

Systems innovation, climate adaptation and mountain areas

Dr. Salvatore Martire, EIT Climate-KIC

*Smart Mountains - Climate Adaptation:
what opportunities for mountain businesses?*

Euromontana | 27 May 2021

Funded by the
European Union



Our Partnership Community (2020)

The image displays a vast collection of logos from various organizations, categorized into three groups:

- Top Row:** CzechGlobe, UCL, JTC, FAM, University of Helsinki, officervtae, TRACTEBEL, THE CO FIRM, Edinbvrgh, TDVG, Technostars Delft, and Euroa Sustainability Group.
- Second Row:** TUM, Ayuntamiento de CASTELLO, The SEED Foundati, la pinada, Green and Sustainable Platform, Knight Frank, fondazione innovazione urbana, ENEGAN, climate Leadership Coalition, LUCE - GAS - TLC, Ayuntamiento de Málaga, Agencia per l'Energia e lo Sviluppo Sostenibile, UH, University of Valencia, and AGVESTO.
- Third Row:** COMAR BELGIUM, ad'In, GREATER LONDON AUTHORITY, ARIA, X, ECOLE POLYTECHNIQUE, CAVIRO, climatetraduce tecnalia, Inspiring Business, ICRES, ecoembes, UH, Universität Hamburg, and Frankfort School.
- Fourth Row:** FKAI, NAPE, Stockholm Green Digital Finance, C, ENLIGHT, MATERIAL TECHNOLOGIES, avaesens, ECODOM, C40 CITIES, ECOPOM, CRYO, WWF, C, suez, C, centro de innovación de infraestructuras inteligentes, OAKDENE HOLLINS, The Lightsmith Group, ORLÉANS MÉTROPOLE, ISS Ethn, CETAQUA, GENILLARD & CO, ENGIE, and MIDEM.
- Central Box (Core Partners):** A large blue-bordered box containing logos for Veolia, Imperial College London, KLM, ETH zürich, e-on, CHALMERS UNIVERSITY OF TECHNOLOGY, achmea, ferrovial, City of Helsinki, NOVAMONT, HIT, south pole group, GFZ, vito, INRA, TU Delft, ecci, DEOAGROUP, Deltares, UNIVERSITY OF COPENHAGEN, TNO, ITE, 25, Juntos, and others.
- Bottom Row:** Futureproofed, TRENTINOSVILUPPO, AgroParisTech, LAS NAVES, Ayuntamiento de VALENCIA, WAGENINGEN, OrigenPower, ISS, Antaco, Helsinki-Uusimaa Regional Council, FORUM VIRIUM HELSINKI, LONGEVITY PARTNERS, LUVENT CONSULTING, Birmingham City Council, myclimate, COASIS, PALM TREE, and eit Climate-KIC.

“ The lack of access to actionable solutions is one of the main barriers to adaptation. The EU Framework Programme and the Climate Knowledge and Innovation Community already support adaptation innovation, but recent analysis shows **the need to step it up.** ”

European Commission, EU Adaptation Strategy

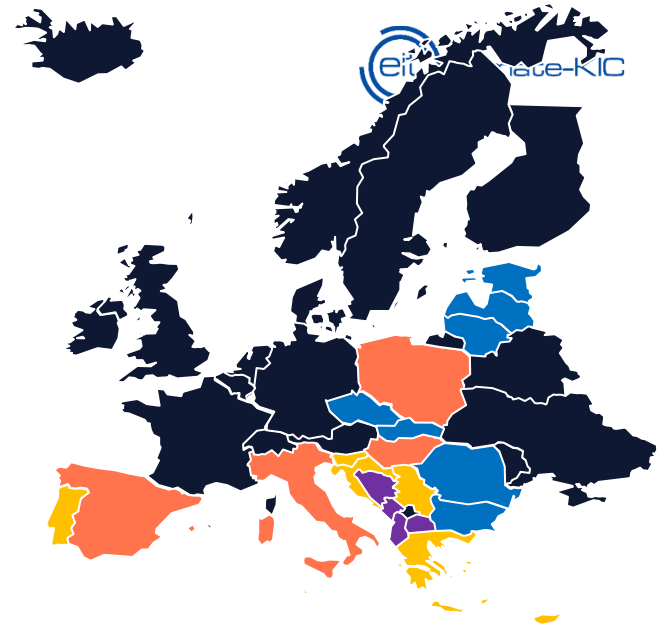
Connected innovation in climate risk information, resilience and adaptation

