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ENHANCING ADAPTATION ACTION IN TURKEY PROJECT

TR2017 ESOP MI A3 04

ASSESSMENT ON CLIMATE CHANGE ADAPTATION GRANT PROGRAMS AMONG THE EU MEMBER STATES, TURKEY AND COUNTRIES WITH SIMILAR SOCIO- ECONOMIC PROFILES

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REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT,
URBANIZATION AND CLIMATE CHANGE

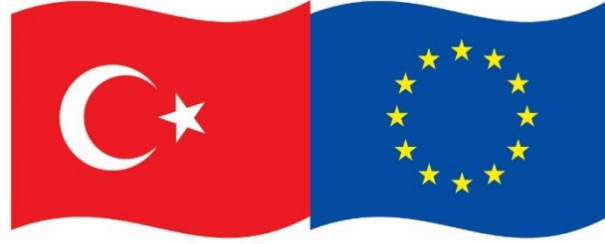


Environment and Climate Action
Sector Operational Programme



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Enhancing Adaptation Action in Turkey
TR2017 ESOP MI A3 06

**Assessment on Climate Change Adaptation Grant Programs among the EU
Member States, Turkey and Countries with Similar Socio-Economic Profiles**

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1. INTRODUCTION

The overall objective of the “Enhancing Adaptation Action in Turkey” Project is to build societal resilience by strengthening climate change adaptation, particularly at sector and urban level. The project with a budget of 11.025.000 Euros has a Grant Component (6.800.000 Euros) to be managed directly by the Ministry of Environment and Urbanization (MoEU) General Directorate of Environmental Management, Department of Climate Change and Adaptation Department as End Recipient and Ministry of Environment and Urbanization, General Directorate of European Union and Foreign Relations, Department of EU Financial Assistance as Contracting Authority with UNDP’s technical assistance.

Implementation of a climate change adaptation grant programme (CCAGP) is one of the key purposes of the Project and will contribute to improve the operational capacity for climate change adaptation action.

Under this component, technical assistance will be provided for the implementation of the Climate Change Adaptation Grant Programme (CCAGP), which the Ministry of Environment and Urbanization will be the Contracting Authority, targeting local governments, regional and provincial directorates, regional development agencies, non-governmental organizations, universities and research institutes, community-based organizations, chambers, unions and also vulnerable communities/locations. Within this context, training modules and grant guidelines will be developed, design, implementation and monitoring of grant projects will be assisted as well as outreach and communication activities will be carried out. Strong interlinkages will be established between the grant programme and the other activities to be held at national and local level.

As a start, a desk review was conducted to evaluate ongoing grant programs and their mechanisms at international, national and local level for similar target audience and to take stock of existing climate change adaptation grant programs among European Union (EU) member states and countries with similar socio-economic profiles. The findings will guide the identification of activity scope and eligibility criteria for applications.

2. EXISTING CLIMATE CHANGE ADAPTATION GRANT PROGRAMS AMONG EU MEMBER STATES and COUNTRIES WITH SIMILAR SOCIO-ECONOMIC PROFILES

The EU finances climate change adaptation in Europe through a wide variety of instruments. The LIFE Program, which finances a wide range of projects related to environment and climate change, and Horizon 2020, which will encourage research and development on climate change adaptation, are among the most widely used of these tools.

In addition, there are different financial sources of funding provided to developing and less developed countries by different countries around the world: There are financial mechanisms such





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as the Green Climate Fund, Adaptation Fund, the Wildlife Conservation Society/Climate Adaptation Fund and the Nordic Development Fund.

2.1 The LIFE Programme

The LIFE is the EU's funding instrument for the environment and climate action created in 1992. The program, implemented in three-years periods (1992-1995; 1996-1999) between 1992 and 1999, was implemented as six-years periods (2000-2006; 2007-2013) as of 2000. It has been reviewed several times over its nearly thirty years of operation. The current programme (2014-2020) is the result of these evaluations and incorporates the lessons learnt from the implementation of previous programmes.

The current LIFE Regulation (EU) No 1293/2013 establishes the EU's financial instrument supporting environmental, nature conservation and climate action projects across the EU.

Its general objectives are to:

- contribute to the shift towards a resource-efficient, low-carbon and climate-resilient economy, improve the quality of the environment and halt and reverse biodiversity loss;
- improve the development, implementation and enforcement of EU environmental and climate policy and legislation, and act as a catalyst for, and promote the integration and mainstreaming of, environmental and climate objectives into other policies and practices;
- support better environmental and climate governance at all levels, including better involvement of civil society, NGOs and local players;
- support the implementation of the 7th Environmental Action Programme.

The budget for the current LIFE programme (2014-2020) is EUR 3.4 billion.

The LIFE programme is divided in two sub-programmes, one for environment (representing 75% of the overall financial envelope) and one for climate change (representing 25% of the envelope). Activities funded by LIFE are divided into four categories. The LIFE program sub-programms and project categories are as follows:

1. Environment Sub-programme
2. Climate Change Sub-programme
 - 2.1. Traditional Projects: Mitigation; Adaptation & Governance and Information
 - 2.2. Integrated Projects
 - 2.3. Preparatory Projects
 - 2.4. Technical Assistance Projects

Under the LIFE program's climate change sub-program, information on the project categories mentioned above, is provided below:





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i. Traditional Projects

Traditional projects receive a co-funding of up to 55%. Traditional projects are implemented under three headings: mitigation, adaptation, and governance and information.

Mitigation

The climate action sub-programme supports projects in the areas of renewable energies, energy efficiency, agriculture, land use, and peatland management.

It provides action grants for best practice, pilot and demonstration projects that contribute to the reduction of greenhouse gas emissions, the implementation and development of EU policy and law, best practices and solutions. The sub-programme also promotes knowledge sharing and integrated approaches, such as for climate change mitigation strategies and action plans at local, regional or national level.

Adaptation

The LIFE programme co-finances projects in the areas of resilience to water scarcity, droughts, forest fires or floods, adaptive technologies for economic sectors, and safeguarding natural resources.

It provides action grants for best practice, pilot and demonstration projects that contribute to increased resilience to climate change. The climate sub-programme also promotes the development and implementation of EU policy on climate change adaptation, best practices and solutions for climate change adaptation, including ecosystem-based approaches and knowledge sharing.

Governance and Information

The programme funds projects in the areas of awareness-raising, training and capacity building, law compliance and enforcement, knowledge development, and stakeholder participation.

LIFE provides action grants for information, awareness, and dissemination projects on climate matters. This includes public and stakeholder support for EU policy-making, supporting communication, management, and dissemination of information to facilitate knowledge sharing and cooperation platforms, promoting and contributing to more effective compliance with and enforcement of EU climate law, providing training, and fostering the development and dissemination of best practices and policy approaches.

ii. Integrated Projects

Integrated projects are strategic projects supporting EU Member States to achieve full implementation of Strategies or Action Plans required by the EU environmental and climate





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legislation. They are implemented at national or regional scales, involving relevant authorities and very significant budgets from several EU and national sources, lasting for 6-10 years on average.

Under the sub-programme for climate action, these large-scale projects implement plans, strategies, or roadmaps primarily in the areas of climate change mitigation and adaptation.

Projects receive a co-funding of up to 60%, with an average of €10 million LIFE grant per project.

iii. Preparatory Projects

Preparatory projects address specific needs for the development and implementation of EU environmental policy and law. The specific topics are indicated in the annual call for proposals.

Projects receive a co-funding of up to 60%.

iv. Technical Assistance

Technical assistance projects provide action grants and financial support to help applicants prepare integrated projects. Projects receive a co-funding of up to 60%.

Under the climate change sub-program, a total of 178 projects in the field of climate have been supported since 2014. Below are examples of projects in the area of "adaptation to climate change":

France

<i>Project Name</i>	<i>Short Description</i>
LIFE17 CCA/FR/000089 Adapting nature protection to the challenges of climate change in Europe: basis of dynamic collective learning	The project aims to integrate climate change adaptation into the management and protection of natural sites. Its approach is to develop relevant methods, tools and services required to carry out climate change vulnerability assessments and to develop adaptation plans for natural protected areas.
LIFE Ad'Apto / LIFE16 CCA/FR/000131 Ad'apto Ten initiatives of flexible coastal management	The general objective of the project is to demonstrate that ecosystems and natural coastal habitats should be included in flexible coastal management plans in order to improve climate change adaptation in coastal areas.
LIFE FORECCAsT / LIFE15 CCA/FR/000021 Forest: Climate Change Adaptation	The main objective of the project is to provide forest owners and the managers of the Parc Naturel Régional du Haut Languedoc with the means to build their management strategy, taking climate change scenarios into consideration, in order to protect territorial forest ecosystems and ensure a dynamic forestry sector in compliance with environmental, economic and social challenges.

