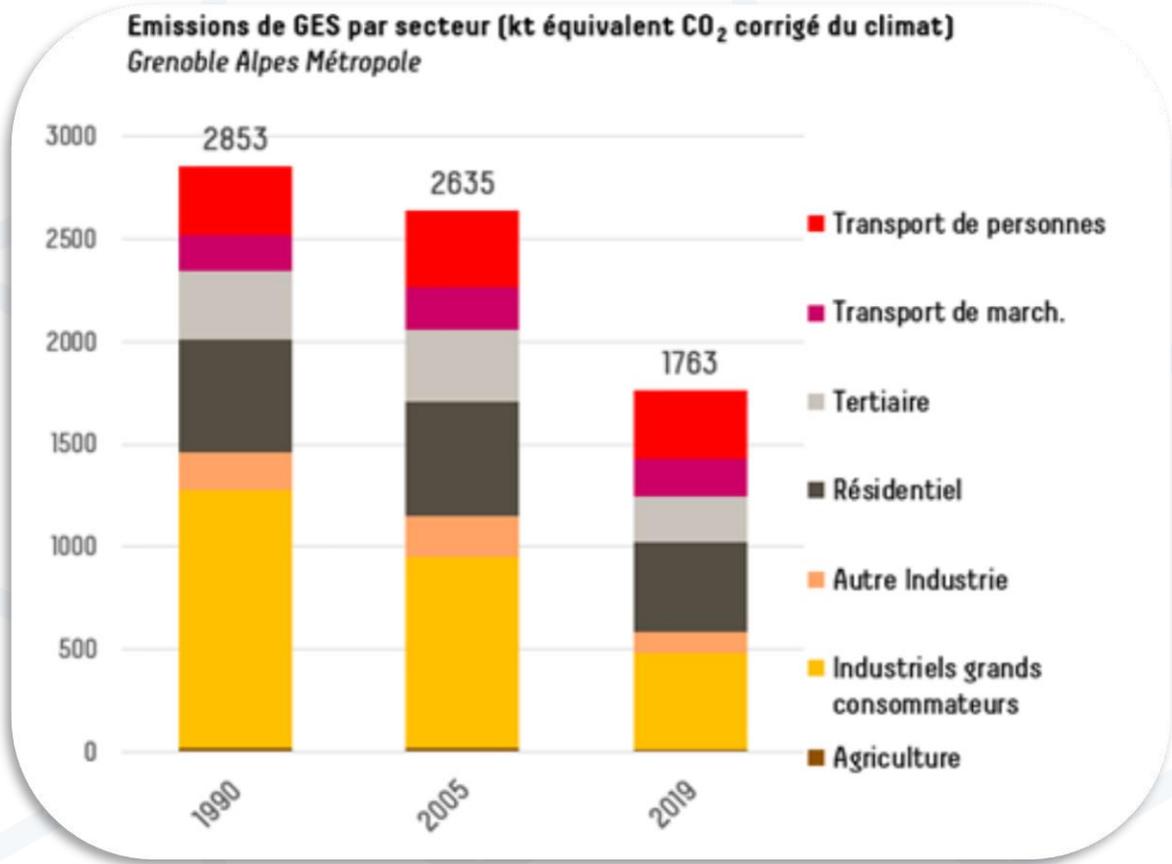
# Neutrality and Industry: a crucial piece for the success

**The paradox : Industry is a big part of the problem but also a crucial stakeholder for decreasing territorial carbon footprint**

*Between 2005 and 2019, the local GHG emissions decreased by 33%, mainly linked to the reduction of emissions from the industrial sector (-48%).*

*It is explained both by a decline in activity, but also by the optimization of processes and the use of less polluting energy sources.*

*(source SECAP 2030)*



- Local economy must be part of the process by consolidating actions:
  - As projects implementers
  - By playing their role in terms of social and environmental responsibility
  - To adapt their skills for supporting climate transition (eg. Retrofit industry)
- Special role of industry
  - Pushing industry away is not the solution - Our aim is also to **relocalise** industrial activities
  - = A challenge because moving emissions from Scope 3 to scope 1
  - Need of a close partnership involving innovation actors (researchers & start-ups)

# Industrial actors: what are the current trends ?

- A welcoming place for manufacturing companies:
  - Installation of new factories like Aledia (LED manufacturing) and Verkor (electric batteries)
  - Keeping those already installed
- The challenges :
  - Lowering impacts of industry by investments in favour of more efficient processes
  - Recovering “lost/fatal” energy
  - Optimising the connection between industry and the territory
  - Finding new solutions for a more circular economy
- Focus on “lost/fatal energy” (SECAP specific objective):
  - The territory doesn’t have a big potential for increasing renewable & recovery energy
  - Potential to recover lost/fatal energy of the territory is still underdeveloped
  - Recovering this energy needs close cooperation with industrial actors

# What does GAM is doing / will do?

## • GAM as an Industrial actor:

- Urban heating network company (CCIAG) producing its own energy 85% green
- Gas & Electricity Company (GEG), producer & supplier of with objective 100% green energy
- Waste water treatment plant producing methane and bioNGV (for buses & trucks)
- In 2024 an “anaerobic digestion” plant using food waste collected directly from households

## • GAM supporting industrial actors:

- “Local economic Pledge ” gathering local authorities & companies
- “You’ve got an innovative project to test in real life ?”
- Rôle of cluster, in particular Tennerdis or Axelera, to support start-ups and SME’s
- “South Industrial Park” initiative with a new development area for circular economy start-ups
- Forthcoming circular economy strategy to support economic actors in their transformation
- Technical support for SME’S to reduce energy consumption (MurMur Initiative)

- **European opportunities :**
  - An Application on “INTERREG Alpine Space” focused on industrial ecology (ECOLE project)
  - **ERDF 21-27 Framework funds**
  - **Just Transition Fund** will allocate funds for decarbonising industry with funds for industrials & research - innovation activities
  - **Horizon Europe** opportunities: future partnerships ??
  - ...

Thank you very much for your attention!

Drawing on the experience of the Grenoble Metropole, industry will play a critical role in achieving targets in relation to the Climate Neutral and Smart Cities mission. The Grenoble experience highlights how overall local GHG emissions reductions are closely linked to decreases in emissions from the industrial sector.

The Process4Planet Public-Private Partnership Pathways will contribute to a number of EU Missions, including Climate Neutral and Smart Cities, Restore our Oceans and Waters and Adaptation to Climate Change missions. Moreover, the Hubs for Circularity under this Partnership can contribute to the Cities Mission in particular.

A number of elements were identified in order to reinforce synergies between Missions and industry, including clarifying the links to the Work Programmes of Horizon Europe, reinforcing Member States' role in missions and promoting wider citizen awareness of and engagement with Missions.

The key outcome of the session was an agreement to pursue concrete cooperation between the Process4Planet Partnership and Grenoble Metropole



