



European Union European Regional Development Fund

## Overcoming barriers: how to make reclaimed water available for reuse in agriculture"

#### Manuel Boluda Fernández

Technician of Water General Directorate of Murcia Region

Región 🙀 de Murcia

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## WATER REUSED: HEAD AND TAIL





Only relevant in dry regions.Social rejection



- Obtained at ground level
- . Steady availability

## **CASE OF MURCIA REGION**

2020



90<sup>ST</sup> VOLUME OF WATER REUSED ≈ 0

**Volume reused**  $\rightarrow$  110 hm<sup>3</sup> per year that means 95-98 % of their water treated:

- **≈65 % Direct reused** (with tertiary treatment)
- **≈33 % Reused indirectly** (WWTPs with only secondary treatment)

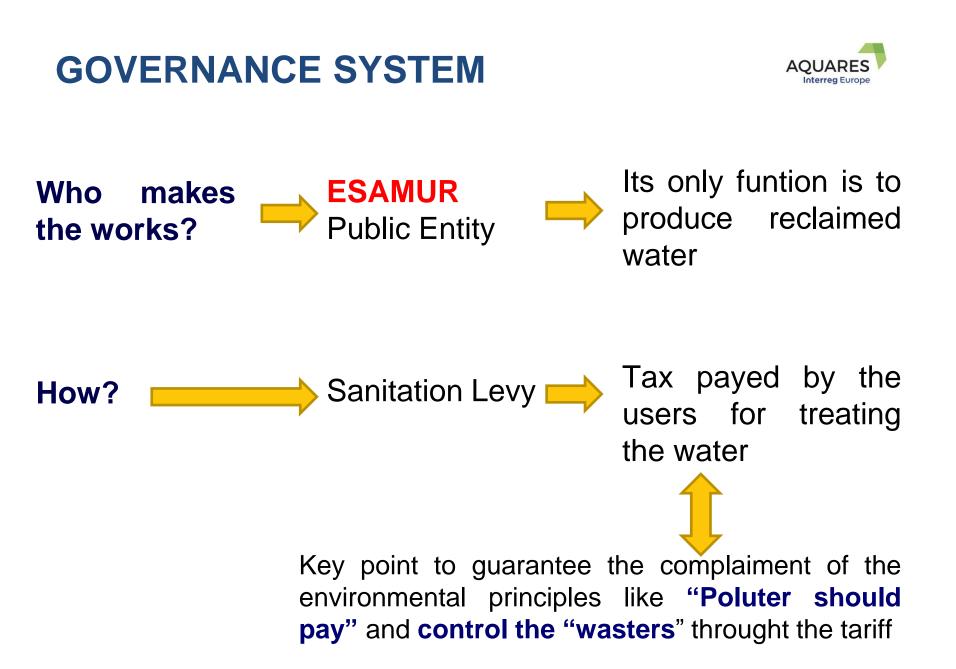
https://www.esamur.com/reutilizacion

So as to guarantee the food safety  $\rightarrow$  Additiional treatment with chorine to the secondary treatment





- 1. High agricultural demand
- 2. A clear and transparent governance system
- 3. Efficient financing system
- 4. A sustainable planning
- 5. Promotion



### EXAMPLES OF ESAMUR'S R&D PROJECTS

#### CIRCULAR ECONOMY

- Anaerobic treatment as a wastewater treatment process with low energy consumption.
- Co-digestion of sludge with waste to produce biogas

