

# Climate-ADAPT use case 1 — EU Directorate-General for Research and Innovation

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## Using Climate-ADAPT to find the latest scientific knowledge on adaptation for agenda-setting for EU research and innovation funding

**Climate-ADAPT features used:** database; EU policy (funding of adaptation); countries, regions (transnational) and cities pages (interactive Map Viewer); knowledge (Case Study Search Tool)

**Sector:** adaptation in general

**Governance level:** EU

**Biogeographical region or macro-region:** pan-European

**Policy stage:** EU Research Framework Programme development and implementation

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### The challenge

The Directorate-General for Research and Innovation (DG RTD) develops an EU research and innovation (R&I) agenda on climate change adaptation, which is supported by various actions and initiatives (such as Nature-based Solutions and Innovating with Cities) to improve the adaptation knowledge base, provide strategic recommendations on the scoping of the EU R&I framework programmes and mainstream research outputs into relevant EU policies and international agreements promoting adaptation. In the context of developing and promoting this agenda, DG RTD acts both as a user and as a provider of information from EU-funded research projects, assessing their contribution to the knowledge base and the value they add to the development of adaptation strategies and plans. In addition, it highlights remaining knowledge gaps and future challenges that research should address. It is also essential for DG RTD to

stay informed about the actions and initiatives on adaptation promoted by Member States, learning from good practices as well as from national and regional contexts. Finally, synergies with other environmental and climate policies need to be identified to develop the R&I agenda in a complementary way.

### The approach

One important information source for developing this R&I agenda is Climate-ADAPT, as it is supported by the European scientific and policymaking community and provides access to a wide range of resources.

Mapping of R&I projects on adaptation is currently under development and will be finalised in early 2018 to contribute to the development of future EU research framework programmes and clustering of projects with similar objectives. The information provided by Climate-ADAPT on the 'EU funding of adaptation' <sup>(1)</sup> page allowed DG RTD to identify the range of funding instruments beyond Horizon 2020 that provide significant support to Member States, regions and cities for investing in programmes and projects on adaptation (e.g. LIFE, the European Regional Development Fund (ERDF) and the Cohesion Fund). This was a useful starting point for developing a comprehensive mapping of research projects and creating synergies between those sharing similar research aims, strategies and methodologies.

The information on the transnational, national and sub-national adaptation research programmes presented on the individual transnational regions <sup>(2)</sup> pages and the individual country pages <sup>(3)</sup> allowed a better appreciation of the progress of adaptation plans and strategies in the Member States.

To identify knowledge gaps and future challenges, DG RTD uses several knowledge sources, including <sup>(1)</sup> the Climate-ADAPT database <sup>(4)</sup> to access accurate and recent adaptation knowledge — publications such

<sup>(1)</sup> <http://climate-adapt.eea.europa.eu/eu-adaptation-policy/funding>

<sup>(2)</sup> <http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions>






<sup>(3)</sup> <http://climate-adapt.eea.europa.eu/countries-regions/countries>

<sup>(4)</sup> [http://climate-adapt.eea.europa.eu/data-and-downloads#b\\_start=0](http://climate-adapt.eea.europa.eu/data-and-downloads#b_start=0)

as the EEA assessment reports are easily accessible; (2) case studies presenting good practices from EEA member countries, which can highlight innovations, as well as the implementation barriers (and enablers) encountered by local decision-makers; and (3) the Case Study Search Tool <sup>(5)</sup> to browse examples of implemented actions. In the context of developing a coherent EU R&I agenda, such bottom-up information is deemed essential for identifying which policy decisions and financing instruments are successful and which types of obstacles may prevent the

implementation of adaptation/mitigation actions at local level. Finally, (4) assessing the actual impact and added value of R&I projects by using the information highlighted on the research projects pages <sup>(6)</sup> can contribute to efforts to focus future research on specific environmental and climate policy priorities and areas for action. The R&I agenda, which builds on this new knowledge, provides valuable input into Priority 2, Action 4, of the EU Adaptation Strategy ('Better-informed decision-making — knowledge gap strategy'), which is currently under evaluation.

**Figure A1 Contribution of EU R&I climate change research to Action 4 of the EU Adaptation Strategy**

Projects	Research contributions	Knowledge gaps
	Novel <b>assessment framework</b> that incorporates risk and uncertainty into analysis of the costs and benefits of transition pathways	2. Regional and local-level risk assessments
	<b>Decision support toolbox</b> that helps policy makers better understand policy-related uncertainties and risks, and informs robust policy design	3. Models and tools to support decision making
	The <b>Climate Policy Database</b> collects information on implemented policies on climate change mitigation from countries worldwide	3. Models and tools to support decision making
	<b>Empirical assessment of the effectiveness</b> , costs, benefits, and economic values of mitigation/adaptation options	4. Monitoring/Evaluating past adaptation efforts
	Assessment of the <b>current and future risks of a specific climate hazard to a single Critical Infrastructure</b> (or a CI network)	1. Information on Damage/Adaptation costs
	<b>Step by step guide</b> on how identify climate change adaptation or risk mitigation options and prioritize them using cost-benefit analyses	3. Models and tools to support decision making
	<b>Win-Win strategies</b> to overcoming economic and institutional barriers in the fields of coastal zone flood risk management, urban transformations and energy poverty eradication and resilience	1. Information on Damage/Adaptation costs
	<b>Standardisation</b> of adaptation tools and approaches to allow cities to share and compare knowledge to develop their resilience capabilities	3. Models and tools to support decision making
	<b>Catalogue</b> of adaptation options & <b>typology</b> of cities' key aspects related to adaptation and <b>survey/evaluation</b> of existing adaptation measures	4. Monitoring/Evaluating past adaptation efforts
	<b>Resilience Maturity Model</b> – assesses current maturity stage and identifies <b>future resilience demands and capacities to guide cities</b>	3. Models and tools to support decision making

