

CITRICOS DEL ANDARAX: AN EXAMPLE OF WATER MANAGEMENT

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INNOVATIVE TECHNOLOGIES FOR WASTEWATER TREATMENT AND WATER REUSE IN FOOD INDUSTRY

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- 2 PROJECT DESCRIPTION**
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INTRODUCTION - CITRICOS DEL ANDARAX SA BELONGS TO THE GARCIA CARRION GROUP

The image shows a screenshot of the J.G.C. website. At the top right, the logo for J.G.C. J. GARCIA CARRION is displayed, along with the text 'Web Calidad' and a 'Principal' button. Below this is a navigation bar with 'Plantas y Bodegas' highlighted. A secondary navigation bar contains 'Novedades', 'Plantas y Bodegas', 'Carpeta Calidad', and 'Otros Datos Interes'. On the left side, there is a vertical menu with logos for 'DON SIMON' and various wine brands including J.G.C. JUMILLA, J.G.C. LA MANCHA, J.G.C. SEGORBE, CÍTRICOS ANDARAX, CÍTRICOS ANDÉVALO, JAUME SERRA, MARQUÉS CARRION, MARQUÉS CARRION HARO, VIÑA ARNAIZ, VALDEPEÑAS, and MAYOR CASTILLA. The main content area features a grid of brand logos with small images and names: J.G.C. JUMILLA (D.O. JUMILLA), J.G.C. LA MANCHA (D.O. MANCHA), **CÍTRICOS DEL ANDARAX** (highlighted with a red box), CÍTRICOS DEL ANDÉVALO, J.G.C. SEGORBE, JAUME SERRA (D.O. CAVA PENEDÈS/CATALUNYA), MARQUÉS DE CARRIÓN (D.O. RIOJA), MARQUÉS DE CARRIÓN HARO (D.O. RIOJA), VIÑA ARNAIZ (D.O. RIBERA DE DUERO), VINARTIS (D.O. VALDEPEÑAS), and BODEGA MAYOR DE CASTILLA (D.O. RUEDA).

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INTRODUCTION - CITRICOS DEL ANDARAX ALMERIA PLANT

- Gádor is located in Almeria district (southeast part of Spain). This village, besides to the Andarax river valley, is well-known for the good quality of its orange trees and for being the largest vegetable producer from Almeria in Europe.



- In this privileged area is where our Plant is located. Cítricos del Andarax prepares refrigerated **organic squeezed juices, gazpachos, creams and broths**, the majority of them natural products produced under the “DON SIMON” brand.



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INTRODUCTION - CITRICOS DEL ANDARAX ALMERIA PLANT

- In this area, J. García Carrión bought the production of 1,200 hectares, owned by more than 850 farmers, with whom the company have signed long-term agreements. Likewise, the conversion of their conventional plantations to organic crops has been promoted among the farmers of the region. Oranges are harvested when they are at their optimum ripeness, from which we obtain our squeezed juice “Don Simón Ecológico”, which has been certified as a natural and environmentally friendly by **the Andalusian Committee of Organic Agriculture (CAAE)**.
- The Plant has 7 aseptic packaging lines and a processing capacity for more than 60,000 tons of fruit and vegetables per year.
- The Plant has implemented the ISO 9001 Quality Management system and the international protocols for Food Safety BRC (British Retail Consortium) and IFS (International Food Standard), with the highest qualification in certification audits.

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INTRODUCTION - CITRICOS DEL ANDARAX ALMERIA PLANT

- In our Plant in Almería, we have implemented **innovative solutions to preserve the environmental aspects** of Sustainable Development (water management, use of fuels with less polluting emissions to the atmosphere, such as natural gas, waste management, etc.). The use and optimization of water consumption, a highly valued resource in the area, is one of our **achievements in reducing the environmental impact** through the treatment and reuse of wastewater.



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INTRODUCTION – COLLABORATION WITH THE UNIVERSITY OF ALMERIA

- The collaboration with the UNIVERSITY OF ALMERÍA and CIESOL has been carried out in the form of several projects focused on water management. One of these projects was ACUAPYME (cost reduction of the solar photo-Fenton process through extensive open reactors for water regeneration).
- Nowadays our collaboration is under the LIFE PureAgroH2O Project.



