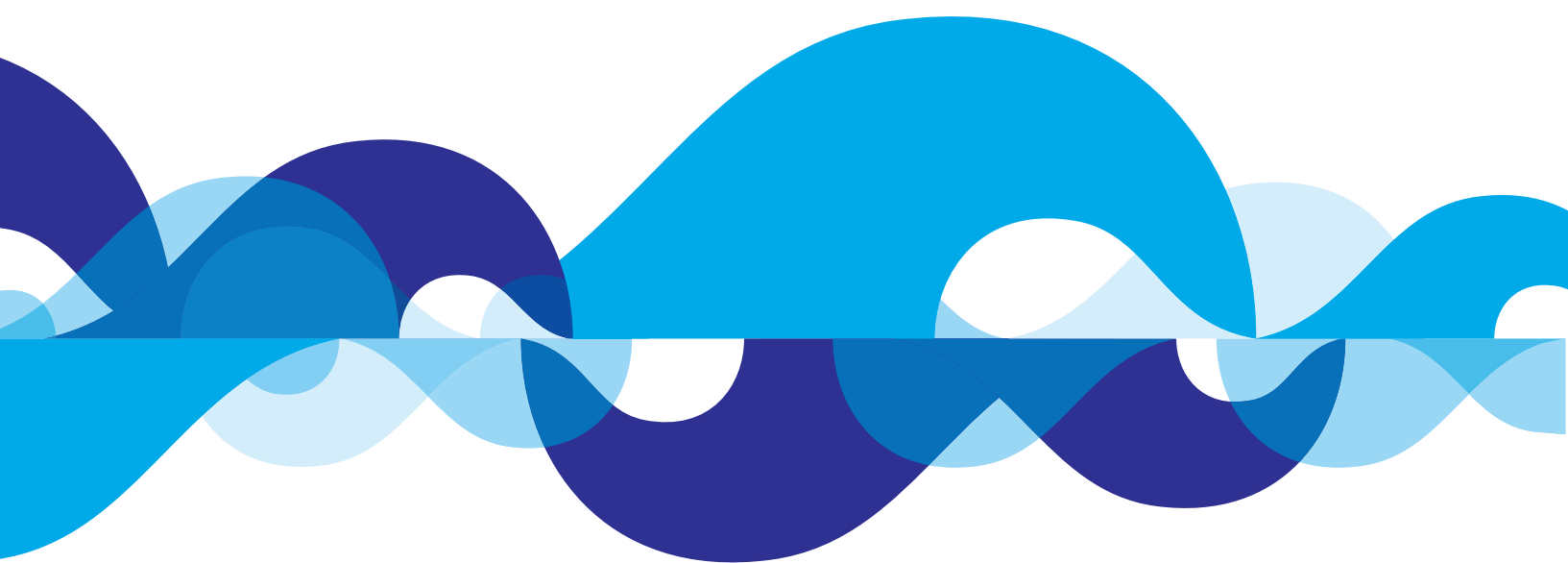


# PORTUGUESE WATER PARTNERSHIP

THE CAPABILITIES OF THE SECTOR  
AT THE SERVICE OF THE GLOBAL CHALLENGES



Portuguese Water  
Partnership

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# PORTUGUESE WATER PARTNERSHIP

## PRESENTATION

### CONTEXT

Portugal has a diverse and mature set of private and public institutions dedicated to water. Some already enjoy recognition and prestige among global markets. Others have the potential to achieve that in the future. This is the matrix of the Portuguese Water Partnership, a network of organizations that aim to develop synergies and maximize potential for the development of the water sector in the world, promoting the construction and consolidation of alliances and partnerships between national institutions and all nations engaged in sustainable water use and enhancement of water resources.

### VISION

Portugal has long been a country open to the world. It is no exaggeration to say that the word globalization was “written” for the first time in Portuguese, in the sixteenth century. We have always had the capacity and motivation to deal with people from all continents, regardless of their traditions, cultures and beliefs. This is also the approach that the issue of water demands in today’s societies: a clear understanding that we face the same problems, even though the approaches have been shaped differently by the history and the culture of each nation. Different approaches, yet always aimed at the same objective: to provide water for all uses, in a sustainable manner, equitable and socially just, at a suitable price. As a platform facilitating the realization of this vision, the Portuguese Water Partnership was established as the Portuguese contribution to a world where water resources are used sustainably and where everyone has access to clean water and adequate sanitation.