- open data platforms and standard-setting,
- inclusion of climate risk in financial ratings in credit and bonds,
- landscape-level climate risk studies and tailored information service design for public and private infrastructure,
- training and financial incentives for de-risking assets and emerging markets
- public and business understanding of risk through simple schemes and installations,
- data and risk literacy approaches (e.g. training academies for civil protection, meteorological offices),
- pro-resilience regulatory and policy recommendations.

+ a snapshot of our 2020 Innovation portfolio: <https://www.climate-kic.org/in-detail/2020-innovation-portfolio/>

Regional Innovation Scheme (RIS)

- We work with some of the most innovative organisations to set up EIT Climate-KIC Hubs which serve as entry points for interacting with local players, mobilising and internationalising local networks.



Countries with active Hubs

Bulgaria	Lithuania
Croatia	Malta
Cyprus	Portugal
Czech Republic	Romania
Estonia	Serbia
Latvia	Slovakia
Greece	Slovenia

Activity since 2020

North Macedonia
Bosnia and Herzegovina
Montenegro
Albania

RIS countries with CLCs

Poland
Hungary
Italy
Spain

 EIT RIS Central East Europe Hubs

 EIT RIS Southern Europe Hubs

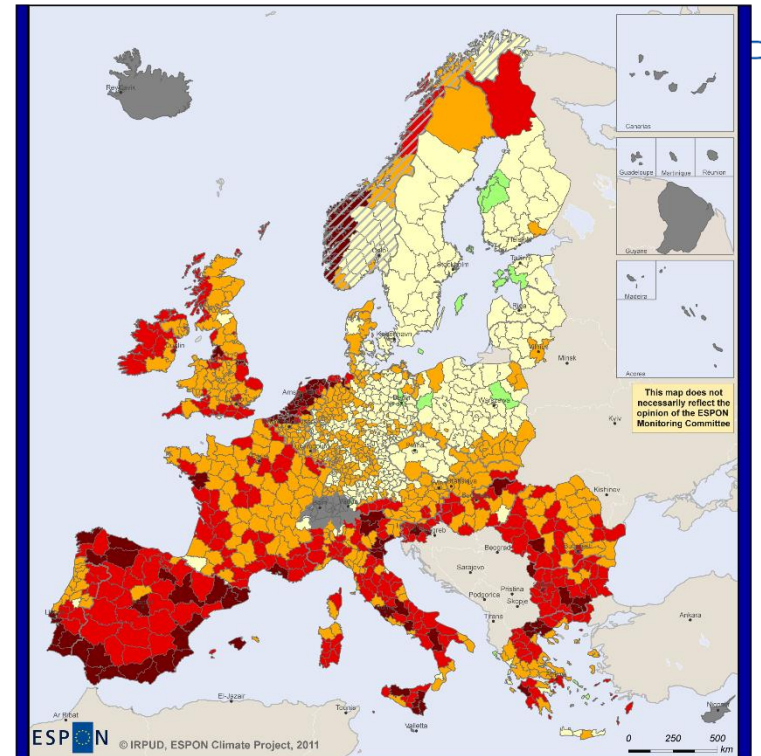
 EIT Climate-KIC partners

Adaptation is a priority for RIS

EU Countries welfare loss due to adaptation is estimated to be €190 billion by the 2080s (EEA, JRC). Negative impacts:

- human health (€122 billion, 64%)
- coastal areas (€42 billion, 22%)
- agriculture (€18 billion, 9%).

