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**Climate-ADAPT „Research projects page submissions - Ongoing projects**

1. **Template Project descriptions**

Name of projects:

Climate Resilient Cities and Infrastructures (RESIN)

Project logo:



The Challenge:

When disasters occur in urban areas, they threaten the lives of large numbers of people, critical infrastructure systems, and interregional and global value chains. The current diversity of approaches and methods available for cities developing a climate adaptation strategy limits the comparability between cities of vulnerabilities, adaptation options, infrastructures, etc., and, as a result, of the resilience capability. The lack of standardized information to prioritize and select appropriate adaptation options restricts the exchange of experiences between cities. There is a lack of standardised methodologies for vulnerability assessments, performance evaluations of adaptation measures, and for decision support tools supporting the development of robust adaptation strategies tailored to the city level.

Project objectives:

RESIN aims to create a common unifying framework that allows comparing strategies, results and identification of best practices by:

* Creating an urban typology that characterises European cities based on different socio-economic and biophysical variables
* Delivering standardised methods for assessing climate change impacts, vulnerabilities, and risks; providing an inventory of adaptation measures and developing standardised methods to assess the performance of such adaptation measures
* Collaborating closely with 4 ‘case cities’ (Bilbao, Bratislava, Manchester, Paris) for practical applicability and reproducibility, and with European Standardisation organisations to ensure a systematic (standardised) implementation
* Integrating findings in a coherent framework for the decision making process, with associated methods, tools and datasets.

Methodology:

Conceptually, the RESIN project is based on the co-creation of knowledge and tools. By involving a number of cities as full partners, RESIN avoids creating a gap between science and practice, and will also ensure an efficient process and a smooth uptake by further cities.

To achieve this vision, RESIN focuses on the following:

* Develop a coherent, overarching conceptual framework
* Develop a consistent evaluation of impacts, vulnerabilities and risks in a city
* Put forward operational approaches for urban decision makers to identify and assess the performance of different adaptation approaches
* Deliver a generic description of the decision making process applicable by public and private actors for urban adaptation to climate change
* Bring together the elements of the decision support system in a practical e-guide
* Four core cities are embedded as partners in the RESIN project team to support the design, user testing and assessing the operational value of the RESIN outputs.
* Initiate a formal standardisation process either in a CEN Workshop as a part of the RESIN project or within existing standardization committees after the RESIN project. Create a “circle of sharing and learning” between the four core cities and a selected group of follower cities.

Expected results:

RESIN’s outputs will allow European cities, and their relevant stakeholders, to take a step forward in the development and implementation of adaptation strategies, with a particular focus on urban infrastructure systems and networks.

Current weaknesses in adaptation and resilience approaches, and associated barriers related to deficiencies in knowledge and information will be addressed, with the project outputs presented as practical and user-friendly decision support tools.

RESIN’s project results will:

* Arrive at a single, integrated approach for vulnerability assessment for all components of the city system. This will include the linking of vulnerability and risk management concepts that, up until now, are practiced as separate research fields involving separate research communities. For cities this will allow efficiency in approach: cities can focus on their biggest threat, and elaborate adaptation strategies in an integral and integrated way for all sectors.
* Identify adaptation options that increase the resilience of, for example, critical infrastructures and neighbourhoods .
* Develop standards which will allow for comparing and benchmarking. Cities will be better able to prioritise geographical areas, infrastructures, economic sectors, and actions to be taken. With standard approaches to developing adaptation responses, benchmarking between cities becomes possible. Cities will be able to understand and develop their position and competitive advantage compared to others.
* Introduce basic conventions to allow for the comparability of risk assessments and adaptation options.
* Provide a platform to explore opportunities and obstacles for formal standardisation in adaptation. Formal standardisation supports knowledge transfer and the introduction of innovative products to the market and can thus increase the resilience of cities and stimulate Europe’s economy.
* Evaluate cities that are at the initial stages of developing adaptation strategies, through the use of a city typology, which can make use of existing knowledge and experiences from cities with comparable underlying characteristics elsewhere. The typology will prove to be a useful instrument for national and European policy making to deal with the diversity of European cities.

Project partners:

TNO, NL;

Fraunhofer, DE;

Tecnalia, ES

 ICLEI, Germany; DE

ITTI Sp. z o.o., PL

Stichting, NL

Normalisatie Instituut -NEN, NL;

Arcadis Nederland, NL

BC3 Basque Centre for Climate Change - BC3, ES

The University of Manchester, UK ;

Comenius University of Bratislava,; SK

Siemens Austria/Germany; AU/DE

Uniresearch, NL

City of Bratislava, Slovakia; SK

City of Bilbao, ES;

City of Manchester, UK;

EIVP (Ecole des Ingenieurs de la Ville de Paris), FR.

1. **Template Facts:**

Funding instrument: Horizon 2020 – Research and Innovation Action, Call H2020-DRS-2014.

 Grant Agreement No. 653522

Start Date: 01 May 2015

End Date: 30 November 2018

Duration: 42 Months

Project coordinator: Netherlands organisation for Applied Scientific Research (TNO)

Project website: [www.resin-cities.eu](http://www.resin-cities.eu)

Contact: Peter Bosch, TNO. PO Box 80015, 3508 TA Utrecht the Netherlands. Email resin@tno.nl