### MISSION

The Portuguese Water Partnership’s mission is to promote an effective link between professionals, institutions and companies in order to project the knowledge and skills of the Portuguese water sector in the world, and to catalyse opportunities in international markets and in the area of cooperation within the framework for the development of sustainable projects in line with the Millennium Development Goals.

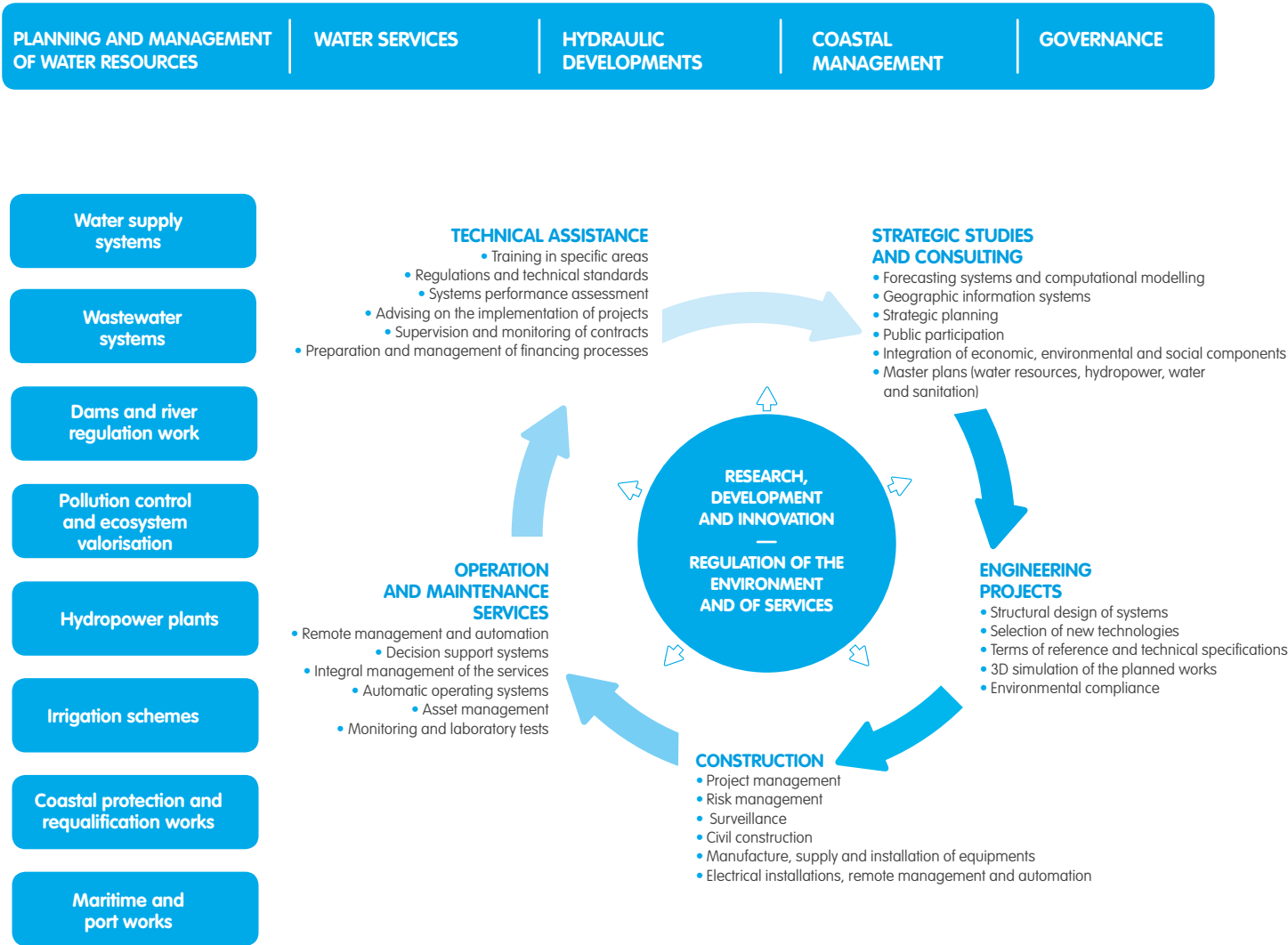
### MAIN OBJECTIVES

- Promote the sharing of knowledge and experience among Portuguese companies interested in internationalization;
- Identify and support new opportunities for the development of projects and initiatives in global markets;
- Promote dialogue between partners and international institutions and establish multipurpose partnerships;
- Promote innovation in the water sector, facilitating cooperation between companies and research centres;
- Advance the establishment of a forum for reflection on future challenges.



