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Experiences of the LIFE URBANKLIMA2050 Project: Climate Change Scenarios for the Basque Country

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UrbanKlima2050 is the most ambitious initiative led by the Basque Country that aims to ensure the resilience of the territory through multi-level governance and climate action on the ground. This large-scale Integrated Life Project was launched at the end of 2019 thanks to a partnership of 20 organizations and an investment of 19.8 million euros. The project partners have set themselves the ambitious goal of implementing different actions over 6 years, influencing more than 2 million people. The main objective of the UrbanKlima2050 project is to contribute to the full implementation of the Basque Climate Change Strategy 2050, developing a low-carbon and climate-resilient region by 2050.

The project's actions are grouped into five main blocks: (1) Analyse: review the Basque KLIMA 2050 strategy through monitoring and evaluation, with a focus on continuous improvement; (2) Define: how, where and when to act to reduce GHG emissions and achieve territorial resilience; (3) Act: implement pilot projects at three levels of intervention: coast, river basins and urban/peri-urban areas, scalable to other areas of the Basque Country and other regions; (4) Empower: promote climate awareness among government institutions and the community and move them to action; (5) Manage: create structures to facilitate climate governance and climate change observation and monitoring, in addition to defining new models of climate governance and launching the Hub for climate change observation and monitoring in the Basque Country

Tecnalia participates in twelve actions, leading five of them. Here we focus on those aspects related to action A.2. "Extension of the risk analysis in the Basque Country", led by Basque Environmental Agency (IHOBE), where different activities are carried out by Tecnalia, Neiker and other agents in order to establish high-resolution climate change scenarios for the Basque Country

Among other tasks, in this project line, the Tecnalia weather and climate area is tackling the complementation of the results gathered in previous Klimatek projects, in which different downscaling exercises were carried out including climate projections for temperature, precipitation and various associated climate indices, on a 1 km resolution grid. One of the objectives of the current project is to address other variables such as average wind, relative

humidity and radiation.

In this contribution, different results of one of the lines developed are presented, in particular, the one in which a high-resolution observational database is used for the implementation of bias correction to EURO-CORDEX climate projections of wind, humidity and radiation, by means of different statistical techniques. Likewise, the different methodologies used for its interpolation to a high-resolution grid (1km) are included. Finally, the most relevant conclusions of the work undertaken are presented, as well as a proposal for future lines of action.