



Adapt

Adapting Portugal to Climate Change

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Portuguese Environment Agency (APA)

**Contents**

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## Foreword

Work on adaptation in Portugal started in the late 90's with Project SIAM - Science, Impacts and Adaptation to Climate Change in Portugal. This interdisciplinary research project was instrumental in raising awareness in Portugal on the estimated impacts of a changing climate.

In 2008 work begun on the National Strategy for Adaptation to Climate Change (ENAAC) that would be adopted in 2010. Like its European Union counterpart, ENAAC mapped out the key sectors affected by climate impacts. Among its main objectives featured the identification of specific vulnerabilities, proposed adaptation measures and knowledge gaps.

Through this process sectors realised that they were already adapting to climate change, although they were not aware of it. They also realised a lot more was needed in terms of information, research and measures identification.

In 2015, ENAAC was revised and upgraded so as to be more focused on interlinkages (e.g coasts and spatial planning) and on identifying on-the-ground measures.

With the support of the European Economic Area Grants and the Portuguese Carbon Fund, Program AdaPT was set up in 2011. Program AdaPT was designed to fill some of the gaps identified in ENAAC. The Program addresses capacity building and awareness raising at municipal level, aiming to improve integration of climate change adaptation in local management instruments; a schools project consisting in climate change training for teachers and students and an award for best school demonstrating project. It also features the development of an internet portal; and five sectoral projects addressing vulnerabilities and knowledge gaps in water resources, forests and agriculture, tourism, industry and services.

APA is very committed in the implementation of this programme, and the good results obtained so far show the relevance of the strategy undertaken and will serve as pilots for larger scale measures on adaptation in Portugal.

Nuno Lacasta



APA's President of the Board

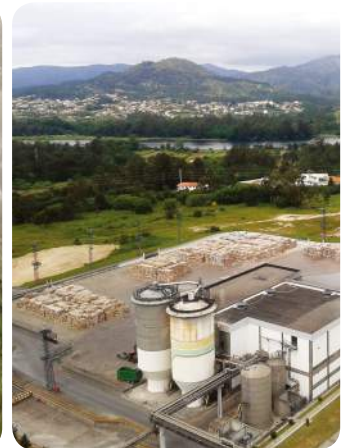
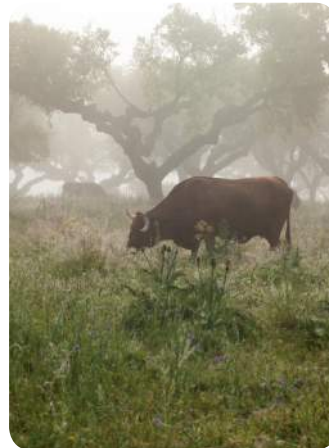
## What is Programme AdaPT?

Programme AdaPT is one of the eight programmes supported by the EEA Grants in Portugal for the period 2009-2014 (projects will run until 2017).

Its main purpose is to support the start-up of projects on “Adaptation to Climate Change” in Portugal. The design of the programme is informed by the needs and contributions from the coordinating group of the National Strategy for Adaptation to Climate Change (ENAAC).

The total budget for this Programme is around 3.5M€ (3M€ from the EEA and 0,5M€ from the Portuguese Carbon Fund).

The programme operator is the Portuguese Environment Agency (APA), as manager of the Portuguese Carbon Fund (FPC) and the donor programme partner is the Norwegian Directorate for Civil Protection and Emergency (DSB).



## In What Consists Programme AdaPT?

Programme Adapt comprises four axes:

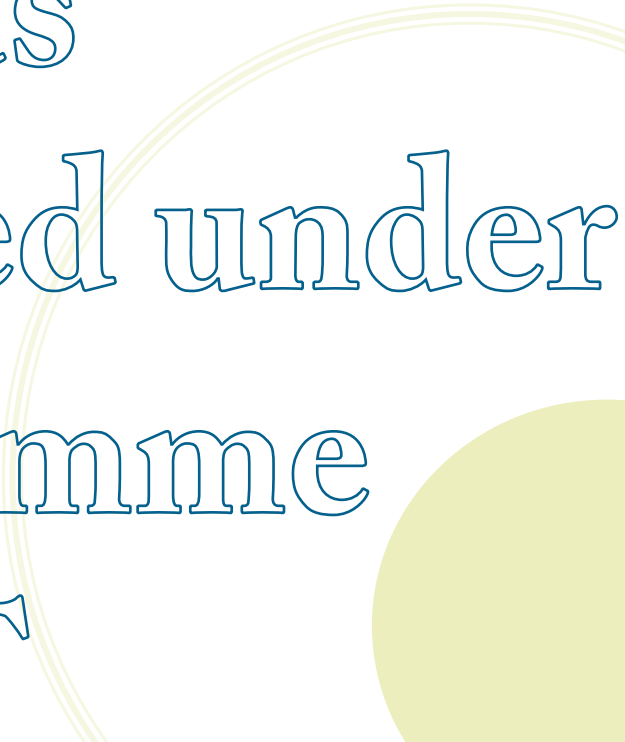
1. The pre-defined project "Local Warming Website" will prepare and disseminate information on past trends, develop local level climate change information, using the latest IPCC climate scenarios, and develop climate indicators for specific sectors in Portugal. This project will produce information to be used by all other projects in the programme.
2. The call "Local Adaptation Strategies" selected one large project to address the training of Municipality officers, create a network of Municipal officers dealing with adaptation and develop a set of local action strategies for adapting to climate change.
3. The call "Climate Change Education and Award" selected one large project to address public education on climate change at school level, focusing on training of teachers, production of educational materials and a competition for climate change measures at school level.
4. The call for small grants scheme "Sectoral Projects" selected five projects to support the work of ENAAC at sectoral level, focusing on vulnerability assessments and cost-benefit analysis of adaptation.