# CHARACTERIZATION OF THE VALUE CHAIN

## AREAS OF INTERVENTION AND MAIN ACTIVITIES







# PLANNING AND MANAGEMENT OF WATER RESOURCES

## REGULATION OF THE ENVIRONMENT AND OF SERVICES

As defined by the Global Water Partnership (2000), integrated water resources management "is a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems". The integrated management of water resources is a holistic, flexible and open approach, which focuses on defining a conceptual reference framework for water management, rather than a very precise set of standards for all types of problems or circumstances.

The European Union has incorporated these principles into its environmental and water policies, particularly in the Water Framework Directive (WFD), the flagship for the European Union's water policy.

Portugal has, over a very long period of time, acquired rich and diverse experience in the management of water resources and in the use of advanced technology in addressing the problems of water. In addition Portugal shares, with Spain, a position of five downstream river basins, with 64% of its territory included in these basins. This also offers experience in the management of international basins.

The new Portuguese Water Law, adopted in late 2005, does not simply transpose the WFD into national law. It also establishes a new institutional system for water management with the creation of five River Basin Administrations that complement the National Water Institute, as well as with the implementation of a new legal and economic framework for water use and the promotion of new instruments for the participation of users and other stakeholders.

Research on water resources undertaken by various universities and research centres, as well as the technological capabilities developed by public and private companies, constitute support elements to decision-making and policy formulation.

Recent major achievements in Portugal in planning and management of water resources are as follows:

- New and innovative Water Law;
- Creation of River Basin Administrations and the restructuring of the National Water Institute as the National Water Authority;
- Implementation of River Basin Councils with the participation of stakeholders;
- Preparation of a second generation of the National Water Plan;
- Elaboration of a second generation of the River Basin Management Plans this time according to the WFD;
- New licensing system, including permits, licenses and concessions;
- New economic and financial framework for water use;
- New principles for the setting of tariffs for water services;
- Preparation of a Strategic Plan for Water Supply and Wastewater Sanitation;
- Investments and regulation in the urban water cycle;
- Preparation of a National Plan for the Efficient Use of Water;
- Implementation of a plan for developing hydropower plants selected through a strategic environmental assessment;
- Launching of initiatives for the rehabilitation of rivers;
- Implementation and further development of agreements with Spain on the management of transboundary rivers (Albufeira Convention);
- Strengthening of cooperation with countries from various regions of the world and proactive participation in various international forums on water resources.

Portugal has acquired and developed significant capabilities in the integrated management of water resources available to share with other countries, notably those facing similar challenges.



# WATER SERVICES

## QUALITY SERVICES AT SOCIALLY ACCEPTABLE PRICES

Public water supply and wastewater sanitation are irreplaceable structural services in modern societies, essential to the welfare of citizens, public health and economic activities. These services are fundamental components of sustainable development and should abide by the principles of universality of access, continuity, adequacy in quantity and quality and should be priced efficiently and with equity.

The Millennium Development Goals, approved by the United Nations General Assembly in 2000, establish clear objectives for these services in terms of population coverage. However, the situation of these services in many regions of the world is still far from achieving these objectives. One of the reasons for this is the frequent practice of implementing measures in isolation and disparately, to the detriment of an overall adequate organization of the sector.

Indeed, the existence of adequate sector organization is essential to ensure sustainable development of water services, including the following aspects:

- national strategy;
- institutional framework;
- legislative framework;
- models of governance;
- territorial organization;
- infrastructure;
- financial resources;
- human resources;
- research and development;
- service quality;
- cost recovery;
- regulatory framework.

In the last two decades Portugal has implemented profound sector reform, developing, in an integrated manner, the above-mentioned aspects. Since then, and although this implementation is not yet complete, the situation has improved significantly:

- public water supply coverage increased from 81% to 96%;
- monitored and good quality water for human consumption increased from 50% to 98%;
- wastewater collection and treatment increased from 28% to 79%.