LIFE PureAgroH2O
Pollutant Photo-NF remediation of Agro-Water

Planta piloto de descontaminación de aguas agro-industriales mediante nanofiltración fotocatalítica para su reutilización

Coordinador:
Participantes:
Colaborador:
Localizaciones:
Duración:
Presupuesto:
Contribución de la UE 60%:

Benaki Phytopathological Institute
National Centre for Scientific Research "Demokritos"
Universidad de Almería
Agricultural Cooperative of Zagora
Cítricos del Andarax S.A.
Grecia (Zagora, Pilio), España (Gádor, Almería)
2018-2021
2.145.822 euros
1.279.435 euros

LIFE 7 ENV/GR/000387
Proyecto co-financiado por la Unión Europea (UE) bajo el programa "LIFE+ Environment programme"
www.LIFEPureAgroH2O.com



BENAKI PHYTOPATHOLOGICAL INSTITUTE
DEMOKRITOS
ZAGORIN
UNIVERSIDAD DE ALMERIA
CIESOL
Cítricos del Andarax S.A.



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PROJECT DESCRIPTION

CONTEXT

Daily water consumption is 1MM liters. In the area where the plant operates there is a lack of water supply. Water reuse is key to avoid over-exploitation of local aquifers.

OBJECTIVE

Citricos del Andarax aims to optimize water consumption through its reuse.

KEY POINT

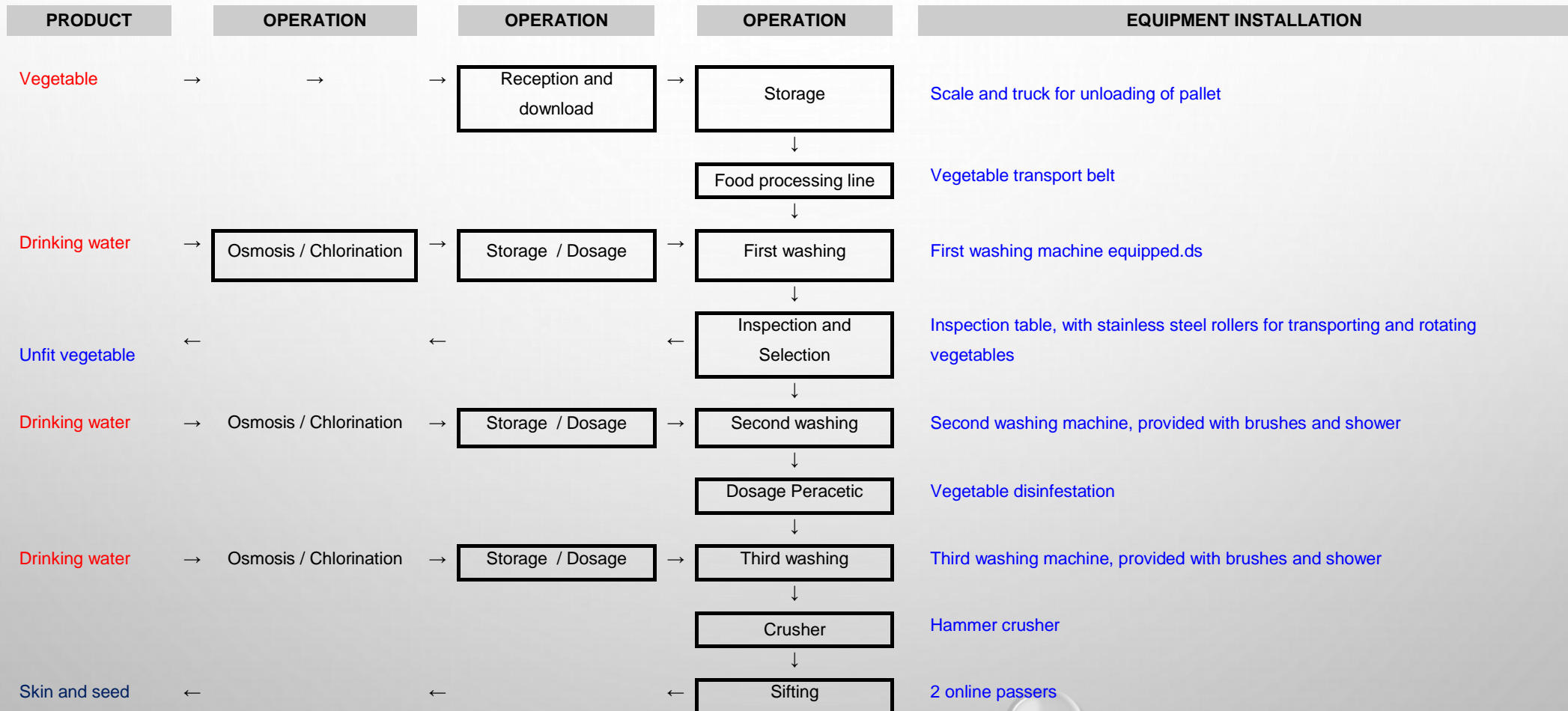
Current project is based on reusing water from the second and third vegetable washings

