



# SUWANU EUROPE

Development of Regional Action Plans for the fast implementation of water reuse to the 8 pilot Regions of the SUWANU EUROPE project:

## **Steps for the implementation of the Local Action Plan for Alentejo, Portugal**

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The RAP bases their specific actions on the SO and results set by the GAP. The SO and elaborated strategy of the GAP, form the basis for the specific steps/actions to the realization of the GAP strategy.

#### Methodological Framework

The use of water for reuse in non-potable uses, namely for irrigation, cannot be overlooked when evaluating the different scenarios of water availability to support the different socio-economic activities in the Alentejo region.

Although the legal framework regarding the use of water for reuse is consolidated through the publication of Decree-Law nº119/2019, of 21 August, and Ordinance nº266/2019, of 26 August, there is still much work to be done in Portugal, in particular in the Alentejo region.

For the development of the Alentejo RAP, a collaboration network was established, in which the two local partners of the SuWaNu Europe cluster (FENAREG and CONSULAI) started a series of targeted consultation with the members of the Regional Working Group (RWG) and also with the organizations who are key agents in the management of water resources in the Alentejo region (National and Regional Authorities, public and private entities, researchers, Consultants, and farmers).

This first draft of actions was discussed with the main members of the RWG who have a broad and integrated vision of water reuse for agriculture in Alentejo. Even though there were extensive attempts to exchange data and information, it was only possible to consult and exchange some opinions.

The Covid-19 pandemic did not allow us to obtain the amount of information that the Portuguese cluster would want.

In Portugal, only one RWG was organized, with the main members. The Portuguese cluster hopes and believes that many of the points in the Action Plan can be discussed more extensively at the next regional working meeting in September, and also a validation of the final version.

This version of the RAP was elaborated based on previous SuWaNu Europe materials, and more specifically on:

- Deliverable 1.1 SUWANU Europe State-of-Play
- Deliverable 2.1 SUWANU Europe SWOT analysis
- Deliverable 2.2 SUWANU Europe AKIS analysis
- Deliverable 2.4 SUWANU Europe Participatory workshop

## 1.1 Legal framework

### **Result 1.1: National legislation complies with the European legislation regarding wastewater treatment and reuse of reclaimed water.**

The new Portuguese legal framework (DL 119/2019 – 21/8/2019) is in general, in line with the new European regulation (EU 2020/741). Besides agriculture and WWTP's, it includes other non-potable uses and other origins of water to reuse.

#### **Action 1.1.1: Compliance of National legislation to European legislation**

Compliance and harmonization of the European member state legislation with the European legislation may bring all countries to a common high standard of wastewater treatment and to a high quality of reused water, which is suitable for irrigation in agriculture.

The new legislation in Portugal (DL 119/2019, of 21.08) is in line with the new European Regulation 2020/741 (05.06.2020) since both include the minimum quality requirements for agricultural irrigation, as well as other sources of water for reuse. Both legal documents are applicable to the production and use of this type of water and have an approach suitable for various purposes and with multiple barriers and management support and risk assessment in the same way.

### **Result 1.2: National legislation unifies existing regional policies on water reuse, avoiding fragmentation.**

#### **Action 1.2.1: Legal harmonization of the national and regional framework**

Portugal is a country where national administrations promote the national regulatory framework in promoting the use of water for reuse in agricultural irrigation. There are no regional policies on water reuse in Portugal. The new legal framework in Portugal establishes national policies on water reuse avoiding this way fragmentation.

#### **Action 1.2.2: Coordination within national and regional administrations**

It is essential to maintain relations between the Portuguese Environment Agency (APA), the Directorate General for Agriculture and Rural Development (DGADR), the Administrations of the Hydrographic Regions (ARH), the Regional Directorates of Agriculture (DRAP's), and also with EDIA and the Irrigation Associations so that they work locally with farmers, given that they are the end users of the water for reuse and where the first steps are being taken as pilot projects.

It is crucial to promote coordination between those responsible for the treatment of water for reuse and the end users (Farmers), so that the requirements for the use of treated waste water in agriculture are unified and successful.

### **Result 1.3: The legislation allows the use of reclaimed water throughout the year for agricultural irrigation.**

The new legal framework in Portugal establishes national water reuse policies, allowing the use of water for reuse throughout the year. However, agricultural irrigation is seasonal, mostly

during the summer season. In this sense, national authorities must provide in the investment plans, water storage infrastructures for reuse. In this way, water for reuse can be used in agriculture when water needs are greater.