As a result of the experience gained in implementing this reform, Portugal currently has:

- a national strategy embodied in the Strategic Plan for Water Supply and Wastewater Sanitation;
- a clear institutional framework, with clarification of the responsibilities of various entities;
- an appropriate, comprehensive and modern regulatory framework;
- various and flexible models of governance, involving direct, delegated and concessional management, with public and private participation;
- more optimal territorial organization, with regional systems and greater economies of scale;
- modern infrastructure, applying the most advanced technologies;
- significant financial resources, with consistent investment policies and use of European funds;
- qualified human resources in adequate numbers;
- relevant research and development, with greater approximation of research centres to industry;
- clearly defined service quality objectives, with annual monitoring by management bodies;
- objectives of cost recovery, with the gradual implementation of modern tariff models;
- an effective regulatory framework, with the creation of the Water and Waste Services Regulation Authority.



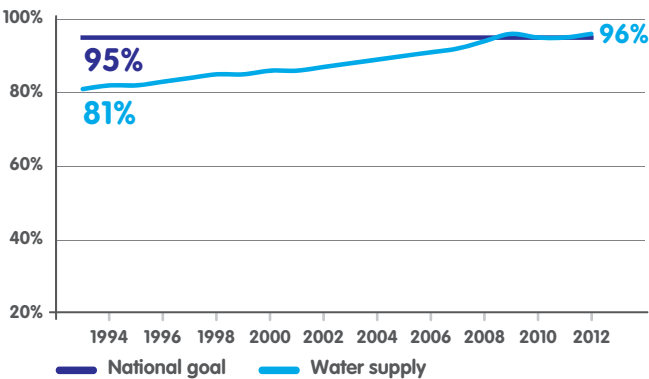
Apart from the administration and the regulatory authority, the state and municipalities are involved in the provision of these services, as are state and municipal public enterprises and private companies, that often seek the cooperation of design and consulting companies, construction companies, manufacturers and suppliers of materials, equipment and products, surveillance companies, analytical and testing laboratories, quality management companies, centres for research, development and training and, of course, funding bodies.

Because these services are local or regional monopolies with no competition, the introduction of regulation was important to improve effectiveness and efficiency by management and reduce risks to consumers, with the provision of quality services at socially acceptable prices.

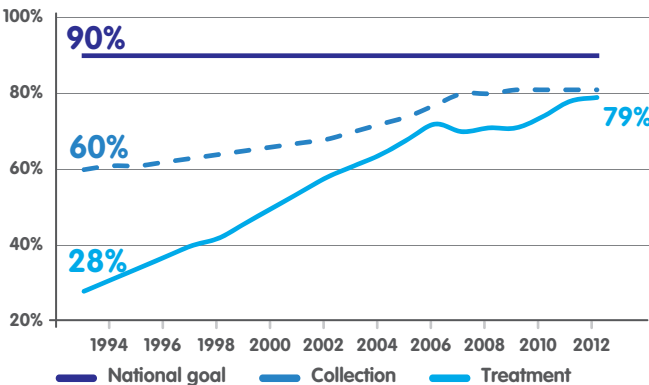
This successful experience can be shared with other countries under the Portuguese Water Partnership framework, inspiring the sustainable development of water services aiming at universal access, with service that is continuous and of quality and with efficient and equitable prices.

EVOLUTION IN SERVICE

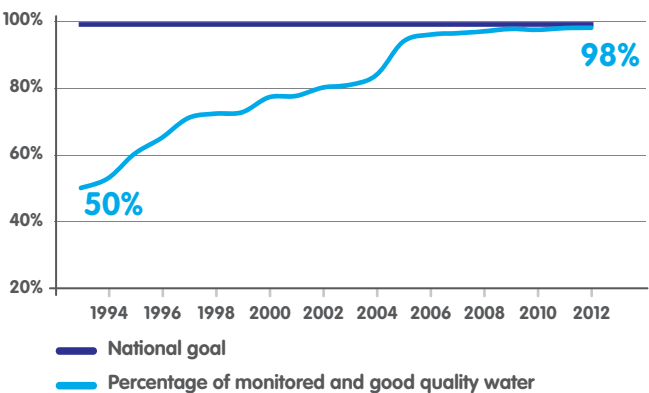
Water Supply



Wastewater Collection and Treatment



EVOLUTION OF THE PERCENTAGE OF MONITORED AND GOOD QUALITY WATER



# HYDRAULIC DEVELOPMENTS

## ROBUST SYSTEMS SERVING MULTIPLE GOALS

The Portuguese hydrological and morphological characteristics justify the number of hydraulic developments occurring in the territory, particularly that of large dams.