BENEFITS

With this project we can save 20.000 L daily

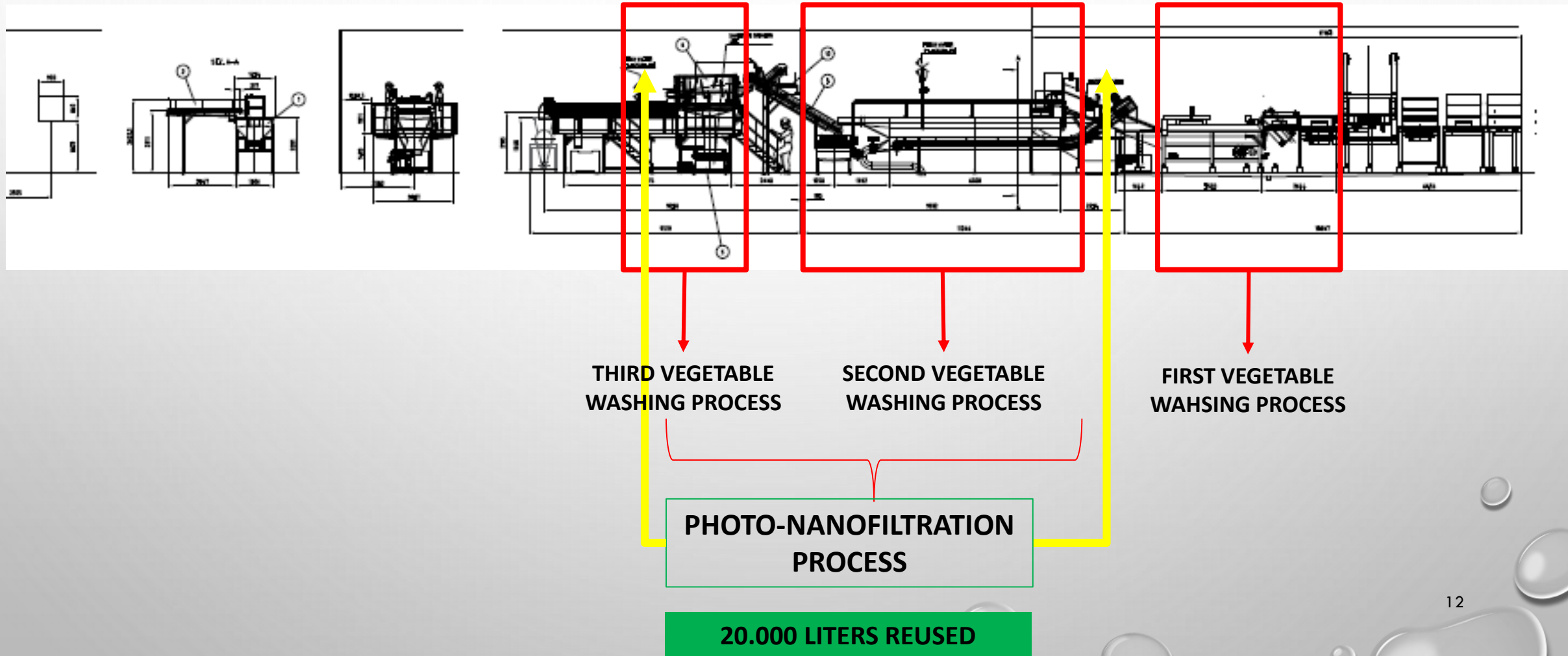
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PROJECT DESCRIPTION – VEGETABLES PROCESS FLOW CHART



INNOVATIVE TECHNOLOGIES FOR WASTEWATER TREATMENT AND WATER REUSE IN FOOD INDUSTRY

PROJECT DESCRIPTION – VEGETABLE PROCESS LINE PLAN





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NEXT PROJECT – WATER REJECTION

CONTEXT

Daily water consumption is 1MM liters. Cítricos del Andarax is discharging 200 m³ of water rejection daily.