Spain





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<i>Project Name</i>	<i>Short Description</i>
LIFE MIDMACC / LIFE18 CCA/ES/001099 Mid-mountain adaptation to climate change	The overall objective of the project is to support climate change adaptation of mid-mountain areas of Spain and socioeconomic development. Raising awareness at the local and regional levels about societal and environmental climate change adaptation is one of the specific objectives of the project.
LIFE WATERCOOL / LIFE18 CCA/ES/001122 The water-efficient systemic concept for climate change adaptation in urban areas	Targeting the Andalusia region, characterised by extremely hot summers with heatwave events, the project is aiming to develop innovative solutions to deal with hot temperatures and droughts in the urban environment. Developing new tools for participatory management via public and private bodies is one of the primary objectives of the WATERCOOL.
LIFE-BUILDINGGREEN / LIFE17CCA/ES/000088: Application of Nature-Based Solutions for local adaptation of educational and social buildings to Climate Change	The overall objective of this project is to enhance the resilience of social and educational buildings by operationalizing environmental solutions as prototypes of climate adaptation. Supporting the governance of regional authorities and the construction sector to integrate nature-based solutions as adaptation measures are one of the primary aims of the project.
LIFE GOOD LOCAL ADAPT / LIFE16 CCA/ES/000040 Facilitating good adaptation in urban areas of small and medium-sized municipalities of the Basque Country	This project is particularly addressing heat waves and water scarcity in small and medium-sized cities of the Basque region. Increasing the public awareness on climate change issues, its risks, and adaptation measures are the top priority among specific objectives of the LIFE GOOD LOCAL ADAPT.
LIFE ADAPTATE / LIFE16 CCA/ES/000049 Common methodology for the development of Sustainable Energy and Climate Action Plans in European municipalities	LIFE ADAPTATE is helping to develop climate policy and legislation at the local level in the European Union. Design and implementation of local adaptation strategies with the preparation of sustainable energy and climate action plans in the six selected municipalities in Spain, Portugal, and Latvia is the first specific objective.
LIFE CERSUDS / LIFE15 CCA/ES/000091 Ceramic Sustainable Urban Drainage System	The main objective of the project is to strengthen the resilience of cities to climate change and to promote the use of green infrastructure in urban planning so as to manage surface water flooding in Spain. The project suggests low-carbon sustainable urban drainage systems to cope with urban floods.





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<p>LIFE Clinomics / LIFE15 CCA/ES/000102 Fostering resilience. Opportunities and challenges of the local economy and society to adapt to climate change</p>	<p>LIFE Clinomics is aiming at increased climate change resilience of selected territories of the province of Barcelona in line with the Spanish climate change strategy. Drafting climate change adaptation plans in collaboration with local administrations and business people from different sectors of the local economy is one of the primary objectives of the project.</p>
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Italy

<i>Project Name</i>	<i>Short Description</i>
<p>LIFE URBANGREEN / LIFE17 CCA/IT/000079 Innovative technological platform to improve management of green areas for better climate adaptation</p>	<p>The overall aim of the project is to establish a knowledge base and readiness of tools for the development of climate change legislation and policy. LIFE URBANGREEN particularly targeted the improving urban green areas (UGAs) in Rimini (Italy) and Krakow (Poland).</p>
<p>LIFE METRO ADAPT / LIFE17 CCA/IT/000080 METRO ADAPT: enhancing climate change adaptation strategies and measures in the Metropolitan City of Milan</p>	<p>The project is trying to mainstream adaptation strategies in the designation of a territorial plan for Città Metropolitana di Milano (CMM). In addition to promoting the nature-based solutions to face flood risk and negative effects of the heat-islands, the project also plans to increase awareness of public and local initiatives on the issues of climate change adaptation</p>
<p>LIFE Veneto ADAPT / LIFE16 CCA/IT/000090 Central VENETO Cities networking for ADAPTation to Climate Change in a multi-level regional perspective</p>	<p>As a response to the negative impacts of climate-related events such as floods in the Veneto region in Italy, this project is aiming at increasing the capacity of the local authority.</p>
<p>LIFE MASTER ADAPT / LIFE15 CCA/IT/000061 MAInSTreaming Experiences at Regional and local level for adaptation to climate change</p>	<p>Having built on existing developments, LIFE MASTER ADAPT is aiming at establishing a scalable methodology to optimise the targeting and integration of regional policies in different sectors related to climate change adaptation in the Lombardy and Sardinia regions of Italy.</p>
<p>LIFE DERRIS - DERRIS / LIFE14 CCA/IT/000650: DisastEr Risk Reduction InSurance</p>	<p>The project is providing transfer of knowledge on how to evaluate and manage the risk of weather events. Insurance companies, public administrations and SMEs are all targeted</p>



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	within the scope of LIFE DERRIS so as to make a contribution to the overall urban adaptation process in Italy.
LIFE PRIMES / LIFE14 CCA/IT/001280 Preventing flooding Risks by Making resilient communities	The primary objective of this project is to create more resilient communities via collaborating them in early warning and flood risk prevention methods.

Hungary

<i>Project Name</i>	<i>Short Description</i>
LIFE-MICACC / LIFE16 CCA/HU/000115 Municipalities as integrators and coordinators in adaptation to climate change	The main goal of the project is to improve the climate resilience of vulnerable municipalities in Hungary by reducing their risks stemming from climate change. To this end, it will introduce and foster the integration of sustainable ecosystem-based water management approaches into local governments' natural resources management strategies and land-use planning practice. The project also aims to strengthen the coordination role of local municipalities in climate change adaptation planning and recognition of risks.

Poland

<i>Project Name</i>	<i>Short Description</i>
LIFERADOMKLIMA-PL / LIFE14 CCA/PL/000101 Adaptation to climate change through sustainable management of water of the urban area in Radom City	The general objective of the project is to make the city of Radom (Poland) more resilient to climate change by building a demonstration for green infrastructure for weather-related events.
LIFE Climate CAKE PL / LIFE16 GIC/PL/000031 System of providing and disseminating information in order to support the strategic implementation of climate policy	In line with the EU's policy priorities in the area of climate change, this project is aiming at developing an encompassing system for knowledge exchange to support decision-making processes and increase potential competences of related administrations specifically in the area of GHG emission reductions.
LIFE_WZROST_PL / LIFE14 GIC/PL/000008 Implementation of	This project is an information dissemination campaign on supporting a practical policy for climate change and sustainable development in Poland. The project is set out to raise public



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Sustainable Development based on Socially Responsible Transformation	awareness about the necessity of action at different levels (national, EU and global).
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Portugal

<i>Project Name</i>	<i>Short Description</i>
LIFE AGUA DE PRATA - AGUA DE PRATA / LIFE17 CCA/PT/000076 Adaptation and Watering in Green Urban Areas facing Climatic Heat Waves, Drought and Extreme Storms	The project aims to tackle some of the water scarcity challenges faced by the region by sustainably re-using water from the Graça do Divor wells and springs, which were previously sources for an aqueduct. Using these underground sources will help transform water supply for irrigation and will lead to annual savings of treated surface water of around 120 000 m ³ . Thus, the threat of water shortages for other uses will be reduced.
LIFE-Montado-adapt / LIFE15 CCA/PT/000043 Montado & Climate; A Need to Adapt	The project will contribute to climate change mitigation, through the recovery of land areas which are under threat of desertification and forest fires.

Greece

<i>Project Name</i>	<i>Short Description</i>
LIFE ASTI / LIFE17 CCA/GR/000108: Implementation of a forecasting system for urban heat island effect for the development of urban adaptation strategies	The project aims to create, implement, test, and validate a number of urban heat island (UHI) forecasting systems in Thessaloniki and Rome based on well-designed numerical models.
LIFE GrIn / LIFE17 GIC/GR/000029 Promoting urban integration of Green Infrastructure to	Based on cooperative planning and best practices in urban forestry, the primary objective of this project is to establish a combined policy framework for the management, monitoring, and evaluation of urban green areas.





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improve climate governance in cities	
LIFE Urban Proof / LIFE15 CCA/CY/000086 Climate Proofing Urban Municipalities	The overall aim of the project is to enhance the resilience of municipalities to climate change by providing them with the necessary tools for adaptation plans

Climate Adaptation Call 2020 Key Policy Areas:

- i. Urban adaptation and land use planning which limits the impacts of climate change;
- ii. The resilience of infrastructure, including the application of blue-green infrastructure and ecosystem-based approaches to adaptation;
- iii. Sustainable management of water in drought-prone areas, flood and coastal management;
- iv. Resilience of agriculture, forestry and tourism sectors, including in island and mountain areas;
- v. Support to the EU’s Outermost Regions: preparedness for extreme weather events, notably in coastal areas.

2.2 Horizon 2020

Horizon 2020 is the financial instrument implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness. Horizon 2020, reflecting the policy priorities of the Europe 2020 strategy, is the biggest EU Research and Innovation programme ever with nearly €80 billion of funding available over 7 years

Environmental research and innovation finds its centre of gravity in Horizon 2020's: "Climate action, environment, resource efficiency and raw materials", which has the objective of achieving a resource efficient and climate change resilient economy and society, protecting and sustainably managing natural resources and ecosystems and ensuring a sustainable supply and use of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and eco-systems.

In addition, as a horizontal approach fully integrated in all Horizon 2020 priorities, activities are encouraged and supported to exploit Europe's leadership in the race to develop new processes and technologies promoting sustainable development, in a broad sense, and combating climate change. Such an approach will help the EU to prosper in a low-carbon, resource constrained world while building a resource efficient, sustainable and competitive economy.

As a result, it is expected that at least 60% of the overall Horizon 2020 budget should be related to sustainable development and that climate-related expenditure should exceed 35% of the budget, including mutually compatible measures improving resource efficiency.