Since the 1940s the construction of large, internationally recognized hydraulic developments in Portugal has resulted in strong development of exceptionally valuable skills in engineering such as hydraulic, structural, soil, geotechnical and electronics, among others. In Brazil, Morocco, Algeria and Spain there are several examples of large dams planned by Portuguese companies in the 70s and 80s. The National Laboratory for Civil Engineering (LNEC) has played and continues to play a major role in the affirmation of Portuguese technology in this area and in its worldwide respect and recognition.

In this context the following national examples can be highlighted:

- **Alqueva Multipurpose Scheme.** This is an emblematic example of an integrated solution for social, economic and environmental development of one of the poorest regions in Portugal, the Alentejo. The project, which includes a dam that has created the largest artificial lake in Europe (4.000 hm<sup>3</sup>), serves to irrigate about 100.000 ha, provide public water supply to several urban clusters, produce electricity and develop quality tourism in the region;
- The recent National Programme of Dams with High Hydropower Potential is another example of a comprehensive and integrated Portuguese approach, this time on the subject of renewable energy. Integrating 10 projects, with total investment estimated at over 2.000 million Euros, it corresponds to an installed capacity of about 1.000 MW and a productive annual average of around 1.900 GWh per year.

In recent decades, environmental awareness associated to the improvement and protection of water resources has put the environmental impact generated by dams on top of policy makers' main concerns. Portugal has been developing integrated approaches and novel methods for the mitigation of environmental impacts created by such infrastructures in this area too. Examples of the modelling of environmental flows, infrastructures for the passage of fish and compensatory actions to increase biodiversity, are all recognisably generating the environmental capital gains envisaged at the design stage. To systematically follow the performance of these measures and enable the monitoring of the evolution of environmental systems, development and implementation have been under way to monitor networks, through remote sensing, using computer models associated with satellite images, among other solutions.

The combined effect of trends in water demand and the foreseeable impacts of climate change in the hydrological cycle have induced an increased vulnerability, associated with acute crisis and severe impacts. The multiple purpose water developments, whilst combining several different purposes and effects, may be one solution to take into account in these increasingly complex and unpredictable new contexts.

The planning, design, construction and monitoring of hydraulic developments are demanding and complex tasks that require proven experience, highly specialized technical and scientific expertise and integration of social, economic and environmental skills. In these areas the Portuguese value chain has more than 50 years of national and international experience to share with other countries and regions of the world.



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## COASTAL MANAGEMENT

### MATCHING ECONOMIC DEVELOPMENT WITH ENVIRONMENTAL PROTECTION

The sea and the coast are inseparable from Portugal, be it with respect to its history or the increasing proportion of activities carried out in these areas and the idea of a sustainable future.

Portugal has one of the largest Exclusive Economic Zones (EEZ) in Europe, with more than 1.700.000 km<sup>2</sup>, corresponding to about 18 times its land area. The Portuguese coast is more than 2.100 km long.

The national coastal zone is one of the most complex and environmentally rich parts of the territory. Yet a large proportion of the national population lives in its proximity, an exodus to the coast that has intensified in recent decades. Moreover the area has also withstood the development of many economic activities such as fishing and ports, as well as industrial and tourist activities. Less favourable activities in spatial planning, as well as over-exploitation of resources and occupation of risk areas, among others, create a lot of pressure on the environment and generate conflicts of use. Coastal zone management is therefore particularly difficult, especially as it is subject to strong and complex coastal dynamics, erosion being a notorious and concerning example.

The recognition of the strategic importance of this area, as well as the need for its integrated protection and management, has led to several public development initiatives in recent decades.