The geographical dimension of impacts, the most affected regions are Southern Europe (39%, mainly due to energy damages and human health).



Aggregate potential impact of climate change

- highest negative impact (0.5 - 1.0)
- medium negative impact (0.3 - <0.5)
- low negative impact (0.1 - <0.3)
- no/marginal impact (>-0.1 - <0.1)
- low positive impact (-0.1 - >-0.27)
- no data*
- /// reduced data*

Weighted combination of physical (weight 0.19), environmental (0.31), social (0.16), economic (0.24) and cultural (0.1) potential impacts of climate change. Weights are based on a Delphi survey of the ESPON Monitoring Committee.

Impact calculated as combination of regional exposure to climatic changes and recent data on regional sensitivity. Climatic changes derived from comparison of 1961-1990 and 2071-2100 climate projections from the CCLM model for the IPCC SRES A1B scenario.

*For details on reduced or no data availability see Annex 9.

Innovation Ecosystems on Wine and Vine in the Mediterranean



- Capacity building for national ecosystems in the Vine & Wine Value Chain
- Implementing participatory approaches to design, co-construct and share adaptation and mitigation pathways
- Developing national hubs with an interdisciplinary approach

Italy

Fondazione Edmund Mach (lead partner)

Institute for the Bioeconomy – National Research Council (CNR – IBE)

Cyprus

Cyprus University of Technology (CUT)

France

l'Institut national de la recherche agronomique (INRAE)

Centre International de Recherche Agronomique pour le Développement (CIRAD)

Portugal

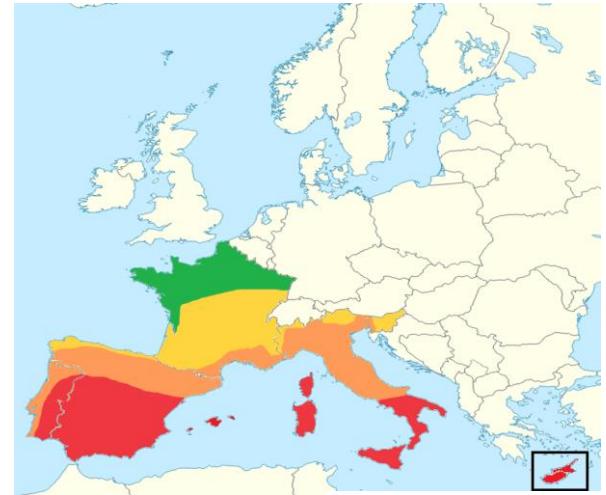
Universidade NOVA de Lisboa, Faculty of Science and Technology (FCT-Nova)

Slovenia

National Institute of Chemistry (NIC)

Spain

Universitat Politècnica de València (UPV)



www.vineas.net



System and sustainable Approach to virtuous interaction of Urban and Rural LaNdsapes



- Reinforce horticulture in Sweden and connect with transformation/users
- Individuate, launch a support a programm of inclusive agriculture in United Kingdom
- Educate and activate farmers and citizens into a trasformative model (Trento, Italy)

Pathways of
change

Developing New and More Sustainable Practices

Mainstreaming New and More Sustainable Practices

Opening Up and Unlocking Dominant Practices

<https://eventi.fmach.it/saturn>

<https://www.tipconsortium.net/a-narrative-about-the-transformation-to-sustainable-land-use-management-saturns-portfolio-of-actions/>

Cross-KIC cooperation on Water Scarcity

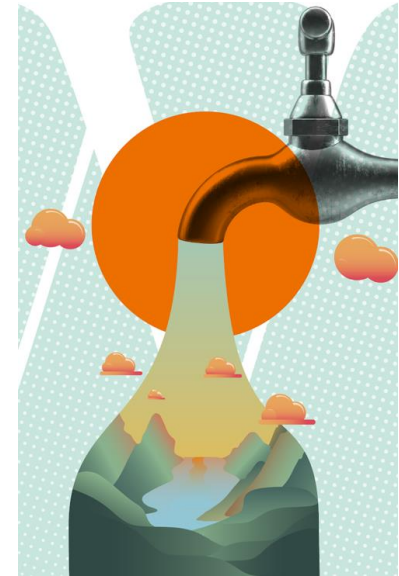


Why is water scarcity important?