#### **RECOVERY OF THE WASTES**

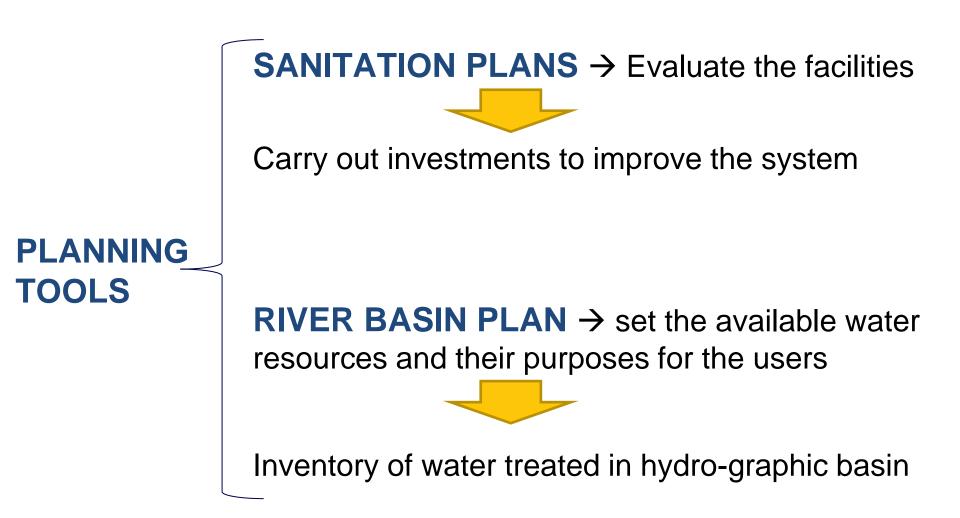
- Dry anaerobic digestion for the sewage sludge
- Recovery of phosphorus through struvite.
- Sludge reuse for agricultural purposes and technology GIS.

More information:

https://www.esamur.com/investigacion-desarrollo-innovacion

## **PLANNING THE RESOURCES**





#### **GRANTS FOR CONNECTING THE WWTPs TO THE IRRIGATORS COMMUNITIES FACILITIES**



#### **STARTING POINT**

- Irrigation lands endangered due to an insufficient dotation cover with:
  - Desalinated water (obtain at sea level and taken higher)
  - Groundwater (obtain below 100 meters)
- High cost of the investment for the regulation and transportation because the water comes from urban areas and it's used in Rural.

#### **EVIDENCE OF SUCCESS**

- 65 % of agricultural reusing.
- Irrigators Communities demand more calls for the WWTPs left.

#### **GRANTS FOR CONNECTING THE WWTPs TO THE IRRIGATORS COMMUNITIES FACILITIES**



#### **FINANCING**

EARDF (From the current RURAL DEVELOPMENT PROGRAM) that sets the minimum requirements for the access and the fulfilment of requirements





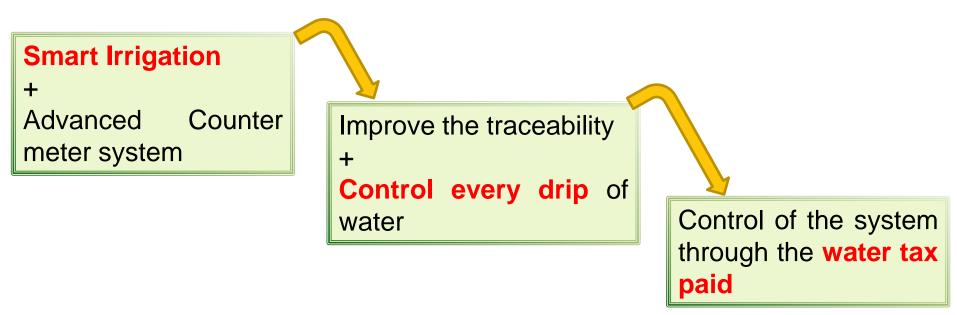
It lets add the salty groundwater unusable for the most of the crops, when the mix with water reused is acceptable.

The traceability of the system

#### **COMPLEMENTARY MEASURES**



- Follow-up the process of the treatment and the irrigation:
  - To reduce the level of the tertiary treatment
  - To provide fertilizers through the irrigation water.



# SUMMARY



In the route from nothing to 98 % of reusing, Murcia Region followed hereafter tips:

- 1) Focus on the purpose in which we can apply the water reused.
- 2) Revise the necessary policies and the rules of governance to offer a friendly and transparent system for the investors.
- 3) Design a cost recovery system that guarantees its survival over time.





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# Thank you!





Project media