As a precursory measure, and worthy of emphasis, is the clarification of the legal terms behind maritime public domain lands by Decree-Law No. 468/71, which paves the way to a broad coastal protection zone, as defined in Coastal Zone Management Plans. The 1995 approval of the National Environment Policy, the 1998 establishment of the Portuguese Coastal Strategy and the approval in 2001 of the National Nature Conservation Strategy are also noteworthy and innovative initiatives.

Highlighted are the enriched experience and the results obtained in the process of design, implementation and coordination of the strategic planning of Coastal Zone Management Plans in Portugal, and its links to other regional planning instruments.

The 2002 Recommendation of the European Parliament and the Council on the implementation of Integrated European Coastal Zone Management recognizes the importance of environmental, economic, social, cultural and recreational activities. As per Recommendation, in 2006 the Basis for Integrated Coastal Zone Management was prepared. This is a document that, in addition to characterizing the situation and advocating guidance, is of particular value in supporting the definition of the adopted National Strategic Reference Framework priorities within the 2007/2011 Coastal Action Plan approved in October 2007. Actions underway include: coastal defence and interventions in risk areas, urban requalification interventions, beach rehabilitation and planning, demolishing of irregular buildings, environmental awareness, studies and monitoring. The new National Strategy for Integrated Coastal Zone Management was published through the Resolution of the Council of Ministers No. 82/2009.

Also notable is the creation of the coastal programme *Polis Litoral* through the Resolution of the Council of Ministers No. 92/2008. Under its scope are a series of ongoing initiatives towards requalification and valorisation of risk areas and degraded natural coastal sections. These projects are developed based on an innovative model of governance, as experienced in previous urban rehabilitation projects, and based on a public-public partnership, enhancing the unique role of municipalities in territorial administration in Portugal.

The Portuguese institutions, enterprises and experts have acquired solid know-how in these matters. Particularly noteworthy is their experience in the following areas:

- planning of coastal zones;
- development and management of beaches;
- control of erosion and other coastal engineering interventions;
- protection of coastal ecosystems;
- port and coastal engineering.





# GOVERNANCE

## INSTITUTIONS FOR GOOD WATER MANAGEMENT

According to the United Nations Development Programme, governance “comprises the mechanisms, processes and institutions through which citizens and several relevant groups articulate their interests, exercise their rights, meet their obligations and mediate their differences”.

An appropriate model of governance is considered essential to achieve sustainable water management. The model adopted by each society is crucial to ensure good water management through policies, laws, institutions, regulation and mechanisms that ensure its effective implementation. “Without a clear policy it is difficult to develop a coherent system of laws. Without a clearly established legal framework, it is difficult for institutions to know how to function. Without effective institutions, full implementation and enforcement capacity tend to be reduced” (IUCN, 2009).

There can be no reform of water management without a profound reform of institutions and the governance model. This reform has occurred in Portugal in recent years. The approval of a new Water Law by a very large majority in parliament, the reform in both licensing and economic use of water regimes, the creation of the River Basin Councils, the sector’s public administration reform through the implementation of River Basin Administrations, the restructuring of the National Water Institute at a national level, the creation of user associations with delegated powers in various aspects of water management and the close collaboration between central, regional and local entities are just some examples of the profound ongoing reform of this country’s water management model.

The main achievements in Portugal are as follows:

- an advanced and new Water Law and subsequent legislation;
- the creation of the River Basin Administrations and the restructuring of the National Water Institute at a national level;
- the creation of River Basin Councils with involvement of users and other stakeholders;
- a simple but stringent new regime for the licensing of water uses, including permits, licenses and concessions;
- a new economic and financial legal framework for water use with the levying of misuse charges and incentives for efficient use;
- more accessible and friendly administration with widespread dissemination of e-government;
- the creation of user associations and the establishment of a framework conducive to the participation of civil society in water management;
- development of partnerships and other forms of collaboration between the authorities responsible for water management and the Local Authority;
- contractual delegation of management skills in municipalities and in user associations.

This reform process is still evolving but it has already obtained a considerable degree of maturity. Today it’s possible to talk about the Portuguese model for water management. This or any other model cannot be exported as such, because each society needs to meet its own specificities. It may, nevertheless, provide a basis for further reflection for other countries faced with the need to undertake reform processes for water management. Portugal is very willing to share all its recent experience in this field as a contribution to the comprehensive and sustainable global development of water management.







## Portuguese Water Partnership

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