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Ongoing projects financed within the scope of Horizon 2020 in the field of adaptation to climate change related to the sectors targeted in the Grant Guide prepared within the scope of the grant component of the Project:

<i>Project Name</i>	<i>Short Description</i>
Climate Adaptation to Shifting Stocks	<p>This research project argues that the combination of fisheries management science and socio-ecological systems thinking is necessary in order to advance in fisheries adaptation to climate change. To this end, the main objectives are set to:</p> <ul style="list-style-type: none"> ▪ Identify and understand the new challenges raised by climate change for current sustainable fisheries management, ▪ Develop a novel approach to fisheries adaptation within a socio-ecological framework, ▪ Provide empirical evidence on potential solutions for the adaptation of fisheries management systems, and ▪ Help introduce fisheries adaptation at the top of the regional and international adaptation policy agendas.
Adaptive BREEDING for productive, sustainable and resilient FORESTs under climate change	<p>The goal of B4EST is to increase forest survival, health, resilience and productivity under climate change and natural disturbances, while maintaining genetic diversity and key ecological functions, and fostering a competitive EU bio-based economy.</p>
ENERGY use for Adaptation	<p>ENERGYA will improve the understanding of how energy and energy services can be used by households and industries to adapt to the risk posed by climate change.</p> <p>Specifically, the project will develop an interdisciplinary and scalable research framework integrating data and methods from economics with geography, climate science, and integrated assessment modelling to provide new knowledge concerning heterogeneity in energy use across countries, sectors, socioeconomic conditions and income groups, and assess the broad implications adaptation-driven energy use can have on the economy, the environment, and welfare.</p>
MAximizing the UPscaling and Replication Potential of High-Level Urban Transformation Strategies	<p>MAchUP project aims at strengthening the planning processes for urban transformation, consolidating the benefits of deploying large scale demonstration projects of innovative technologies in the energy, mobility and ICT sectors, by means</p>





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	of substantially improved models for replication and upscaling, based on impacts evaluation, and ensuring the bankability of the solutions by means of innovative business models..
POND Ecosystems for Resilient Future Landscapes in a Changing Climate	<p>The overarching aim of PONDERFUL is to facilitate improved implementation of ponds NBS for CC mitigation and adaptation, biodiversity conservation and delivery of ES through generating and integrating biodiversity, ecosystems, social, economic and policy knowledge and providing evidence-based guidance and tools for pond Nature-Based Solutions (NBS) implementation.</p> <p>Ultimately, the stakeholder-oriented approach adopted by PONDERFUL will ensure that the scientific knowledge produced on the benefits of using ponds as ecosystems delivering multiple ES is explicitly considered in decision making from local management to EU policies.</p>
Securing Biodiversity, Functional Integrity and Ecosystem Services in Drying River Networks (DRNs)	A multidisciplinary team of 25 experts from 11 countries in Europe, South America, China and the USA will build on EU efforts to investigate how climate change, through changes in flow regimes and water use, has cascading impacts on biodiversity, ecosystem functions and ecosystem services of DRNs.
New Strategy for Re-Naturing Cities through Nature-Based Solutions	<p>Urban GreenUP aims at obtaining a tailored methodology (1) to support the co-development of Renaturing Urban Plans focused on climate change mitigation and adaptation and efficient water management, and (2) to assist in the implementation of NBS in an effective way. NBS classification and parametrization will be addressed and some resources to support decision making will be established as part of the project activities.</p> <p>URBAN GreenUp also aims to: fostering the creation of a global market and EU international cooperation; deploy a wide Exploitation and Market deployment procedure for NBS solutions & deploy an Impact-based Communication and Dissemination strategy.</p>
Constraining Uncertainty of Multi Decadal Climate Projections	The CONSTRAIN project aims to fill climate science and related policy-making knowledge gaps through a better understanding of how natural and human factors affect multi-



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	decadal regional climate change. The project's findings will benefit the EU's adaptation and mitigation strategy.
Cascading Climate Risks: towards Adaptive and Resilient European Societies	The CASCADES project seeks to understand the conditions under which climate risks propagate beyond their geographical, sectoral, and temporal location in ways that may affect European stability and cohesion. Its main aim is to identify the policy leverage points that can help the EU to adapt and respond to such cascading climate risks.
Climate Change and Future Marine Ecosystem Services and Biodiversity	The Programme provides socially and economically viable nature-based solutions (NBS) for climate change (CC) adaptation and mitigation to safeguard these ecosystems' natural capital, biodiversity and services.
Sustainable Historic Environments Holistic Reconstruction through Technological Enhancement and Community-based Resilience	The Project will develop a data-driven knowledge framework based on data used by scientists and heritage managers. It will attempt to understand the direct and indirect impact as well as the risks of climate change on historic sites. It will also associate concepts used in risk management and climate change adaptations to cultural heritage efforts.
Nature Based Solutions for Re-naturing Cities: Knowledge Diffusion and Decision Support Platform through New Collaborative Models	Based on a detailed mapping of urban challenges and relevant nature-based solutions (NBS), the Project aims at developing complementary and interactive modules to engage urban stakeholders in a collective-learning process about re-naturing cities, develop and circulate new business, financial and governance models for NBS projects, as well as provide tools for the impacts assessment, valorisation and follow-up of NBS projects.
Green Cities for Climate and Water Resilience, Sustainable Economic Growth, Healthy Citizens and Environments	GROW GREEN will provide the platform for a step change in the way that NBS are embedded in the long-term planning, development, operation and management of cities around the world.
Climate Change and Resilience of Agricultural System: An Econometric and Computational Analysis	The Project will increase the understanding about how the Common Agricultural Policy (CAP) impacts climate change. It will use an econometric and computational analysis to determine the contribution of agrobiodiversity to the resilience of agroecosystems and to the mitigation of the impacts of climate change on the agricultural sector. A substantial amount



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	of EUR 104 billion out of CAP allocation will be used to reduce climate impact.
Development of a Decision Support System for Improved Resilience & Sustainable Reconstruction of historic areas to cope with Climate Change & Extreme Events based on Novel Sensors and Modelling Tools	HYPERION aims to introduce a research framework for downscaling the created climate and atmospheric composition as well as associated risk maps down to the 1x1 km (historic area) scale, and specific damage functions for Cultural Heritage (CH) materials.
Advancing Resilience of Historic Areas against Climate-related and other Hazards	The Project will develop a disaster risk management framework for assessing and improving the resilience of historic areas to climate change and natural hazards.
CO-designing the Assessment of Climate Change costs	COACCH will develop an innovative science-practice and integrated approach to co-design and co-deliver an improved downscaled assessment of the risks and costs of climate change in Europe, working with end users from research, business, investment, and policy making communities throughout the project. Finally, COACCH will use a wide range of innovative communication and dissemination activities, to promote easier access to the results and ensure the outreach and impact of the project, and contribute to major international scientific networks and reports (IPCC, Climate-ADAPT platform).

2.3 Green Climate Fund

The Green Climate Fund (GCF) is the world’s largest dedicated fund helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change. It was set up by the United Nations Framework Convention on Climate Change (UNFCCC) in 2010.

GCF launched its initial resource mobilisation in 2014, and rapidly gathered pledges worth USD 10.3 billion. These funds come mainly from developed countries, but also from some developing countries, regions, and one city.

GCF’s activities are aligned with the priorities of developing countries through the principle of country ownership, and the Fund has established a direct access modality so that national and sub-national organisations can receive funding directly, rather than only via international intermediaries.





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The Fund pays particular attention to the needs of societies that are highly vulnerable to the effects of climate change, in particular Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African States.

GCF aims to catalyse a flow of climate finance to invest in low-emission and climate-resilient development, driving a paradigm shift in the global response to climate change.

GCF's innovation is to use public investment to stimulate private finance, unlocking the power of climate-friendly investment for low emission, climate resilient development. To achieve maximum impact, GCF seeks to catalyse funds, multiplying the effect of its initial financing by opening markets to new investments.

Funded projects regarding climate change adaptation in the Africa, Asia-Pacific and Latin America and the Caribbean regions since the beginning of 2019:

<i>Project Name</i>	<i>Short Description</i>
Building resilience in the face of climate change within traditional rain fed agricultural and pastoral systems in Sudan	The project supports climate change adaptation efforts among subsistence agro-pastoralist and nomadic pastoralist communities in dryland zones across nine states in Sudan. Its overall goal is to promote a paradigm shift in dryland pastoral and farming systems through an integrated approach by increasing the resilience of food production systems and improving access to climate-resilient water sources. It supports the continuation of traditional livelihoods, with more resilient and sustainable practices. It is targeted at benefiting at least 200,000 households.
Ecosystem-based Adaptation in the Indian Ocean – EBA IO	This programme targets the most vulnerable populations of coastal and rural areas in four Indian Ocean Small island developing states (SIDS) where livelihoods are highly dependent on the region's rich ecosystems and natural resources. It will develop and implement ecosystem-based adaptation (EbA) activities. It will increase the resilience of both people and ecosystems in these four countries by enabling civil society organisations to support the conservation of critical ecosystems within biodiversity hotspots.
Resilience to hurricanes in the building sector in Antigua and Barbuda	This project addresses the resilience of building construction in the country, in addition to climate information systems and post-disaster responses. It will climate proof critical public service and community buildings to improve resilience to, and recovery from, extreme climate events. This timely initiative