<sup>(5)</sup> <http://climate-adapt.eea.europa.eu/knowledge/tools/sat>

<sup>(6)</sup> <http://climate-adapt.eea.europa.eu/knowledge/adaptation-information/research-projects>

**Figure A1 (cont.) Contribution of EU R&I climate change research to Action 4 of the EU Adaptation Strategy**

Projects	Research contributions	Knowledge gaps
	<b>Testing and Implementation Framework (TIF)</b> to assess: - the maturity of innovative technologies for Climate Adaptation - the social acceptability of Climate Adaptation Innovations	3. Models and tools to support decision making
	<b>Market Analysis Framework (MAF+)</b> is a web-based toolbox designed to help innovators bring their solutions to the market	
	Multi-scale, multi-sectorial and multi-hazard <b>vulnerability assessments for Urban Services Operation</b>	2. Regional and local-level risk assessments
	Development of <b>performance standards for adaptation options</b> Testing of innovative adaptation options, including nature-based solutions	4. Monitoring/Evaluating past adaptation efforts
	Better understanding of key processes in European Earth System Models to derive <b>credible and trustworthy climate projections</b> beyond 2100	3. Models and tools to support decision making
	Improved <b>impact assessment</b> and <b>regional downscaling</b> will support new greenhouse gas emission scenarios for European decision-making	2. Regional and local-level risk assessments
	Boost the development of efficient <b>Climate Services in Europe</b> Facilitates climate smart public and private decision-making by supporting research for developing better tools, methods and standards on how to produce, transfer, communicate and use reliable climate information	3. Models and tools to support decision making
	New generation of <b>advanced high-resolution global climate models</b> to simulate and predict regional climate	3. Models and tools to support decision making
	Simulations are used for <b>climate risk assessments</b> in key sectors to provide key information for policy makers and governments	2. Regional and local-level risk assessments

**Note:** The figure shows how EU research projects on adaptation funded through the 2014-2018 Horizon 2020 programme are contributing to Action 4 of the EU Adaptation Strategy (i.e. by addressing gaps in knowledge).

**Source:** European Commission, 2017.

## Future plans

To further support the mapping of projects and future agenda-setting for EU R&I on adaptation, DG RTD would appreciate the following additional or improved Climate-ADAPT features:

- Easy access to adaptation information is a key interest of DG RTD; in addition to the dissemination of relevant Horizon 2020 calls through the European Climate Adaptation Newsletter <sup>(7)</sup>, the promotion of adaptation-relevant research calls from LIFE,
- Interreg, the European Investment Bank and other financing instruments in a user-friendly way directly on the 'EU funding of adaptation' page (e.g. by including the quick reference guide from the Covenant of Mayors Financing opportunities for local climate and energy actions (2014-2020)) <sup>(8)</sup> would enhance synergies and visibility to the larger stakeholder community.
- Complementing the overview on and quick access to R&I adaptation projects on Climate-ADAPT with summary information about overall progress

<sup>(7)</sup> <http://climate-adapt.eea.europa.eu/newsletter>

<sup>(8)</sup> [https://www.covenantofmayors.eu/IMG/pdf/Quick\\_Reference\\_Guide\\_-\\_Financing\\_Opportunities\\_updated2016.pdf](https://www.covenantofmayors.eu/IMG/pdf/Quick_Reference_Guide_-_Financing_Opportunities_updated2016.pdf)

on closing adaptation knowledge gaps through EU R&I projects would increase awareness among stakeholders of their added value for adaptation.

- Linkages and enhanced coordination with other sectoral platforms (e.g. the Disaster Risk Management Knowledge Centre (DRMKC)) as well as greater visibility of the results of ecosystem-based adaptation research through stronger linkages with project websites and relevant platforms such as Oppla <sup>(9)</sup>, the Biodiversity Information System for Europe (BISE) <sup>(10)</sup>, Natural Water Retention Measures platform (NWRM) <sup>(11)</sup>, ThinkNature <sup>(12)</sup> and the Partnership for Environment and Disaster Risk Reduction (PEDRR) <sup>(13)</sup> would be very valuable to promote key topics of EU-funded research such as Nature-based Solutions. Furthermore, European Commission activities presenting information on ecosystem-based solutions and the interoperability of related platforms should be considered in the further development of Climate-ADAPT. For example, Climate-ADAPT could be a partner in the clustering exercise of adaptation-relevant Horizon 2020 projects on nature-based solutions for climate and water resilience (UNALAB, Connecting, GREEN GROWTH and URBAN GREEN UP) to improve data management and dissemination within EU evidence-based platforms.
- Announcing topic-specific webinars (i.e. the webinar series from the Covenant of Mayors) and other relevant R&I events on Climate-ADAPT would further support cooperation.

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<sup>(9)</sup> <http://www.oppla.eu>

<sup>(10)</sup> <http://biodiversity.europa.eu>

<sup>(11)</sup> <http://nwrn.eu>

<sup>(12)</sup> <https://www.think-nature.eu>

<sup>(13)</sup> <http://pedrr.org>