#### **Action 1.3.1: Establishment of reclaimed water concessions**

It is legally provided for in the legislation, but in practice, there are no distribution networks and storage capacity for seasonal irrigation. Currently, we do not know if there are any concessions since there is still a risk assessment to be made regarding the use of water for reuse. However, this point should be discussed with stakeholders of different regional groups at the next meetings.

#### **Result 1.4: Strict regulations among European and National legislative frameworks regarding reclaimed water quality standards are enforced**

The new legal framework in Portugal establishes national policies on water reuse, establishing strict regulations that reinforce water quality standards for reuse.

#### **Action 1.4.1: Development of regional risk management systems**

The potential adverse effects of the use of treated wastewater on health and the environment are of concern, which leads to an urgent need to define standards and rules to apply to the practice of water reuse, as well as the development of methodologies for the respective risk assessment. It is considered that the absence of these mechanisms could lead to the loss of opportunity to develop appropriate and sustainable water reuse practices.

ISO has been developing standards that aim to use treated wastewater for different types of irrigation, namely agricultural irrigation and risk assessment for health and the environment. In the recent DL 119/2019, it is established that the reuse of water is supported by a fit-for-purpose approach, defining specific norms appropriate to the uses in question, as well as the protection of potential receptors in presence, based on a risk assessment.

The minimization of risks will be achieved by the application of multiple barriers adjusted to each specific project (multi-barrier concept). This criterion consists of the imposition of safety barriers in terms of water treatment and physical barriers to minimize contact with the receivers, in order to minimize the risk of direct contact, namely by ingestion and the risk of leaching, percolation or entrainment of water, contaminants or pollutants to water bodies.

Compliance with strict quality standards for wastewater treatment is highly important to ensure the supply of high-quality effluent to irrigators. The monitoring required by national regulations is also crucial to ensure compliance with strict regulations. Overall, farmers found the requirements to be very high and expensive for the use of treated wastewater, while actors in the food chain found it useful in building trust among end consumers.

#### **Action 1.4.2: Foster transparency and accountability**

Disclosure of information about security procedures and practices, as well as monitoring, verification, and validation are essential to ensure reliability and feasibility; consequently, it will bring security to consumers and workers, leading to promoting public acceptance. Social

acceptance is one of the most relevant issues related to the promotion of the use of treated waste water, so a public platform can be created with all this information that provides transparency and helps to create public trust.

**Result 1.5: The legal framework must facilitate the procedures required for agricultural irrigation with reclaimed water.**

A clear framework of requirements and regulations to achieve a high level of water quality for reuse must be established for all parties interested in this type of water for irrigation. This framework makes compliance with strict regulations easy and simple even for stakeholders with a lower level of knowledge compared to others.

For instance, permits can be requested from the competent authority (Ministry of Agriculture and Ministry of Environment) while inspectors appointed by the competent authority can perform checks.

The fit-for-purpose approach enables the development of water reuse projects adequate for each situation.

**Action 1.5.1: Development of a regional policy of water infrastructure sustainability**

Irrigation areas are far from water production sites and WWTPs have different potentials for reuse, that is, large WWTPs, have greater potential for water production for reuse, but are not close to potential agriculture end users of this type of water.

Thus, it is necessary to create distribution and storage infrastructures so that potential users have access to the quantities to guarantee their needs. Regional and national policy must include all the main actors involved and must have a realistic budget and timetable to achieve the objectives set.

**Action 1.5.2: Establish a sustainable cost sharing system**

One of the main problems already identified in previous works is the relevance of the distribution of costs associated with the treatment and distribution of treated wastewater. Water for reuse is more expensive than fresh water, and there are more actors and risks involved in its production chains.

Agriculture, in addition to having very low economic margins, needs much more water than that produced in wastewater treatment plants. Agricultural needs are far superior. Water for reuse must be seen as an environmental service and, as such, must have financial support from the Portuguese state.

For the success of irrigating crops with reused water, it is essential to establish a sustainable cost sharing that allows the reuse of water without compromising its financial balance.

**Result 1.6: Stakeholders participate in legislation discussion at the EU level**

Regional platforms based on a multi-actor approach and a participatory methodology with the purpose to discuss the use of treated wastewater in agriculture on a regular base do not exist in Portugal.

#### **Action 1.6.1: Reorganized participatory bodies**

The involvement of the main stakeholders is essential for good communication and clarification of the purpose, guidelines, and necessary steps for all people involved in the use of treated wastewater. In particular, involvement at the EU level achieves a sense of team and the need to achieve the best possible result, the highest quality of recovered water, and the safety of public health for all, thus strengthening collaboration and encouraging cooperation for all.

