Case studies: experiences from OG formation and operation

"The future of EIP-AGRI Operational Groups: challenges, opportunities and existing support services"

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RE-AQUA and G. Terragrisa Operational Groups

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RE-AQUA OG (S4: Water Reuse)

Innovative strategies for the reuse of water in the meat industry: evaluation of technical, economic and regulatory limitations to guarantee their safe use

- **Outcome** Water reuse efficiency innovative recommendations
- **Cost of implementation** 13-15 €/m3 of OPEX
- **Ends-users' benefits** 10-15% water recovering for cleaning task
- **Adoption of the outcome** No because they are studying new legislation
- **Contribution to the circular water value chain** WATER REUSE

MEMBRANE TECNOLOGY

Ultrafiltration

Reverse Osmosis

Electrodialysis

ADVANCED OXIDATION PROCESS

Ozonation

UV

RE-AQUA OG (S4: Water Reuse)

Legal aspects related to OG activities: Need to follow RD 1085/2024 from Spain

Social acceptance: Yes, especially when water scarcity law is in place and water reduction is compulsory for industrial activities and farmers

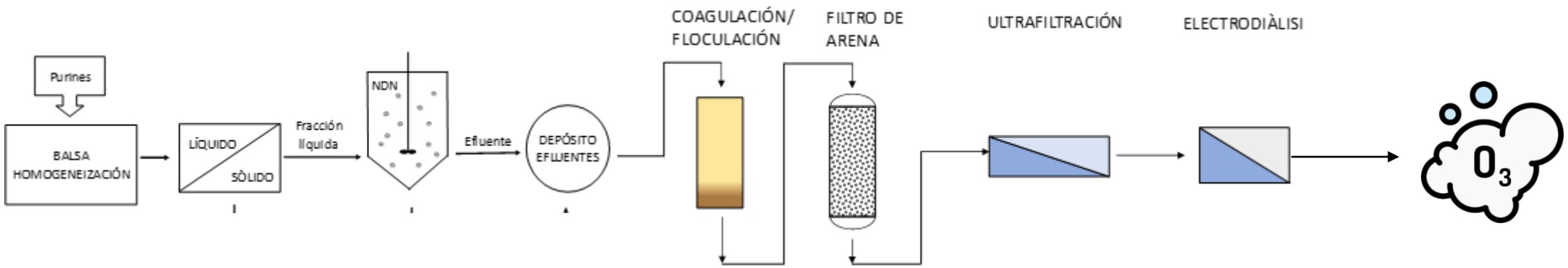
Environmental benefits: Less water natural sources used in scarcity periods

Used type and Water Reduction	Alert	Exceptionality	Emergency
Irrigation in agriculture	25%	40%	80%
Farmer Uses	10%	30%	50%
Industrial Uses	5%	15%	25%
Irrigation recreation Uses	30%	50%	Banned
Other recreation uses	5%	15%	25%

G. Terragrisa (S4: Water Reuse)

Implement electrodialysis (ED) and ozonation (OZ) technologies to treat the liquid effluents obtained in the treatment of slurry by N/DN to obtain quality water to be reused in the same farm and obtain drinking water for direct consumption by animals and cleaning operations

- **Outcome** Water reuse efficiency innovative recommendations
- **Cost of implementation:** Assuming an initial investment of €150,000 and an own operational model, there would only be a positive return of investment if the current treatment cost is higher than 10€/m3 (Nowadays N/DN + Disposal is 10€/m3 for 3 km distance. When the distance is 84 km the cost fits)
- **Ends-users' benefits:** Emergent Pollutants reduction: 50% in ED and 99% in OZ; More water sources
- **Adoption of the outcome:** No because the ED OPEX is not optimized and could be reduced



G. Terragrisa (S4: Water Reuse)

Contribution to the circular water value chain: WATER REUSE for cleaning operations. No 100% success in obtaining potable water and a chlorination STEP would be required

Legal aspects related to OG activities: Need to follow RD 1085/2024 from Spain

Social acceptance: Yes, especially when water scarcity law is in place and water reduction is compulsory for industrial activities and farmers

Environmental benefits: More alternative water sources in scarcity events for cleaning operation.

Operational Groups

Regional project

European project

+ **G. Terragrisa**

KNOWLEDGE CAPITALISATION

Knowledge flow

Thank you!

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