According to FAO, the food production consumes 70% of the world's fresh water resources; not only in growing crops and raising animals, but also in processed food, where water is a major ingredient.

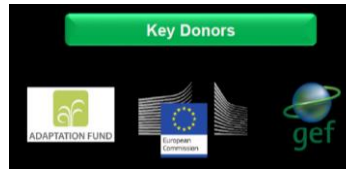
Why are we engaged?

Flooding and water scarcity in Europe will increase in the coming decades if the objectives of the Paris Agreement on climate change are not met. The European Commission, together with the KICs, is working with EU countries to overcome these challenges and encourage countries, companies and households to implement more water-efficient measures.



A new Innovation Adaptation Marketplace

The Adaptation Innovation Marketplace was developed in a partnership between UNDP, ICCCAD, the Adaptation Fund, the European Union, the Global Environmental Facility (GEF), the Global Resilience Partnership and EIT Climate-KIC.



AF-EC-UNDP Innovation Small Grant Aggregator Window

Calls to build partnership with regional innovation centers, local technical assistance & business advisory partners.

<https://www.adaptation-undp.org/smallgrantaggregator/>


GEF - Resilience for Peace & Stability Window

Looking for partners that are working in least developed countries, fragile regions that are working on finance and building resilience.

<https://www.globalresiliencepartnership.org/>

Levers of change





In 2019 we launched eight 'Deep Demonstrations' as a test bed environment for the '1.5- consistent systems transitions'* called for by the IPCC, EC, UNFCCC and our own strategy and Theory of Change.

* Transition Super Labs' were a recommendation of the Final Report of the High-Level Panel of the European Decarbonisation Pathways Initiative – this is the concept at the heart of our own 'Deep Demonstrations'.



Funded by the
European Union



10 years of experience has taught us that achieving the change we need requires a different approach to innovation

Incremental

System innovation

Transformational

Supply led

Demand led

Single projects and incremental change

Coordinated projects that build on each other

Isolated activities, often focused on technological improvements

Connected activities that access core areas of a system



A Deep Demonstration of...

Resilient Regions

EIT Climate-KIC will take a systems innovation approach to forging resilience, working with regions that are:

- Ambitious to be European and global leaders;
- Committed to placing climate resilience at the heart of their socio-economic agendas;
- Have a high level of vulnerability and exposure; and
- Demonstrate a commitment to using innovation as a tool to catalyse transformation.

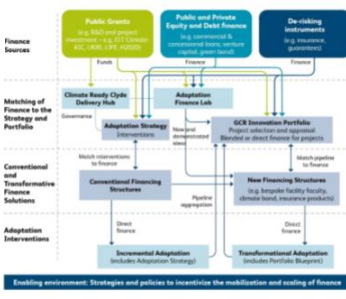
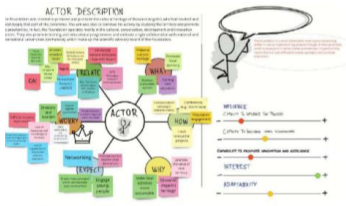
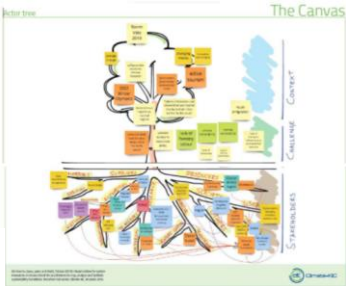
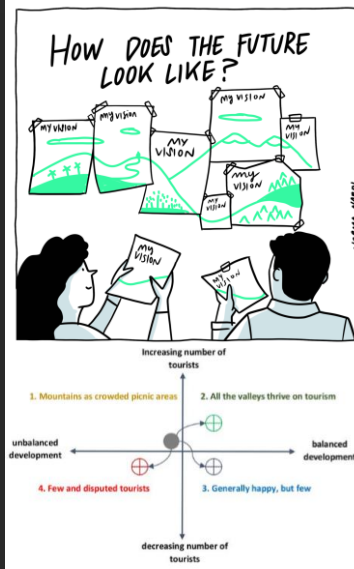