Portugal, includes different participatory bodies in which stakeholders are involved, such as Conselhos de Região Hidrográfica. However, in the context of water reuse, there was only participation at the ministerial level. End users had no participation. This type of public consultation should be improved in order to allow all interested parties to be involved.

## **1.2 Administrative procedures**

### **Result 2.1: The administrative requirements have harmonized standards around the country.**

#### **Action 2.1.1: Harmonized standards for administrative requirements of water reuse are enforced at the national level**

The standardization of wastewater treatment requirements and quality standards in all areas of the Alentejo that intend to reuse water for agricultural irrigation will bring great benefits. In this sense, specific meetings must be organized to standardize bureaucratic actions in relation to administrative requirements for water reuse.

### **Result 2.2: The bureaucratic procedures to acquire the license for reuse in agriculture are brief and inexpensive.**

In Portugal, the bureaucratic procedures to acquire the license for reuse in agriculture can be expensive, (there are several entities involved, licenses, etc.), and also can be a lengthy process.

#### **Action 2.2.1: Make the bureaucratic procedures to acquire license for the use of reclaimed water in agriculture clearer, less time consuming and inexpensive**

End users of recovered water must be able to purchase their licenses for reusing water easily and effortlessly in order to promote the reuse. Clear explanations of the administrative steps required to implement irrigation with treated wastewater in agriculture should be provided to all interested parties, as well as a description of the necessary bureaucratic actions.

In centralized systems (urban wastewater treatment systems covered by Decree-Law no. 152/97, of 19 June, managed by a single management entity, which can produce water for reuse for own use, as well as for the transfer of water to third parties for reuse), two licenses are required: one for the production of water for reuse and another for the use of these water. Also, it is necessary to have favorable opinions from the Regional Health Administration and the

Regional Directorate for Agriculture and Fisheries. On the other hand, in decentralized systems (collective or private systems, managed by a collective or private entity, which can only produce water for reuse for own use), only a single license is needed to allow the production and use of water for reuse. The license validates the risk assessment and management process.

### 1.3 Public and private incentives

#### **Result 3.1: Public administration invests in infrastructure for the treatment and distribution of reclaimed water.**

So far in Portugal, most private or research initiatives through national or European funding are related to the use of water for reuse in agriculture. For the regions already facing water stress and scarcity problems, such as the Alentejo region, public funding should be reserved for the development of studies and research projects that can produce practical and replicable results for end users.

Multidisciplinary teams should be assembled, so that not only technical aspects are addressed, but also environmental, socio-economic aspects, among others. However, we believe that the following points are also important.

##### **Action 3.1.1 Investments in the improvement of secondary and tertiary treatments plants**

In terms of integrated management of the urban water cycle, it is necessary to proceed with the rehabilitation of assets such as improvement of infrastructure, strengthening the resilience of systems, promoting the transition to a circular and low carbon economy in the water sector, promoting efficiency in the collection and treatment of waste water to improve the quality of water bodies and decarbonize the water sector, including the adaptation to climate change.

A significant investment in water treatment facilities for reuse is required and should be implemented by any government. In addition, private financing can make the water market to reuse more competitive, with more affordable prices for end users in relation to water treatment and distribution.

The installation and modernization of tertiary treatment infrastructures are the most necessary in most water treatment facilities for reuse in Portugal, to adapt the water quality to the parameters required in the new European Regulation. In Portugal, there is the National Investment Plan and a recent Economic and social recovery plan, which include measures in the water reuse sector.

##### **Action 3.1.2 Channeling infrastructures from reclamation facility to irrigable area**

Modernization investments in water treatment infrastructures for reuse are necessary, as well as investments in storage and distribution networks. Wastewater is treated but is not available for irrigation because there is no pipeline or pumping system that transfers water from the treatment facility to the entrance to the irrigable area. Public investments are needed in this regard.

The construction of a network dedicated to transporting water for reuse to the place of use (WWTPs are often located far from irrigated areas), although necessary, has high costs. Control and monitoring measures need to be implemented to safeguard public health.

### **Action 3.1.3 Construction of water storage infrastructure for reuse**

Water scarcity phenomena have severe impacts on economic activities that depend on water resources. In Portugal, Regional Water Efficiency Plans for the regions of greatest scarcity, namely for the Alentejo, are being developed. This Plan presents as one of the priority measures the increase of water efficiency, the promotion of the use of treated wastewater and the strengthening of the local storage capacity. At the same time, it suggests carrying out studies and projects based on a cost / benefit analysis and minimizing environmental impacts.