These four fields of work will strongly contribute to the two expected outcomes of the programme:

- to increase capacity to assess vulnerability to climate change (axis b and d);
- to increase awareness of and education on climate change (axis a and c).

This programme will create a solid ground for further adaptation work in Portugal upon.

Projects  
financed under  
Programme  
AdaPT



# ClimAdaPT.Local

## Local Adaptation Strategies to Climate Change

### **Promotor and Partners**

- FFCUL - (Faculty of Sciences' Foundation | Lisbon University)
- CEDRU - Studies Center for Regional and Urban Development
- MEGALOCI - Plattform for companies and territory
- ICS – Institute for Social Sciences | Lisbon University
- QUERCUS – Associação Nacional de Conservação da Natureza
- FCT-UNL – Faculty of Sciences and Technology | Lisbon New University
- Aveiro University
- ICETA/CIBIO-Açores
- Cascais Municipality
- Almada Municipality
- Sintra Municipality
- cCHANGE

### **Project budget**

1,499,862.40 Euros (funding 85% EEA; 15% FPC)

### **Project summary**

The overall goal in the project is to improve the capacity of Portuguese municipalities to incorporate climate change adaptation in their planning instruments and their local intervention.

The specific objectives are: the training of municipality officers; the creation and maintenance of a technical support service to adapt to climate change; the development of Municipal Strategies for Adaptation to Climate Change in pilot municipalities; and the development of guidelines for mainstreaming of climate change adaptation in municipal planning exercises.

**Further information:** <http://climadapt-local.pt/>





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# Clima@EduMedia

## Education and Climate Change Award

### **Promotor and Partners:**

- FLUP (Porto University - Faculty of Arts)
- University of Iceland – Hornafjordur Regional Research Centre

### **Project budget**

472,041.22 Euros (funding 85% EEA; 15% PCF)

### **Project summary**

The project seeks innovative approaches for teaching and learning climate change related contents, specifically in the areas of mitigation and adaptation. The overall objective is to make use of schools as a privileged mean of communication and education, creating awareness of the school community on ways to prevent the effects of climate change and adaptation measures. The specific objectives are: the development of educational materials and its adoption in pilot schools; the promotion of an online platform for sharing experiences between the participating schools; the evaluation of the pilot phase and the implementation phase at national level; and the organisation of a school competition to select the best project on climate change to be implemented in the school premises. The project will develop its action through the network of school newspapers, television channels and radio, while developing a transdisciplinary strategy of learning through media. By creating communicative materials (a video, a radio program, infographics or a press kit), students will be able to learn, think about solutions for adaptation and mitigation for their schools and cities, communicate and share their ideas on climate change to everyone.

**Further information:** <http://www.climaedumedia.com/>

Further information: <http://climadapt-local.pt/>



# Local Warming Website

## **Promotor and Partners**

Portuguese Institute for Sea and Atmosphere (IPMA)  
Instituto Dom Luiz – Faculty of Sciences | Lisbon University

**Project budget:** 399,989.00 Euros (funding 85% EEA; 15% PCF)

## **Project summary:**

The project aims to produce and publish a "Local Warming Website", a platform with easy access for the general public with the purpose of spreading the results of the project, namely: climate change at regional level and climatic indicators for specific sectors in Portugal.

The project will process and make publically available past climate data and data of climate projections from IPCC AR5 for dissemination via the website. This task will involve the calculations required for the downscaling of the data and the provision of aggregate values at the level 3 of the Nomenclature of Territorial Units (NUT3) and in different time periods, and the estimate of more than 30 climate indicators.

This project will thus contribute to increased awareness and education on climate change and provide a homogeneous and easily accessible data source for further technical work on adaptation and climate proofed special planning.