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	will also ensure that climate change adaptation is mainstreamed into the building sector and relevant financial mechanisms, as well as strengthening climate information services to allow for early action in responding to extreme climate events.
Building Climate Resilience of Vulnerable Agricultural Livelihoods in Southern Zimbabwe	The project proposes to address these observed and projected climate impacts and build the resilience of smallholder farmers in three semi-arid agroecological regions of southern Zimbabwe.
Strengthening the resilience of smallholder agriculture to climate change-induced water insecurity in the Central Highlands and South-Central Coast regions of Vietnam	The project aims to empower vulnerable smallholders in central highlands and south-central coast to manage increasing climate risks to agricultural production by securing water provision, supporting farmers to adopt climate-resilient agriculture, and strengthening access to agro-climate information, credit and markets.
Strengthening Climate Resilience of Subsistence Farmers and Agricultural Plantation Communities residing in the vulnerable river basins, watershed areas and downstream of the Knuckles Mountain Range Catchment of Sri Lanka	The project seeks to strengthen the adaptive capacity of smallholder subsistence farmers to address climate-induced irrigation and drinking water shortages by improving the resilience of farm- and land-management practices, and by climate proofing the underlying ecosystems in the Knuckles/Amban Ganga highlands and lowlands.
Climate-resilient food security for women and men smallholders in Mozambique through integrated risk management	Focusing on semi-arid areas, this project will adopt a community-based approach to enhance the climate-resilient food security and livelihoods of smallholders. It will enhance adaptation for climate risks in households and communities
Multi-Hazard Impact-Based Forecasting and Early Warning System for the Philippines	The project will strengthen the Philippines' ability to adjust to climate impacts and implement long-term climate risk reduction and adaptation measures. It will build on best practice in multi-hazard early warning systems and link with forecast-based action to maximize impacts on the ground. This includes climate-resilient development planning and investment.
Building resilience of urban populations with ecosystem-based solutions in Lao PDR	The project aims to test an alternative approach to flood control in urban Laos, moving away from a traditional focus on grey





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	infrastructure, such as dams and concrete drainage systems. It will implement ecosystem-based adaptation in urban areas.
Extended Community Climate Change Project	This project focuses on community-led and gender-sensitive adaptation. Based in five flood-prone districts, it will prioritise female-led households. It is based on consultative adaptation models which have already proved to be successful
Blue Action Fund (BAF): GCF Ecosystem Based Adaptation Programme in the Western Indian Ocean	This programme will pool adaptation sub-projects by non-governmental organisation (NGOs) under the Blue Action Fund to improve climate-resilient coastal zone management in diverse region.
Integrated Climate Risk Management for Food Security and Livelihoods in Zimbabwe focusing on Masvingo and Rushinga Districts	This project will strengthen national and community adaptation based on climate forecasts and information. It will increase the adaptive capacity of food-insecure households through community-based asset creation and risk transfer through weather- index insurance. Subsequently, the investment capacity of smallholder farmers to sustain climate resilient development gains will be enhanced.
Towards Ending Drought Emergencies: Ecosystem Based Adaptation in Kenya's Arid and Semi-Arid Rangelands	The project targets eleven counties in two major climate zones which have devolved powers under Kenya's new constitution. Building capacity and institutions for the improved implementation of devolution is seen as necessary to enhance the climate resilience of Kenya's arid and semi-arid lands. Interventions focus on increasing the adaptive capacities of communities and local institutions to develop evidence-based landscape planning. This will be done by increasing accessibility to climate data and information; and enhancing the ability of community-based cottage industries to access markets and financial services.
Addressing Climate Vulnerability in the Water Sector in the Marshall Islands	This project will increase the resilience of water resources for drinking and hygiene in the Marshall Islands. Planned interventions include improving household and community rainwater harvesting and storage structures; and securing groundwater resources from seawater intrusion. The project will also strengthen the technical capacities of national and subnational institutions and key stakeholders to integrate climate change risks into water governance processes.



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<p>Safeguarding rural communities and their physical and economic assets from climate induced disasters in Timor-Leste</p>	<p>This project will strengthen the capacity of institutions to assess and manage climate risks and to implement, finance and maintain local infrastructure services. Monitoring of climate risk information will be enhanced. In addition, climate resilient building measures will improve small-scale rural infrastructure in vulnerable areas.</p>
<p>Transforming the Indus Basin with Climate Resilient Agriculture and Water Management</p>	<p>This project will develop the country's capacity to use the information it needs to adapt to the impacts of climate change on agriculture and water management by putting in place state-of-the art technology. It will build farmers' climate resilience through skills, knowledge and technology enhancement activities. It will also create a wider enabling environment for continuous adaptation.</p>
<p>Supporting Climate Resilience and Transformational Change in the Agriculture Sector in Bhutan</p>	<p>This project will promote climate resilient agricultural practices, integrate climate change risk data into water and land management to support smallholders, and reduce the risk and impact of climate change-induced landslides during extreme events that disrupt market access.</p>
<p>Building Resilience of Communities Living in Landscapes Threatened under Climate Change through an Ecosystems-based Adaptation Approach</p>	<p>This project will use Ecosystem-based Adaptation (EbA) as cost effective and low risk approach to build climate resilience across eight targeted landscapes in Namibia. The project is based on the premise that biodiversity and ecosystems provide valuable services that increase the climate resilience of local communities. Activities undertaken as part of the project will maintain and enhance ecosystem integrity to continue to support the generation of food and income in order to reduce the severity of negative socio-economic impacts of climate change on vulnerable rural households. In addition, adaptive capacities at the community level will be improved so that communities are able to sustainably manage natural resources.</p>
<p>Enhanced climate resilience of rural communities in central and north Benin through the implementation of ecosystem-based adaptation (EbA) in forest and agricultural landscapes</p>	<p>The project objective is to halt the negative cycle of climate change, agricultural yield depletion and natural resource degradation in central and northern Benin to build resilience of local communities, using an Ecosystem-based Adaptation (EbA) approach. The EbA will integrate climate-resilient agriculture techniques with the tailored restoration of degraded forest ecosystems. Thus, the project will address current and future climate change impacts through three components</p>





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	focusing on restoration of degraded forest ecosystems, enhancing agricultural productivity and improving technical and institutional capacity of governments and communities.
Resilient Rural Belize (Be-Resilient)	The project will increase resilience of smallholder farmers in Belize to climate change impacts that have negative consequences on agricultural yields of important commodities for the country. Specifically, the project will develop climate-proof selected value chains (six vegetables, one fruit, and bee keeping) of smallholder farmers, which strengthen economic stability and resilience. The project will also increase access to markets through rehabilitation of critical infrastructure

GCF also funded one project in Eastern Europe in 2018:

<i>Project Name</i>	<i>Short Description</i>
Scaling-up Multi-Hazard Early Warning System and the Use of Climate Information in Georgia	The Project aims to reduce the climate risk to Georgia's communities by supporting infrastructure and their livelihoods.

2.4 Adaptation Fund

The Adaptation Fund was established under the Kyoto Protocol of the UN Framework Convention on Climate Change, and since 2010 has committed US\$ 720 million to climate adaptation and resilience activities, including supporting 100 concrete adaptation projects. The Adaptation Fund finances projects and programmes that help vulnerable communities in developing countries adapt to climate change. Initiatives are based on country needs, views, and priorities.

Helping the most vulnerable countries and communities is an increasing challenge and imperative for the international community, especially because climate adaptation requires significant resources beyond what is already needed to achieve international development objectives.

The Fund is financed in part by government and private donors, and also from a two percent share of proceeds of Certified Emission Reductions (CERs) issued under the Protocol's Clean Development Mechanism projects.

The Adaptation Fund finances climate adaptation projects in nine diverse sectors:

- Agriculture
- Coastal Zone Management
- Disaster Risk Reduction
- Food Security



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- Forests
- Multisector Projects
- Rural Development
- Urban Development
- Water Management

Funded projects regarding climate change since the beginning of 2019:

<i>Project Name</i>	<i>Short Description</i>
Enhance community, local and national-level urban climate change resilience to water scarcity, caused by floods and droughts in Rawalpindi and Nowshera, Pakistan	The main objective of the project is to “enhance community, local and national-level urban climate change resilience to water scarcity, caused by floods and droughts in Rawalpindi and Nowshera cities.
Enhancing Climate Change Resilience of Coastal Communities of Zanzibar	The project will progress activities geared towards enabling climate-resilient livelihoods in climate impacted areas of Zanzibar. Thus, the project’s main objective is to build the capacity of smallholder farmers in tackling climate change impacts through practical and innovative solutions.
Enhancing Climate Change Adaptation for Agro-Pastoral Communities in Kongwa District	The project aims the pilot scheme of a practical and cost-effective and community-based solution to improve the livelihood of poor people, restore and habilitate ecological systems, support agriculture, and livestock production in Kongwa district. The objective is to enhance the climate resilience of more than 320,000 people living in the area and improve livelihood actions towards climate adaptation and transformed environmental actions.
Building adaptive capacity to climate change in vulnerable communities living in the Congo River Basin	The project aims to reduce vulnerability to the impacts of climate change and strengthen the adaptive capacities of vulnerable communities and the ecosystems they depend on, by promoting food security, nutrition, and use a gender-sensitive approach. The project purposely targets those who are most affected by climate change, poverty, food insecurity, and who rely on agricultural livelihoods that are limited by and vulnerable to climate change impacts, especially women and indigenous groups.



This project is co-funded by the European Union and Republic of Turkey.