Water for reuse is produced throughout the year, perhaps in greater quantities during the summer, coinciding with the increased irrigation needs. However, to satisfy the water needs of the crops, the construction of storage elements is necessary. Storage is particularly important for regulating irrigation water when more is needed.

### **Result 3.2: Public and private stakeholders agree to reduce the cost of energy for the production of reclaimed water**

The implementation of efficient technologies implies an increase in energy consumption and, therefore, the water-energy nexus should be analyzed in more detail. The use of renewable energies and the use of modern technologies with low energy consumption, in the treatment and distribution of water also means lower economic costs associated with the reuse of water. Thus, the price of water available to farmers for irrigation may be lower due to these lower costs.

#### **Action 3.2.1 Taking advantage of biogas generation in reclaimed facilities for commercialization through the necessary devices.**

The production of renewable energies is a priority in all community and national strategies. We know, that during the effluent treatment process, biogas is produced that can be stored and consumed by equipment that requires electricity (self-consumption) or sold.

For the obvious advantages, but also for the challenges it presents, the promotion of self-consumption of renewable energy, whether individual, collective or through the energy community, will, in the short term, be accompanied by a program to disseminate information and support the implementation of self-consumption projects in order to reduce information asymmetries and support companies, municipalities and citizens in their development. Among the initiatives to be implemented, a support program is particularly relevant, both from a technical point of view and from the point of view of obtaining financing, to establish self-consumption. However, this point will be addressed in the next regular working meetings.

#### **Action 3.2.2 Implementation of photovoltaic generators to produce renewable energy in reclamation facilities to reduce electricity consumption from the grid.**

Although solar energy is one of the most abundant endogenous renewable sources in Portugal, it has an extremely reduced expressiveness compared to other European countries with manifestly inferior conditions of sun exposure.

Currently, photovoltaic energy is already the cheapest technology of all the existing ones (renewable and non-renewable). The installation of photovoltaic generators in water treatment facilities for reuse is a solution to reduce electricity costs, making it possible to meet the objectives of the European Green Deal.

Public authorities can and should establish subsidies to facilitate and promote the installation of this type of energy with a percentage of aid for its use.

**Action 3.2.3 Carrying out energy audits in reclamation facilities.**

This is a point that should be studied, analyzed, and included by the Portuguese public authorities, in the National Energy Efficiency Program and in the National Energy and Climate Plan.

**Action 3.2.4 Replacement of water pumping equipment for new and more efficient equipment in reclamation facilities.**

The replacement and modernization of equipment and infrastructures associated with the treatment, distribution and storage of water for reuse, can be quite profitable in terms of energy and water production for reuse with higher quality.

The entire improvement procedure will help to reduce operational costs, including the reduction of pumping costs.

**Action 3.2.5 Pumping reclaimed water from the facility to storage in water pool during off-peak hours.**

Taking advantage of pumping, transporting, and storing water at times when energy is cheaper, is a fundamental aspect for reducing operating costs.

**Result 3.3: Public administration provides economic incentives to farmers who use treated water for irrigation.**

**Action 3.3.1 Promotion campaigns at a local and regional level of agricultural products irrigated with reclaimed water promoting a circular economy and aligned with the European strategy “Farm to Fork”.**

The Farm to Fork strategy aims to provide quality food from the irrigable area close to the city. In order to guarantee food security for products irrigated with recovered water, public administrations should carry out promotion campaigns at a local, regional, and national level.

**Action 3.3.2 Bonus in different national, regional, or local taxes.**

Financial and social subsidies and rewards must reach farmers and irrigation communities to start reusing treated water; One of the solutions is the revision of the calculation of the TRH – Taxa de Recursos Hídricos, by the public authorities, in order to integrate and encourage the use

of water for reuse. However, this measure has not yet been fully discussed and should be discussed with stakeholders at the next working meetings.

**Action 3.3.3 Preferential financing with bank agreements to implement the use of reclaimed water.**

Investment projects aimed at farmers and agricultural companies should be carried out to stimulate national agricultural production. The projects must involve supporting the technological modernization of companies and digitizing their work processes and investing in ecological and sustainable agriculture, articulating support with the need to protect agricultural soils and enhance the different national cultures. Anything that can boost this sector and promote a policy of substituting food imports is strategic for the country. The proposed reform of the Common Agricultural Policy (CAP), as a fundamental instrument to support farmers in the transition to a sustainable food system, already focuses on sustainability, climate, and food security.