*Deep Demonstration Forging Resilient Regions –
Sensemaking workshop, 1-3 July 2020
Cartoonists: Rebeka Ryvola*

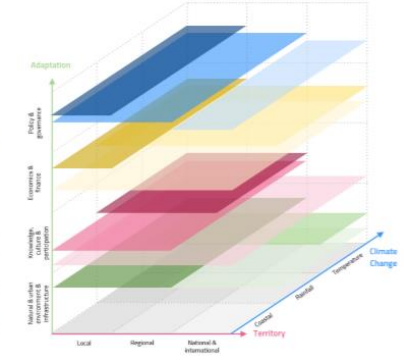
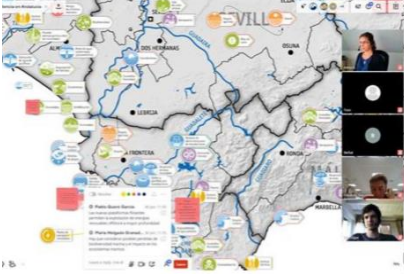
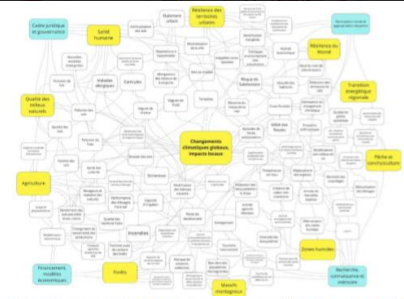
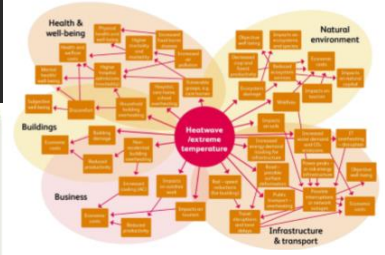
Visualising this...



Transitions Hub
 Challenge-led system mapping
 A knowledge management approach
 Handbook for practitioners to design and implement a part catalog



Extreme heat Emergent properties of the mal-adapted system



Resilient Regions

Project areas

- Systemic resilience experiments and measures
- Clusters of active and connected networks working towards regional resilience
- Resilience policies, regulations and action plans that incorporate slow-onset changes, extreme events and systemic risks
- Community engagement and empowerment for a fair transition
- Rebooted regional growth through long-term investments and new resilience sector job creation
- Territorial renewal by creating liveable places and stewarding natural capital

Resilient Regions – Dolomites (2020)

A proposed portfolio logic

- Dimensions to learn from and define innovation actions
 - Resilience (stability, adaptive capacity, readiness)
 - Systems (tourism, communities, forestry & wood)
 - Response (adapt, mitigate, prevent)
- Emerging needs
 - Innovation capacity
 - Finance and insurance schemes
 - Engagement and cooperation in risk management



Funded by the
European Union



What's next



Deep Demonstration Forging
Resilient Regions – Sensemaking
workshop, 1-3 July 2020
Cartoonists: Rebeka Ryvola

- Working with the most vulnerable communities to adopt solutions and implement resilience plans
- Connecting locally-led business creation efforts with investors
- Using climate innovation for a more systemic approach to adaptation