<p>Enhancing climate resilience of rural communities and ecosystems in Ahuachapán-Sur, El Salvador</p>	<p>The project has the main objective of reducing the vulnerability of communities and productive ecosystems in the Municipality of San Francisco Menendez to drought risk, soil erosion, and flash floods due to climate change and climate variability. The project will meet this objective by addressing the main barriers that have been identified as limiting the capacity of ecosystems and rural communities in San Francisco Menendez to adapt to climate change.</p>
<p>Adapting to Climate Change Through Integrated Risk Management Strategies and Enhanced Market Opportunities for Resilient Food Security and Livelihoods</p>	<p>The overall goal of the project is to enhance climate adaptation and food security of households through access to integrated climate risk management strategies and structured market opportunities. The overall objective of this project is to deliver assistance in a way that develops the individual's capacity to adapt to climate change and become self-reliant.</p>
<p>Building urban climate resilience in south-eastern Africa (Madagascar, Malawi, Mozambique and Union of Comoros)</p>	<p>The project will strengthen urban climate resilience by working with various levels of government and stakeholders and ensuring strong participation, in particular, of the most marginalized and vulnerable groups, in all its phases – from conception to evaluation.</p>
<p>Building climate and disaster resilience capacities of vulnerable small towns in Lao PDR</p>	<p>The objective of this project is to build climate resilience in small towns along the east-west economic corridor in the central region of Lao PDR. This will be achieved through the provision of climate-resilient water infrastructure and the mainstreaming of climate change into urban planning.</p>
<p>Chile, Colombia and Peru - Enhancing Adaptive Capacity of Andean Communities through Climate Services (ENANDES)</p>	<p>The project seeks to enhance the capacity of society and communities to adapt to a varying and changing climate by producing, communicating, and assessing the use of credible, authoritative, and useful information as the scientific evidence for decision- and policy-making on preparedness for, and reduction of damages from climatic hazards in Chile, Colombia, and Peru. Because increasing societal resilience to climate is not just about enhancing information, ENANDES will help build human and infrastructure capacity and will seek to overcome institutional, technological and cultural barriers through increased coordination among climate and non-climate actors of society.</p>
<p>Building resilience for adaptation to climate change</p>	<p>The project goal is to build resilience in Saint Lucia's agriculture sector for livelihoods security through enhanced</p>



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and climate vulnerabilities in agriculture in Saint Lucia	adaptive capacities for climate change and climate variability. The project objective is to increase the resilience of rural farm communities, increasing farm productivity, water and livelihood security, and reducing vulnerability to natural hazards, climate vulnerability, and change.
Promoting Climate Resilience in the Cocoa and Rice Sectors as an Adaptation Strategy in Sierra Leone	The overall objective of the project is to reduce vulnerability and increase adaptive capacity to respond to the impacts of climate change, including variability at local and national levels as well as on natural resources critical to sustain agricultural production and increase food security and nutrition of vulnerable poor communities.
An integrated landscape approach to enhancing the climate resilience of small-scale farmers and pastoralists in Tajikistan	The project aims to introduce an integrated approach to landscape management to develop the climate resilience of rural communities in Tajikistan. The project's activities will focus in particular within one of the most climate-vulnerable river basins, namely the Kofirnighan River Basin (KRB).
Adaptation Initiative for Climate Vulnerable Offshore Small Islands and Riverine Charland in Bangladesh	The main objective of the project is to enhance the climate resilience of vulnerable communities who live on coastal islands and riverine chars in Bangladesh.
Enhancing Climate Resilience in San Cristóbal province, Dominican Republic Integrated Water Resources Management and Rural Development Programme	The main objective of the program is to increase the resilience and capacity to adapt to climate impacts and risks on the water resources of rural communities in the Province of San Cristóbal and contribute to the diversification of their livelihoods. This objective will be achieved through improving the access to water supply and sanitation services, re-forestation activities aligned with correct land use, and increasing institutional and community capacity and coordination for integrated management that supports other uses of water.

2.5 Wildlife Conversation Society / Climate Adaptation Fund

WCS is supporting innovative actions to address the impacts of climate change since 2011 with a total of \$2.5 million in grant awards between \$50,000 and \$250,000 to conservation non-profit organizations each year.

One to two-year projects that implement science-driven, on-the-ground actions that assist wildlife and ecosystems to adapt to climate change at a landscape scale.





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Project proposals must:

- Focus on the functionality of ecosystems, rather than conserving individual species.
- Be designed for long-term conservation impact.
- Create the potential for impact at a landscape scale.
- Use strategic, targeted communications activities to amplify adaptation outcomes.
- Be designed with climate adaptation for wildlife and ecosystems as a core goal or outcome of the work.
- Propose conservation goals and actions that are grounded in the best available science.
- Conduct on-the-ground implementation, not research, planning or tool development.

Projects Maps by Ecosystem Type and Climate Challenge:



Climate Challenges:

- O:** Hydrological Changes
- O:** Effects on Habitat & Species
- O:** Rising Seas
- O:** Human Responses
- O:** Bigger and Hotter Fires

Funded projects regarding climate change during 2019:

<i>Project Name</i>	<i>Short Description</i>
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This project is co-funded by the European Union and Republic of Turkey.

Playa Lakes Joint Venture Climate Challenge: Hydrological Changes	This project will restore 1,150 acres of playas near Leoti and Tribune, Kansas, providing critical habitat for wetland birds and increased, cleaner water recharge to the aquifer.
The Nature Conservancy, Nevada Climate Challenge: Hydrological Changes	This project aims to plant 10,000 native riparian trees on over 270 acres throughout a network of oases. The enhanced and more resilient riparian habitat will allow wildlife species, particularly birds, to better adapt to increasing temperatures and moisture stress.
Point Blue Conservation Science Climate Challenge: Hydrological Changes	This project will deploy an innovative inoculant-supported restoration (i-sr) technique, using mycorrhizal inocula sourced from reference riparian ecosystems currently experiencing warmer and drier conditions in the region, to enhance riparian restoration on six acres of rangeland in Marin and Sonoma counties.
Makauwahi Cave Reserve Climate Challenge: Rising Seas	This project aims to expand plant restorations to higher adjacent areas, enhance the ability of recently restored areas to withstand climate challenges, and create additional freshwater and brackish wetlands for endangered water bird, invertebrate, and plant species farther inland.
Center for Large Landscape Conservation Climate Challenge: Bigger and Hotter Fires	This project aims to increase forest resilience and protect carbon sink capacity in the little Rocky Mountains by restoring ponderosa pine forests and applying adaptive management techniques such as forest thinning and monitoring.
Lakeshore Natural Resource Partnership Climate Challenge: Effects on Habitat & Species	This project will focus on the installation of diverse tree species on key conservation lands throughout the lakeshore region, with goals of increasing forested habitat connectivity, supporting habitat for migratory birds along the Lake Michigan Flyway, and maintaining shade in riparian areas, where coldwater streams are increasingly vulnerable to warming conditions.
The Nature Conservancy, Central Appalachians Climate Challenge: Effects on Habitat & Species	This project will connect existing forest blocks, creating opportunities for wildlife movement of spruce-dependent species and gene flow of red spruce in the landscape.
National Audubon Society, New York	This project will apply thin layer sediment deposition and plant native salt marsh vegetation to enhance 160 acres of salt



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Climate Challenge: Rising Seas	marsh habitat. salt marsh restoration implemented in Idlewild Park will benefit the adjacent urban Brookville/Rosedale neighborhoods of southeastern Queens, areas already prone to chronic flooding, by reducing the potential for sunny-day flooding and flooding during increasingly common large storm events.
The Nature Conservancy, New Mexico Climate Challenge: Bigger and Hotter Fires	To adapt future forests to a changing climate, this project will implement an assisted range expansion strategy. By planting trees in “nuclei,” or clusters across the landscape, the project team will create a pattern of openings and patches less prone to high severity events when the fire does reoccur.
The Nature Conservancy, Colorado Climate Challenge: Bigger and Hotter Fires	This project will reforest severely burned areas and apply forest thinning and prescribed burning to protect critical wildlife habitat.
Preservation Foundation of The Lake County Forest Preserves Climate Challenge: Hydrological Changes	By developing a regional seed sourcing protocol and conducting regional and national workshops at conferences, the project team will bridge the gap between the current science on seed provenance and on-the-ground implementation.
Southwest Michigan Land Conservancy Climate Challenge: Effects on Habitat & Species	This project will reforest 111 acres of disturbed forest community on the edge of the tension zone with southern tree species at the northern edge of the range. Additionally, the project team will ensure the resiliency of 76 acres of southern forest at the northern edge of its range as well as 134 acres of the shoreline forest community.
Scott River Watershed Council Climate Challenge: Bigger and Hotter Fires	This project will bring prescribed fire to the landscape to accelerate the ecological benefits of plans to manage fuels and forest stand composition, provide refugia and migration corridors to critical ecological habitats, and allow multiple species to adapt to climate change.

2.6 Nordic Development Fund

The Nordic Development Fund (NDF) is the joint development finance institution of the five Nordic countries i.e. Denmark, Finland, Iceland, Norway and Sweden. NDF was established in November 1988 and commenced operations in February 1989. The objective of NDF's operations is to facilitate climate change investments, primarily in low-income countries.





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Republic of Turkey.

NDF finances projects usually in cooperation with bilateral, multilateral and other development institutions. The operations mirror the Nordic countries' priorities in the areas of climate change and development. NDF flexibly uses grants, loans, equity and any combination of these as financing instruments.

NDF's capital is provided from the development cooperation budgets of the five Nordic countries. The original subscribed and paid-in capital by the Nordic countries is equivalent to approximately EUR 1 billion.