Creation of public-private investment funds, must also be considered and analyzed, and possible tax benefits that can be applied to green and social financing transactions. There are European economic instruments that are developed but depend on whether the Portuguese government makes them available in this sector or not.

## 1.4 Investments

**Result 4.1: Public and private stakeholders invest in research and technology to improve and expand the use of reclaimed water in agriculture.**

There are little cooperation networks between the public and private sectors in Portugal, even though, some of the identified initiatives developed in the country were in fact of research.

**Action 4.1.1 Cooperation networks between the public sector and the private sector to invest in research to increase water quality, distribution, and overall use of reclaimed water.**

The recent Economic and Social Recovery Plan for Portugal, states that investments in knowledge and innovation must be increased to create conditions that lead to an intensification in the modernization of agricultural production systems, stimulating the national innovation network, creating technological centers in the cities of the interior, to support companies in the adoption of new technologies, mobilizing national centers and laboratories for the consolidation of this innovation network.

The public and private sectors must, therefore, work together to allow the exchange of knowledge and invest in more advanced water treatment technology. Sectors must seek and invest in more economical and more modern distribution and irrigation solutions, based on the benefits of public regulation and private competitive advantages.

According to the recent Economic and Social Recovery Plan for Portugal, "...should be established regional platforms to engage relevant stakeholders promoting the exchange of knowledge and ideas, in an interface between science-society-policy (including farmers, WTP

operators, consumers, etc.), that can tackle all aspects and implications from using wastewater treated in agriculture”

**Action 4.1.2 Supervisory board, with representatives of all the stakeholders, to expand and monitor the know - how and the technology for reclaimed water.**

Universities, technological and research centers must have access to new investments. Only then, it will be possible to cover the needs that still exist in terms of availability of technological means and access to the use of information and communication technologies and reinforce support for the training of researchers. Investments in this type of institutions must be directed to knowledge, technology, innovation, engineering and design.

Therefore, it is essential to create a working group that encourages increased knowledge, and that monitors collaboration between different stakeholders. In this way, it is possible to increase acceptance by users and the general public and expand the use of wastewater treated for agricultural irrigation.

**Result 4.1.3 Farmers are informed and advised about the new water treatment technologies and their application in agriculture.**

Farmers and stakeholders must have access to information, from information and consultation campaigns, in a simple and objective way so that they can understand clearly. Farmers should also have access to training sessions, in small groups, to share information and demonstrate new technologies and benefits of using them. Field visits and cross-visits to the successful initiatives identified for the reuse of water in agriculture should be promoted.

## 1.5 European network

**Result 5.1: A European network may be established to disseminate existing results and exchange best practices regarding the use of reclaimed water.**

**Action 5.1.1 European countries should promote international exchange and dialogue to expand the use of recovered water.**

The definition of common compliance and monitoring requirements can lead to European collaboration through dialogue with a public or private organization. The exchange of knowledge and information between European countries can be carried out through common structures of water quality standards and regulations. The established regional platforms should engage in European level networks to exchange knowledge and ideas, at the European level.

**Action 5.1.2 Continuation and improvement of the specific network of European Scientists and private companies to share and exchange results and practices.**

The establishment of channels for the exchange of knowledge and information, such as the creation and realization of European research projects, such as SuWaNu Europe, can be fundamental to obtain European collaboration.

**Action 5.1.3 Farmer's organizations across Europe should communicate and compare their experience with the implementation of reclaimed water for irrigation.**

Farmers' organizations across Europe must share their experience of using wastewater treated in their crops and for this to be possible it is very important that public administration entities and treated water managers cooperate with these organizations. Only then will it be possible for farmers to communicate their concerns about the use of this type of water, as well as their positive or negative experience in all aspects of irrigation.

Regional platforms should be created with regular meetings to share information, practical knowledge, and training and organize cross-visits in Europe for an on-site demonstration of successful projects in the field of water reuse in agriculture.

## 1.6 Social acceptance

**Result 6.1: The general public is aware of the benefits regarding the use of reclaimed water in agriculture****Action 6.1.1. Carry out a communication campaign with a positive narrative about the use of reclaimed water in agriculture**

One of the aspects mentioned in the SWOT analysis was the non-acceptance factor of food irrigated with treated wastewater. This is one of the most difficult issues to overcome in water recovery projects. Thus, it is necessary to invest in awareness campaigns, which convey a positive image of the use of water reuse in the community.