OBJECTIVE

Taking advantage of osmosis water rejection

KEY POINT

Achieve zero water rejection

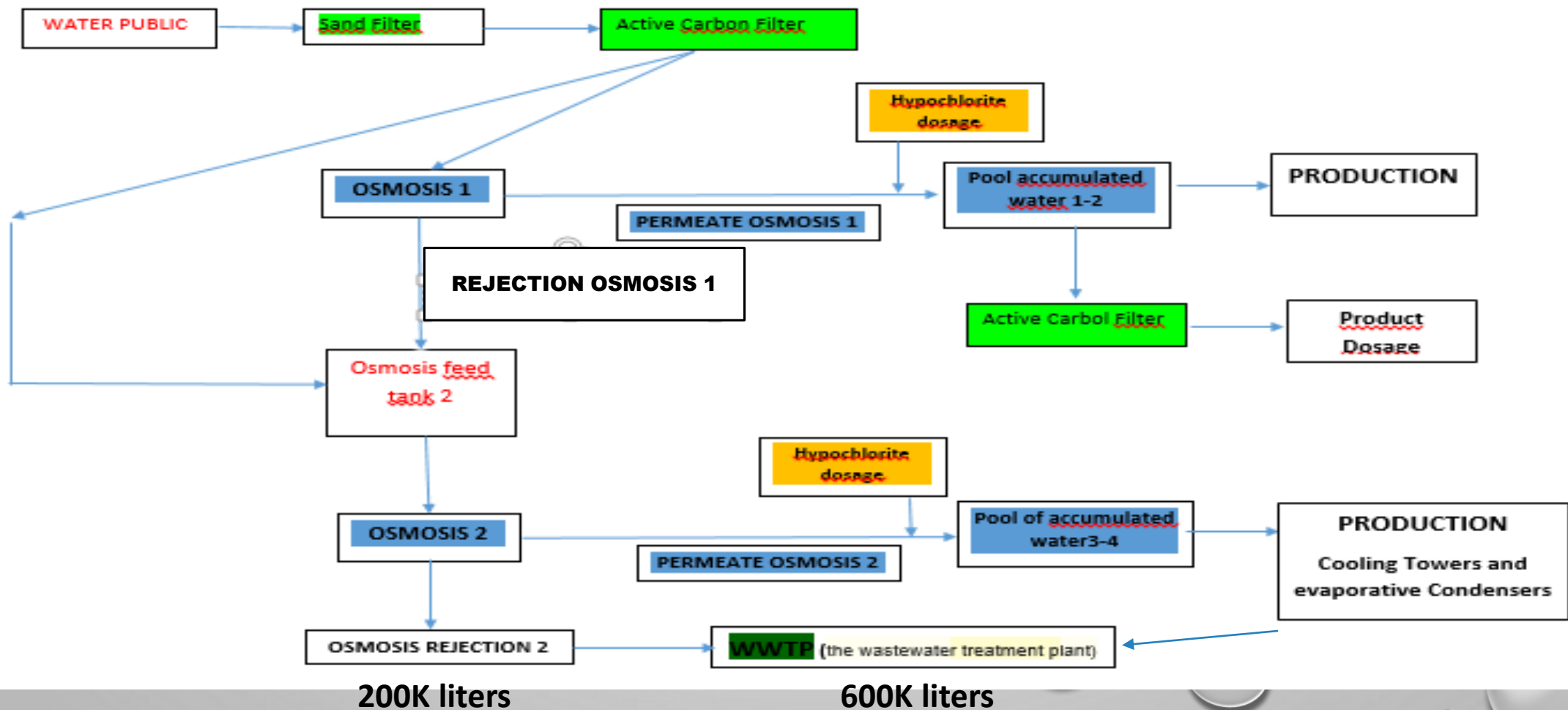
BENEFITS

Saving 200 m³ daily

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NEXT PROJECT – WATER REJECTION – FLOW CHART

FLOW CHART: CÍTRICOS DEL ANDARAX'S DRINKING WATER TREATMENT PLANT



The background features a light gray gradient with several realistic water droplets of varying sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance.

**THANK YOU FOR
YOUR ATTENTION**