Climate change adaptation measures include a wide range of efforts that enhance NDF partner countries' possibilities to respond to climate change-related hazards such as sea-level rise and extreme weather conditions, as well as impacts on health and food security. Adaptation measures to address the adverse effects of climate change include strengthening of traditional coping mechanisms and practices, research and planning as well as "climate-proofing" of sectors, geographic areas and projects.

Climate change mitigation measures are targeted at reducing greenhouse gas emissions by improved energy efficiency, increased use of renewable energy sources, carbon sequestration, sustainable transport initiatives, enhanced waste management and sewage treatment.

Through multilateral and bilateral development cooperation and grant financing in low-income countries in Africa, Asia and Latin America, NDF supports projects dealing with climate change mitigation, supporting adaptation to climate change, infrastructure, natural resources and capacity building. NDF supports projects implemented in especially in Africa, Asia, Latin America and multiple regions:





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Funded projects regarding climate change in multiple regions:

<i>Project Name</i>	<i>Short Description</i>
Private Markets for Climate Resilience (PMCR), 2020	Climate change is increasing risks and impacts in all parts of the world economy, particularly in developing countries where there is less capacity to adapt. By 2030, the cost of making climate-vulnerable business sectors resilient is expected to be in the billions per year. Given that public action alone will not be sufficient to address the scale of this threat, this cost will largely be borne by the private sector, which will also be tasked with developing the innovative products and services needed to drive resilience. However, in private markets, where there is a very large challenge there is also a very large opportunity and businesses stepping up to increase their resilience or to create new climate-resilient products, services and business models, will be well-positioned to safeguard their future as well as take the lead on transforming entire economic systems.
Climate Resilience and Adaptation Finance and	The Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT) is the first





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Technology Transfer Facility (CRAFT), 2018	commercial investment vehicle dedicated to expanding globally the availability of technologies and solutions for climate change adaptation and climate resilience.
Climate Investor One (CIO), 2018	Climate Investor One (CIO) is a “whole-of-life” financing facility mandated with delivering renewable energy infrastructure projects in Africa, Asia and Latin America. The main objective of CIO is to contribute in a significant manner to global climate change mitigation efforts by financing profitable and sustainable renewable energy projects in developing countries.
Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT), 2017	The objective of CRAFT will be to create a diversified portfolio of investments in private companies developing and producing products and solutions that help assess and manage the physical risks and impacts of climate change. CRAFT will target investments in two types of companies: resilience intelligence companies and resilience products & services companies.
Nordic Climate Facility (NCF), 2017	The Nordic Climate Facility (NCF) is a challenge fund set up in 2009 to finance early-stage climate change projects in developing countries. NCF aims to build a portfolio of innovative business concepts which have been tested, proved viable and are ready to be scaled-up and replicated. NCF is financed and managed by the Nordic Development Fund (NDF). More information: nordicclimatefacility.com Project portfolio Read about individual NCF projects.
Market for Climate Resilience in Latin America, Africa and Asia, 2015	This project will support an assessment of the market for climate resilience in two key sectors in three large developing countries, one each in Latin America, Africa and Asia.
Social Analysis and Adaptation, 2013	The project aims to demonstrate, by the publication of practical examples, the role of social analysis in designing effective and equitable responses to climate change in developing countries.
Nordic Climate Facility, 2010	The Nordic Climate Facility (NCF) aims at building partnerships between the Nordic countries and NDF’s partner countries on climate change adaptation and mitigation.



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3. NATIONAL AND LOCAL GRANT PROGRAMS AND MECHANISMS

As stated in Description of Actions, a desk review regarding ongoing grant programs and mechanisms at the national and local levels for similar target groups is aimed. However, there are no ongoing grant programs and mechanisms at the national and local levels for similar target groups at present. Therefore, grant programs and mechanisms that have been implemented since the 2000s in Turkey are summarized below.

3.1 Enhancing the Capacity of Turkey to Adapt to Climate Change

The mentioned project was funded by the MDG Achievement Fund and carried out between October 2007 and February 2012.

The Joint Programme aimed at integrating Climate Change Adaptation (CCA) into national, regional and local policies within the framework of Turkey's future development targets. To do this and develop national strategies to address CCA and develop the capacity for managing CC risks in rural and coastal development in the country, the programme was structured around three pillars:

- policy level (enhance/develop national capacities for efficient CCA policies and develop new policies and strategies)
- scientific level (enhance/develop capacities through the establishment of CCA tools using the best available technology and data, and ensuring that the information is available at all levels of the community)
- implementation level (ensuring that capacity is enhanced/developed in order to actually undertake CCA implementation from local to the central level and monitor and evaluate processes from the socio-economic and environmental aspects).

This is supported by four specific outcomes:

- Outcome 1 Climate change adaptation mainstreamed in Turkey's development plans;
- Outcome 2 Institutional capacity developed for managing climate-risks, including disasters;
- Outcome 3 Capacity for community-based adaptation in the Seyhan River Basin developed;
- Outcome 4 Climate change adaptation mainstreamed into UN programming framework in Turkey.

One of the major results focused on outcome 3 that involved the implementation of 18 different pilot projects in the Seyhan River Basin. At the policy level, the JP supported the drafting of the National CCA Strategy.





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Accordingly, the community-based adaptation programme (Outcome 3) has been acknowledged as a model for similar initiatives.

3.2 Enhancing Required Joint Efforts on Climate Action Project

The mentioned project was funded by the European Union and the Republic of Turkey, carried out by the Ministry of Urbanization and Environment between July 2017 and February 2020 together with a consultancy company. Within the scope of this project, the management and monitoring of the “Capacity Building in the Field of Climate Change in Turkey Grant Scheme (İklimİN)” covering 37 grant projects and involved various stakeholders, namely; universities, NGOs, local public authorities and municipalities was implemented.

The global objective of İklimİN was stated as reducing anthropogenic greenhouse gas (GHG) emissions to contribute to global efforts to mitigate climate change in line with scientific evidence. In line with this objective, the specific objective was defined to increase public understanding and enhance stakeholder capacity on the required joint efforts on climate action. Thus, the priority areas of the İklimİN have been two folds as:

- i) Climate Change Mitigation, and
- ii) Climate Change Adaptation.

Within the scope of the grant component:

- With a grant of approximately 3.5 million Euros, 37 grant projects have been carried out in 27 provinces with a duration ranging from 10 months to 24 months.
- In the program consisting of 2 lots,
 - Within the 1st Lot, 24 projects have been implemented by universities, local public institutions, and non-governmental organizations.
 - within the 2nd Lot, 13 larger-scale projects have been implemented by metropolitan municipalities. The mentioned metropolitan municipalities have reached a total of 39 million people, who constitute half of Turkey’s population, with their projects in Istanbul, Ankara, Izmir, Antalya, Gaziantep, Kocaeli, Mersin, Hatay, Samsun, Istanbul, Tekirdağ, Muğla and Trabzon.
- The coordinators of 37 grant projects have been 13 metropolitan municipalities, 11 universities, 4 NGOs, and 9 local municipal/public institutions.
- Geographical distribution of 37 projects: 11 projects in the Marmara Region, 9 projects in Central Anatolia Region, 6 projects in the Aegean Region, 6 projects in the Mediterranean Region, 3 projects in the Black Sea Region, and 3 projects in Eastern and Southeastern Anatolia Regions.