**Action 6.1.2. Disseminate the stories of successful water reclamation projects for irrigation.**

To increase the credibility of using treated wastewater and reduce risk concerns, the case of Israel and Cyprus are very successful examples and should be disseminated at national and regional levels.

In Portugal, the pilot projects that are being developed and implemented (started at 2019) should have a communication component associated with the project, to communicate the difficulties that occurred during the process and to disclose the positive aspects obtained.

**Action 6.1.3. Carry out a communication campaign that presents the water reclamation process for irrigation in Alentejo.**

Public authorities, universities, and wastewater treatment operators must develop simple, direct, and understandable campaigns to present to the general public, about the origin, treatment, characteristics, benefits, and challenges of water recovery. Potential users must know all aspects of the process, the benefits, the challenges of this unconventional source, and the actors involved.

**Result 6.2: The general public trusts the public authorities managing the water reclamation process for agriculture**

**Action 6.2.1: Create a participatory Committee with representatives of all key actors involved in the use of reclaimed water on agriculture**

The creation of a specialized working group will allow the active participation of several stakeholders who will discuss water recovery projects that guarantee transparency in their management and implementation. Communities respond best when they are considered and able to assess project development.

**Action 6.2.2: Make a website portal to guarantee open access to all the information about water reclamation projects**

Public authorities should provide free access to project information. This procedure is an essential factor to guarantee transparency and create trust in public management.

**Action 6.2.3: Conduct water quality and safety studies on the use of reclaimed water for irrigation with socially known and respected academic and research institutions**

Research studies carried out by universities provide a strong tool against negative campaigns, public health concerns, and false myths about the risks of using treated wastewater.

Information linked to regional and national institutions that are not directly involved in the management of reused water is an asset in the acceptance process.

**Action 6.2.4: Disseminate the studies' results in universities, schools, and civil society organizations**

It is crucial that Portugal focus on strengthening Higher Education Institutions and the Portuguese Scientific System, consolidating its capacity to respond to new problems, identifying and developing skills for the future. It is necessary to continue to invest in capacity for production and dissemination of knowledge, strengthening the training of researchers and mechanisms to encourage collaborative and multidisciplinary work.

Publication of regional or national news with the scientific results obtained, in a clear and understandable format for the general public.

**Result 6.3: The general public trusts the public authorities managing the water reclamation process for agriculture**

**Action 6.3.1: Elaborate a communication campaign that promotes the link between reclaimed water and water scarcity issues**

Although the population of Alentejo has some awareness about water scarcity in the region, it is necessary to raise awareness about the impact this can bring to the region, as well as about the importance of increasing water sources, in order to reduce pressure on water sources, according to that obtained in the SWOT analysis.

Awareness campaigns must originate from public authorities, water authorities, and environmental organizations, without ever forgetting the existing alternatives and considering that this is a region with low population density.

### **Action 6.3.2: Develop an educational campaign in schools and universities**

Topics such as water scarcity in Portugal and in particular in the Alentejo region, as well as climate change and unconventional water sources, should be introduced in schools and universities, by the National Authorities.

### **Action 6.3.3: Organize tour visits to water reclamation facilities and crops irrigated with reclaimed water, for the community**

In order for students to have a greater perception of how water treatment is done and what the final product is, visits to wastewater treatment plants should be integrated into the schools' program. Visits should also be made to the water reuse pilot projects.

This type of action is more successful than conventional education and communication campaigns to improve public acceptance of water recovery projects.

## **1.7 Conclusions**

An intense engagement of the main actors has been carried out during the stages of the SuWaNu Europe project. The first contacts were made through the organization of workshops, meetings, research, etc., creating a main group that will be actively involved in the project's activities.

The group has been and will continue to be very relevant for the future of water reuse in Alentejo and Portugal, providing a framework for a necessary dialogue, considering the next changes in the current situation.

The main change envisaged is the new EU regulation on minimum requirements for water reuse in agriculture, which was recently approved by the EU Parliament. It is absolutely crucial to advance what changes will come in the near future. In this sense, this is an opportunity for SuWaNu Europe to have a real impact. The consortium can act as an intermediary between the different specialists contacted and the interested parties and become an effective instrument for the exchange of knowledge that considers the most recent events and solutions. To that end, we need to extend the community and ensure that relevant actors remain involved. The next RWG meetings will be essential to review and improve the Action Plan for the Alentejo Region. Active stakeholder involvement is therefore crucial.