**Further information:** <http://www.ipma.pt/pt/investigacao/eeagrants/adapt/index.jsp>





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# SOWAMO

## Sowing Water in the Monchique Mountain

### **Promotor and Partners**

- TARH (Terra, Ambiente e Recursos Hídricos, Lda.)
- Monchique Municipality
- Center for Sciences of the Sea | Algarve University
- NFLI (Skogoglandskap - Norsk Institutt for Skog og Landskap)

### **Project budget:**

198,754.58 Euros (funding 85% EEA; 15% PCF)

### **Project summary:**

The project takes place in Monchique Municipality, a mountain area in Interior Algarve (southern Portugal). It is an area very prone to forest fires and desertification, where the population is supplied by groundwater, consisting mainly of horizontal wells and springs / galleries, a system extremely vulnerable to weather variability. According to the latest IPCC projections, changes in rainfall are expected, and it is likely to witness longer periods without rainfall, which could lead to problems in the normal functioning of the public water supply. The main objective of this project is to improve the resilience of the system, looking to improve security of supply.

The project will build an artificial recharge system, taking advantage of some existing structures (weir), and conducting and infiltrating the excess water during the rainy season in the right place and time, to provide the supply during the dry season. This project will act as a pilot test to determine the economic viability of replicating this strategy in other localities with similar supply systems, very common in Iberian mountainous regions.

**Further information:** [www.sowamo.eu/](http://www.sowamo.eu/)





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AC:T

## Method to Integrate the Climate Change Adaptation Dimension in the Tourism Sector

### **Promotor and Partners**

- National Laboratory for Civil Engineering (LNEC)
- Portuguese Institute for Sea and Atmosphere (IPMA)

### **Project budget:**

184.823,28 euros (funding 85% EEA; 15% PCF)

### **Project summary:**

Climate change already affects societies and compromises their economic activities and is becoming a stringent challenge with potentially negative consequences. Although its effects may be differentiated by business sector or geographic location, a new ecological and economic order prevails marked by the interdependence of human societies on a global scale, and tourism is one of the expressions of this growing interdependence, which grants it a maximum relevance. Climate change, especially effects such as the increase of the average air temperature, heat waves and droughts, strongly impacts tourism and its profitability.

The project intends to create an integrated method to support decision makers towards the integration of adaptation criteria, to prevent business competitiveness losses or hotel service quality impoverishment.

**Further information:** <http://adapt-act.lnec.pt/>





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# GestAqua.AdaPT

## Adapting Reservoir Management Strategies to Climate Change in Alentejo

### **Promotor and Partners**

- NOVA.ID.FCT – Association for Innovation and Development | Faculty of Science and Technology - Lisbon New University
- Universidade de Aveiro
- Águas do Centro Alentejo, S.A.
- Vestlandsforskning


### **Project budget:**

155,958.36 euros (funding 85% EEA; 15% PCF)

### **Project summary:**

The main objective of the project is the development and implementation of adaptation strategies to climate change in the Water Sector, namely in multipurpose reservoir systems management. The Monte Novo and Vigia reservoirs were elected as case studies, both managed by AdCA, the company responsible for the water intake facilities for the city of Évora.

**Further information:** [www.gestaqua.adapt.pt/](http://www.gestaqua.adapt.pt/)





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# AdaptForChange

## Improve the success of reforestation in semi-arid areas: adaptation to climate change scenario

### Promotor and Partners

- Center for Environmental Biology | Science Faculty Foundation | Lisbon University
- Centre for Climate Change Impacts, Adaptation and Modeling | Science Faculty Foundation | Lisbon University
- ADPM (Associação em Defesa do Património de Mértola)
- Faculty of Social and Human Sciences | Lisbon New University
- cChange

### Project budget:

103.377,60 Euros (funding 85% EEA; 15% PCF)

### Project summary:

The recent expansion of the semiarid climate to the region of Alentejo and the growing impact of climate change demands a local adaptation. The establishment of native forest represents a strategy at the ecosystem level since it increases resilience and the ecosystem services through the increment of: the organic matter of the soil, carbon and nitrogen, biodiversity, water infiltration, etc.; and decreases susceptibility to desertification. For that reason, big areas have been getting reforested in the Alentejo with the native species holm oak and cork oak but with a low rate of success.

**Further information:** <http://echanges.fc.ul.pt/projetos/adaptforchange/index.html?id=42>





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adaptIS

## Collaborative Platform for the Adoption of Climate Change Adaptation Measures in the Industrial and Services Sectors

### **Promotor and Partners**

- IteCons (Institute for Research and technology development in Construction Sciences)
- ANQIP (National Association for the Quality of Buildings)

### **Project budget:**

79,671.40 euros (funding 85% EEA; 15% FPC)

### **Project summary:**

In a period in which the economy and climatic changes are producing ever-changing challenges to the productive sector, this project is designed to energize a collaborative platform for adapting to climate change in the industrial and service sectors. The project aims to develop a multi-sectorial platform designed to raise awareness of the business community of the need to assess the risks and vulnerabilities associated with extreme weather events and the subsequent adoption of adaptation measures.

**Further information:** <http://www.itecons.uc.pt/projectos/adaptis>



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Portuguese **Carbon** Fund