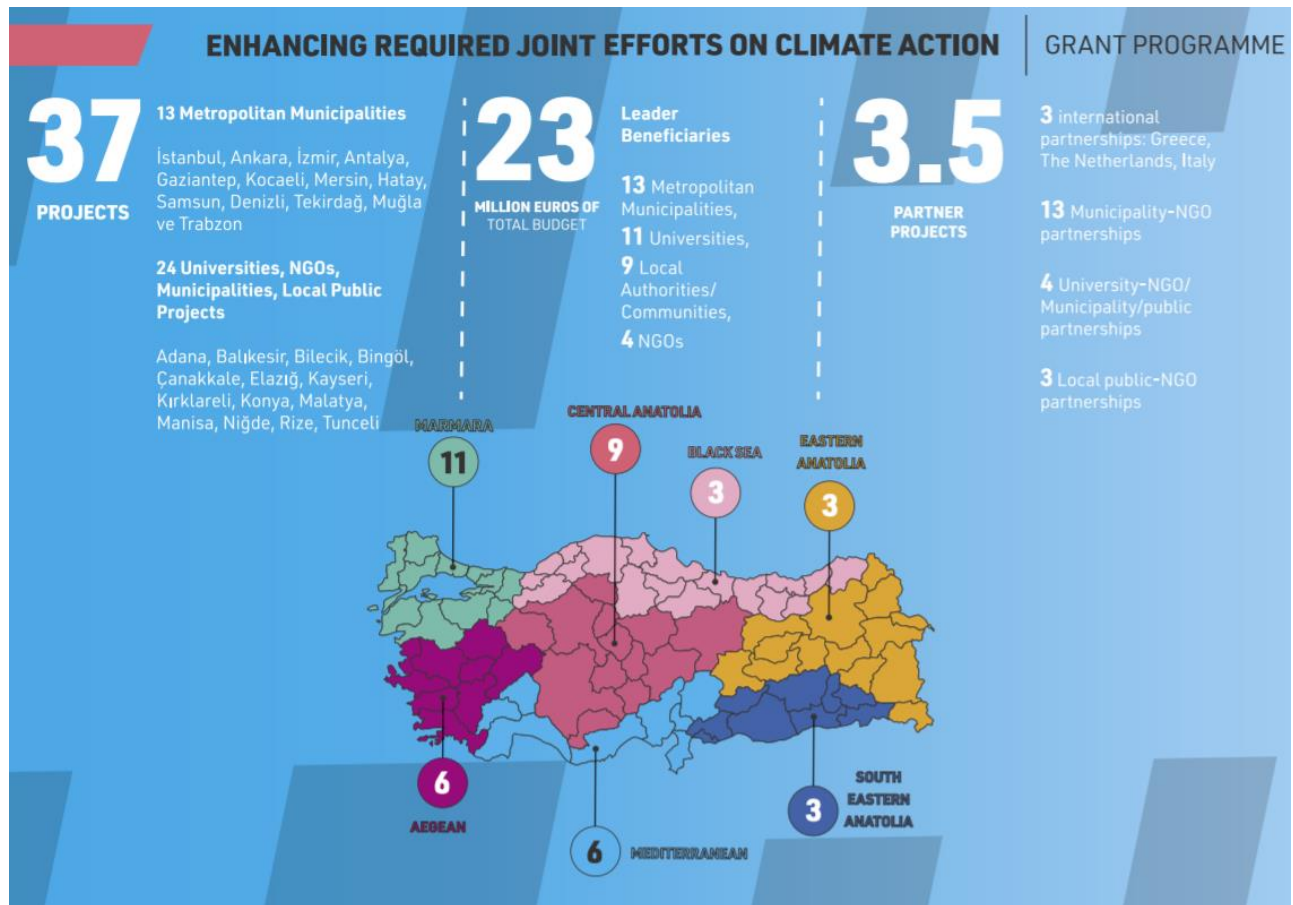




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- 23 of the 37 grant projects had partnerships. 3 of them had international partnerships. - Partnerships were in the form of collaborations such as municipality-NGO, municipality-university, university, NGO, and 17 NGOs took part in grant projects, 4 of which were leaders.
- They have worked on a wide range of topics in the area of climate change under the projects. While some of them were directed to works such as research, strategy/action plan, another part included pilot applications. Work has been carried out in many fields such as energy, agriculture, training, and cities.
- Grant Projects Catalog has been prepared for transferring the gained experiences and encouraging good practices.

These grant projects served indeed for the TA project's and Beneficiary's immediate action points where quick local solutions were implemented. Furthermore, synergies and cooperation were encouraged for sustainable alleviation of the problem.



Numeric Data on Grant Projects:





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Number of Awareness Raising Activities	: 539
Number of Pilot Field Applications	: 229
Number of Research and Data Collection Studies	: 265
Total Number of Training, Workshop, Study Visits	: 305
Number of People Reached through Awareness Raising Activities	: 688.000
Number of People Reached with Activities such as Training, etc.	: 26.272
Total Number of Videos Produced	: 115
Total Number of Brochures Produced	: 85.602
Number of Other Visibility Materials Produced	: 88.789

Some examples of the grant projects carried out are given below.

Enhancement of High School Students' Knowledge Capacity and Awareness for Climate Change Mitigation by Sustainable Training in Niğde

Under the project, it has been aimed to create a sustainable education model, which is prepared with the approach of promoting the fight against climate change and adaptation to climate change, and includes titles such as greenhouse gases, climate change, global warming, forced migrations, etc., in order to be implemented in high schools in Niğde and to increase the knowledge capacity of students.

In line with these objectives;

- The training contents including topics such as greenhouse gases, climate change, global warming, forced migrations, food, and data collection tools have been prepared.
- A sustainable education model has been created to inform high school students about combating climate change and adaptation.
- Second-grade students of 3 different high schools who were subjected to pre-exams have been trained.
- Trained students have been evaluated according to the final exams and training has been provided to the students who achieved high success to improve their presentation skills.
- It has been provided that high achieving students train the second-grade students studying in 6 different high schools.
- The outcomes of the projects of the trained students towards reduction and adaptation have been reported to the provincial directorate.





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With the sustainable education model created, it has been provided that students interact directly and indirectly with each other. Awareness of climate change has been raised among high school students and parents. This training has encouraged the environmental awareness of students, teachers and parents, and paved the way for future studies on climate change and made young people think about career opportunities in the relevant field.

Improving Climate Change Awareness and Engagement in İstanbul

Throughout the project of “Improving Climate Change Awareness and Engagement in İstanbul” conducted with the vision of “ensuring that İstanbul is a respected world city with high quality of life”, the works have been carried out for reducing the greenhouse gas emissions in İstanbul, developing cooperation of local governments, and increasing the technical capacity for combating climate change and adaptation.

In this context;

- Separate training programs have been organized for the units and affiliates of İstanbul Metropolitan Municipality, the district municipalities, the municipalities in the Marmara Region, their units and affiliates, non-governmental organizations and citizens.
- Six different certified training programs have been held on topics such as Combating Climate Change at Local Level, International Climate Change Negotiations and Turkey’s position, the Conferences of the Parties (COP) 23 Climate Summit, carbon management and greenhouse gas reduction, etc.
- A special training program has been organized for women, which includes many titles from sorting separation household waste to energy efficiency, from preventing wastage to raising children with environmentally friendly awareness.
- İstanbul Climate Change Action Plan (IDAP), which includes concrete actions that will reduce greenhouse gas emissions in the coming years and strengthen İstanbul’s capacity to adapt to the changing climate, was prepared by gathering the suggestions of valuable specialists from different sectors by organizing meetings and workshops.

Under the meetings organized to provide data for the İstanbul Climate Change Action Plan, comprehensive round-table meetings have been held on the topics of water resources management, public infrastructure, buildings, energy generation, and distribution, land use, forestry, biodiversity and agriculture, industry, transportation and logistics, public health, tourism, trade and socio-cultural structure. Specialists have discussed recommendations on emission reduction and climate change adaptation for their respective sectors. Thus, the “İstanbul Climate Change Action Plan”, which consists of 7 work packages and includes the objectives of combating climate change and adaptation, has been completed.

Climate Change and Mitigation Game for A Metropolis





This project is co-funded by the European Union and Republic of Turkey.

With the project of “CAMAPOLI - Climate Change and Mitigation Game for a Metropolis” prepared with the efforts of the ITU TEGAM group, it has been aimed to raise awareness on the importance of fighting against the implications of the climate change and adaptation among the high school and university students.

In line with these objectives;

- Worldwide cases (extreme weather events, drought, flood, etc.) of vulnerabilities and solutions on climate change have been gathered.
- The activities that could be done to minimize the implications of climate change have been determined and infrastructure has been prepared for the game.
- A team consisting of lecturers from ITU Industrial Engineering Department, teachers of ITU Eurasian Institute of Earth Sciences and post-graduate students studying design, drawing and software has been created.
- A game that teaches youth to create a clean environment with visual entertainment using cause and effect relationships by targeting high school and university students has been developed.

CAMAPOLI, which can be downloaded free of charge, enables young generations to learn about climate change, to have information about successful mitigation and adaptation efforts.

Project of Using Green Energy In Sports Facilities And Creating Awareness

Under the project, it has been aimed to expand the use of renewable energy and efficiency systems in new generation sports facilities, thus reducing energy costs and contributing to the fight against climate change.

In this context;

- The infrastructure of Kuşcağız Family and Life Center in Çayyolu, Ankara has been arranged for renewable energy applications.
- A solar system has been established by placing solar energy panels on the building and integrated into the facility’s energy system.
- Citizens and students have been provided with training on carbon emission reduction.
- In order to promote the recycling culture, environmentally friendly waste bins and recycling containers have been placed at predetermined points.

With the solar power plant built on the roof of the facility, electricity is generated. The facility that generates its energy continues to use energy efficiently. In addition, with the energy monitoring system and efficiency system, data such as electricity, water, generator, carbon emission amount of the facility are monitored.

Capacity Building for Climate Change Mitigation and Adaptation in Trakya Region





This project is co-funded by the European Union and Republic of Turkey.

Under the project of “Capacity Building for Climate Change Mitigation and Adaptation in Trakya Region”, within the framework of climate change projections made for the region, it has been aimed to increase the capacity of stakeholders for the sustainable use of land and water resources, the continuity of agricultural production, and the prevention of flood risks and damages, with an understanding that promotes sustainability in line with regional and national development plans.

In line with this;

- Considering the different scenarios that may occur in the Thrace Region, short-, medium- and long-term climate change modeling studies have been conducted.
- Researches on sustainable land use strategies have been carried out.
- The effects of climate change on water quality and quantity have been determined and efforts have been made to take measures to facilitate combating these effects.
- The effects of climate changes on water resources, productivity of crops (sunflower and wheat), which are widely cultivated in the region, and the climate events such as drought, flood have been modeled along with land use change. - Strategies have been developed to combat damages caused by extreme climatic events.
- A Climate Change Monitoring, Mitigation and Adaptation Platform” has been established with the participation of academicians, local authority representatives, representatives of relevant public institutions and organizations and NGOs.

The “Monitoring, Mitigation and Adaptation Platform” established within the scope of the project activities continues to work on related issues

Enhancing Awareness of Female Labor Force for Agricultural System in A Changing Climate

With the Project of “Enhancing Awareness of Female Labor Force for Agricultural System in a Changing Climate”, it has been aimed to inform women working in agriculture, who are one of the groups that will be most affected by climate change, about climate change and to make them be prepared for the risks caused by climate change.

In line with these objectives;

- In Rize and Çanakkale, the main provinces where include the most female workers in the agricultural sector in Turkey, training and meetings have been organized about combating climate change.
- Researches have been carried out to determine the possible risks of climate change in the agricultural sector. Based on relevant data, the presentations and training have been prepared.
- Approximately 800 women agricultural workers have been informed through 5 awareness meetings held in Rize and Çanakkale.





