



RESEARCH & INNOVATION KEY CONTRIBUTOR TO THE NEW EU CLIMATE ADAPTATION STRATEGY

February 2021

The new **EU Strategy on Adaptation to Climate Change “Forging a climate-resilient Europe”** sets the scene for more ambitious action on climate adaptation. The objective of the strategy is to progress swiftly toward the 2050 resilience vision by making adaptation action smarter, more systemic, and faster. It is a cornerstone of the **European Green Deal** and complements the proposed Climate Law and the Climate Pact, but also other initiatives such as the Biodiversity Strategy, the Renovation Wave, the Farm to Fork Strategy, the upcoming Forest Strategy and the Renewed Sustainable Finance Strategy.

The role of Research and Innovation

Responding to the challenges posed by the climate emergency requires scientific breakthroughs, as well as testing and de-risking innovations in various domains ranging from digital tools to water treatment technologies. The EU is set to expand the frontiers of scientific excellence in the domain of adaptation to climate change, drawing on work done under the Research and Innovation Programmes, and building on the proposed **Horizon Europe Mission on Adaptation to Climate Change**, including Societal Transformation.

EU Framework Programmes for Research and Innovation

The EU Research and Innovation Programmes – FP7 and Horizon 2020 – have focused on **bridging knowledge gaps and the development of effective solutions** in areas such as high-end climate change, the economics of climate adaptation, disaster risk reduction, nature-based solutions, climate services and climate-resilient agriculture and forestry. The results from these programmes have significantly contributed to the development of the new EU Climate Adaptation Strategy.

Horizon Europe will be vital to achieving the objectives of the new EU Climate Adaptation Strategy. It will continue strengthening the scientific understanding of climate change and its impacts, building capacity across sectors and stakeholders and, crucially, engaging citizens to trigger transformational change. Moreover, Horizon Europe will continue funding investigator-driven, bottom-up research through the European Research Council (ERC).



“ 2021 is the year of Climate Adaptation. It started with the first global Climate Adaptation Summit and it will culminate in the COP26 in Glasgow, in November. The new European Climate Adaptation strategy could not be timelier. Research & innovation have a pivotal role in addressing the multifaceted challenges of today’s climate emergency, including accelerating behavioural change. Together, we will build a climate-resilient Europe. ”

Mariya Gabriel, EU Commissioner for Innovation, Research, Culture, Education and Youth

Research and
Innovation

Selection of **Horizon 2020** projects contributing to the new EU Climate Adaptation Strategy

SUSTAINABLE AND RESILIENT PRODUCTION OF WINE, PASTA AND OIL



VISCA developed a decision support system (VISCA DSS) integrating climate, agricultural and vineyard-management services helping the agriculture sector become more resilient to climate change. VISCA DSS proved its value by

real demonstrations with European wine producers at 3 demo sites (Codorniu in Spain, Mastroberardino in Italy, and Symington in Portugal) testing also novel adaptation agronomic techniques, crop-forcing and shoot trimming.



MEDGOLD designed a climate services prototype to build more resilient, efficient and sustainable agriculture and food systems. Although focusing on three key crops of the Mediterranean area (grapes, olives and durum wheat), the prototype can be used in other sectors.

CLEAN AND RESILIENT ENERGY SYSTEM



S2S4E developed a decision-support tool combining sub-seasonal to seasonal climate forecasts and key energy indicators, with the objective to make the energy sector more resilient to climate variability and change. The tool is supporting energy operators to optimize energy production from renewable sources and favour larger integration of renewable energy in the grid, contributing as well to decarbonising the energy system.

URBAN CLIMATE RESILIENCE



GrowGreen supported nature-based solutions for urban climate resilience through co-design to co-management, with contribution to climate strategies in city case studies, like in the city of Manchester.

CLIMATE IMPACTS BEYOND EUROPE



CASCADES identifies how the risks of climate change to countries, economies and peoples beyond Europe might cascade into Europe. It also looks into possible mitigation and adaptation efforts.

TOO MUCH OR TOO LITTLE WATER (FLOODS AND DROUGHTS)



BRIGAIID supported climate adaptation innovations, bridging the gap between innovators and end-users in resilience to floods, droughts and extreme weather.



SUBSOL developed and implemented subsurface water climate change adaptation solutions with the aim to restore quality and quantity of coastal aquifers. These solutions contribute to increasing resilience of water supply, addressing groundwater challenges (pollution, salination, depletion) and enabling water reuse for agriculture.



HYDROUSA developed a new circular business model, mostly suitable for Mediterranean and other water-scarce regions in Europe and worldwide. This will implement innovative nature-based and nature-inspired climate adaptation solutions for decentralised water scarce areas in terms of water/wastewater treatment and management, which will close the water loops and will also boost their agricultural and energy profile.



NAIAD combined eight demonstration sites to address questions of insurance value of ecosystems to reduce the human and economic cost of risks associated with water (floods and drought). The project developed tools and applications and explored new arrangements such as natural insurance schemes.



OPERANDUM is a large-scale demonstration project on nature-based solutions (NBS) for hydro-meteorological risk reduction. It combines ten Open Air Laboratories (such as in the Po valley in Italy), addressing specific risks and assessing NBS effectiveness through innovative monitoring systems and cutting-edge numerical modelling approaches.



SHExtreme is investigating how climate change will affect the strength and frequency of tsunami-like flooding events along European coastlines. This could help coastal communities prepare better for future challenges.