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- The digital books and short videos prepared in related topics have been made widespread throughout the country through social media.

While the awareness of female agricultural workers on climate change has been increased with the project activities, a successful example of cooperation between local authorities and universities has been realized.

Climate Change Adaptation for The Sea and Coasts of Antalya

Under the project of “Climate Change Adaptation for the Sea and Coasts of Antalya”, it has been aimed to evaluate the risks caused by climate change in the Mediterranean Basin, one of the regions at risk of Turkey against the effects of climate change, and in the coastal areas of the region, and to develop strategies to combat it. Researches on the effects of climate change on the sea and 650 km coastline in Antalya have been conducted.

In line with this;

- Focus group meetings have been held with representatives of sectors such as health, tourism, and maritime in order to determine the measures to be taken under the titles such as tourism, fisheries, biodiversity, historical and natural heritage.
- Physical vulnerability maps have been prepared. - Workshops and training on the effects of climate change and risk assessment have been organized.
- The risk management strategy of Antalya and its coasts against climate change has been prepared.
- A marine survey has been conducted by providing training to local divers.
- Painting competition and festival on “Climate Change and Our Seas” have been organized for children. Museum visits and talks on Climate Change have been held.
- A high-level Mediterranean Roundtable meeting within the scope of regional cooperation has been conducted.

With the project activities, while the awareness level of members of the public in Antalya, notably those operating in the tourism sector, about the effects of climate change on the seas and coasts has increased, a risk management strategy specific to the province has been developed.

As a result of the surveys conducted at the end of the entire grant program, the grant beneficiaries shared the lessons they learned as follows:

- Grant beneficiaries cited time and financial constraints as two weaknesses.
- Stakeholders need more local participation to create sustainable results in projects.
- Bureaucratic procedures in the implementation of grant contracts have in some cases forced grant beneficiaries.
- Finding and organizing target groups and meeting outcome indicators were found a bit difficult.





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Recommendations and good practices defined under the mentioned project are as follows:

- An online, web-based monitoring information system, which facilitates ‘real-time’ interaction between grant beneficiaries and other parties.
- A Monitoring expert assigned to each project, supporting throughout the implementation period, conducting monitoring visits and reviewing their reports.
- An approach to monitoring grant projects which has an effective balance between results-oriented monitoring and ensuring compliance with contractual obligations and PRAG procedures. Coaching rather than auditing.
- Comprehensive support and training to Grant Beneficiaries.
- Flexible grant programme application rules which allow different entities and various project ideas to be implemented.

4. FINAL REMARKS AND CONCLUSION

There is no current grant program on climate change at the national or local levels in our country. In this context, described in the second and third sections above, as a result of the evaluation of grant programs and projects carried out in Turkey, the EU and the countries with similar socioeconomic structure, recommendations for the priorities of the “Enhancing Adaptation Action in Turkey Project Grant Program” are summarized below.

The EU Adaptation Strategy was introduced by the European Commission (EC) in 2013, setting out a framework and mechanisms for preparing the EU for current and future climate impacts. In order to enhance the EU’s preparedness for and the capacity to respond to the impacts of climate change, the strategy sets out three main objectives:

- promoting action by Member States (MS);
- promoting better-informed decision-making; and
- promoting adaptation in key vulnerable sectors.

The EC itself also launched Climate-ADAPT to overcome the lack of a consistent knowledge base on adaptation in Europe as an action within its Adaptation Strategy and recognised it as a key element for better-informed decision-making and emphasised its potential to act as the 'one-stop shop' for adaptation information in Europe. Many EU Member States have developed their own national adaptation web portals while adapted their national climate change adaption strategies.

Changes in climate components depend on the level of greenhouse gases in the atmosphere and the response of global/local average surface temperatures to the increase in greenhouse gases. One way of dealing with uncertainty is to use climate change scenarios and projection models to identify possible changes in climate change components, and to determine risk levels for different climate change scenarios in hazard and risk assessments. Existing platforms in the EU cover such modeling and projection studies.





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The Project will reach its specific objectives such as better decision-making tools for national climate change adaptation policies and urban adaptation planning solutions. Similarly, the EU Adaptation Strategy aims to address gaps in knowledge about adaptation and further developing the European climate adaptation platform (Climate-ADAPT) for promoting better-informed decision-making.

With this aim, for the successful implementation of the grant component (CCAGP) within the scope of the Project and similar with EU Adaptation Strategy, the following priority areas are suggested:

- develop better decision-making tools for climate-resilient sustainable development;
- develop capacity for climate change adaptation action;
- improve operational (administrative, technical and application) capacity for climate change adaptation action.

Because of the variable impacts of climate change on sectors, the EC sees it is necessary to build mainstream adaptation measures into the EU's policies and programmes as 'climate-resilience action'. This action promotes adaptation in key vulnerable sectors such as agriculture, fisheries and cohesion policy, and ensures that Europe's infrastructure is made more resilient, and promoting the use of insurance against natural and man-made disasters.

In addition, most of the worldwide fund sources has prior sectors to finance climate adaptation projects on a yearly basis.

Within Turkey's National Climate Change Adaptation Strategy and Action Plan for 2011-2023, priority areas are also specified as water resources management, agriculture sector and food security, ecosystem services, biological diversity & forestry and natural disaster risk management together with sector-based objectives.

Climate change adaptation generally includes prior adaptation arrangements to be prepared for expected climate change and climate variability in order to mitigate the harmful effects of climate change and seize possible beneficial opportunities (IPCC, 2012). Climate change is one of the underlying causes of disaster risks. Rising sea level affects conditions such as rising temperatures, ocean acidification, glacial retreat, salinization, soil and forest degradation, biodiversity loss, desertification and extreme weather events.

Depending on the changes in temperature and precipitation patterns, there will be increases in the distribution areas and types of agricultural pests. The projected climate changes in agriculture will affect production, production sites, yield and animal husbandry (M.Türkeş, 2020).





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Changing climatic conditions are also known to have significant effects on human health, or even create. The frequency and intensity of extreme weather events are increasing as a result of climate change. Extreme weather events can cause injuries, post-disaster epidemics, problems such as malnutrition and adverse effects on mental health. Especially in the elderly, the risk of death due to cardiovascular diseases, stroke, hypertension, renal and respiratory system disorders and metabolic disorders increases with the increase in temperature. As a result of climate change, the distribution of vector, water, food and animal-borne diseases and their occurrence areas and their recurrence may change (D.E. Kiraz, 2019).

As highlighted in Turkey's Climate Change Adaptation Strategy and Action Plan (2011), Climate change will gradually cause the loss of terrestrial and marine ecosystems as well as biodiversity. This will significantly affect the species, the ecosystems that society depends on and the services they provide.

As a result of global climate change, Turkey has to cope with problems such as desertification, increased hydro-meteorological disasters, forest fires and sea-level rise. When it comes to overall assessment of many years, storms, floods, droughts and forest fires are the most frequent natural disasters experienced in Turkey. These disasters cause both loss of life and economic, social and environmental losses, and also lead to direct economic losses of %3 of Turkey's Gross National Product (GNP) every year (A. Akay, 2019).

Increasing summer temperatures, decreasing winter precipitation (especially in western provinces), loss of surface water, increased droughts, soil degradation, erosion on coasts, floods and floods caused by climate change in Turkey directly threaten the existence of water resources (ÇŞB, 2011).

International climate change studies (IPCC) indicate that sea level has increased 10-20 cm on a global scale in the last century and this is mainly due to global warming, and this century will rise 40-60 cm more. For this reason, taking into account the climate change projections, it is necessary to create resistant structures in marine and coastal areas and to make plans for this.

When it is looked at the publications of both the European Union Environment Agency and the World Bank, it is emphasized that the one unit investment will be made today within the scope of adaptation to the existing infrastructure systems (buildings, transportation, energy and water supply) to climate change will correspond to the investment cost of 6 units will be made in the future.

The cost of impacts will be minimized when infrastructure investments, water use, building design, city and land use planning are designed considering climate change. Based on the assessment of the EU and national policy priorities regarding the sectors, the following issues are suggested as priority areas of CCGAP:





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- Strengthening resilience to water scarcity, drought, forest fires, floods and meteorological extreme events,
- Strengthening resilience in agriculture, forestry, tourism, biodiversity and human health sectors,
- Strengthening the resilience of infrastructure, buildings and coastal areas.

Another main component of the Enhancing Adaptation Action in Turkey Project is to prepare an “urban planning solution catalogue” including climate knowledge and adaptation planning for cities. This component aims to strengthen urban adaptation planning capacity so that chosen pilot cities have their climate change adaptation action plan with means to mainstream it with urban governance, a typology framework is formed to allow similar cities to exchange expertise and knowledge between themselves, and clear climate financing and impact assessment tools are developed to support implementation since there is an urgent need for addressing climate change adaptation across cities in Turkey. Urban adaptation to climate change is also a worldwide concern, one of the key policy areas announced by the LIFE Programme for Climate Adaptation Call 2020. Consequently, the issue of developing urban action plans and strategies to strengthen climate change adaptation is also a highly recommended priority area for the CCAGP.

Many countries see utilising innovative solutions is a key element in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and ecosystems. Accordingly, the suggested last priority area of the grant component is innovative adaptation technologies and systems for climate change adaptation.





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