



Case study factsheet

Camp de Tarragona, Spain

Last update on 2022-03-27



Project ULTIMATE

Tarragona , Spain (españa)



Description

The Petrochemical Complex of Tarragona (Spain) is an industrial area that groups several companies related to the chemical and oil fields. This complex started its operation in 1971, with the construction of the first refinery, and since then its activity has progressively grown until being considered one of the most important of this type in Catalonia, Spain and southern Europe. The more than 30 companies that form this complex are mainly focused on the production of chlorine, alkaline salts, oxygen gas, fertilizers, insecticides, fuels, plastics and synthetic essences.

Aigües Industrials de Tarragona Societat Anònima (AITASA) is a company founded in 1965 to supply water to industries, mainly the chemical industries that were then being established in the Tarragona complex. AITASA supplies water for industrial and drinking uses to the complex from groundwater and reclaimed water production.

In order to meet its water demands in both the industry and households, Tarragona's region has traditionally relied on water transfers from the Ebro River via a system that was built back in 1989. However, the increasing water demand from the industry outpaced the system's capacity, which led to the implementation of a reclamation plant to feed industrial water only and to avoid consuming resources of the drinking water production.

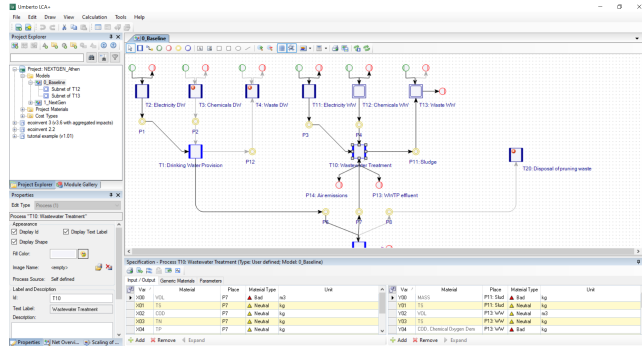
Since 2012, AITASA operates the Water Reclamation Plant (WRP) of Camp de Tarragona producing water for boilers and cooling towers. This locally available additional water supply replaces surface water supplies, that, some years ago, were transferred from the Ebro River for use at the petrochemical park; as a result, an equivalent volume of surface water is available for urban water supply in the coastal areas of Tarragona province. By developing this new and locally available water supply source, industrial growth in a water scarce region has been supported, while promoting local industry's sustainability.

Applied technologies

- **Membrane systems**
- **Adsorption systems**
- **Membrane distillation**

Applied product

NEXTGEN + ULTIMATE Life Cycle Assessment



<https://mp.watereurope.eu/d/Product/24>

Publications and references

- Curto, D., Franzitta, V. and Guercio, A., A Review of the Water Desalination Technologies, Scientific paper / Journal, *Applied Sciences*, 2021
- Choi, Y. J., Lee, S., Koo, J., and Kim, S. H., Evaluation of economic feasibility of reverse osmosis and membrane distillation hybrid system for desalination, Scientific paper / Journal, *Desalination and Water Treatment*, 2016
- Ruiz-Aguirre, A., Andrés-Mañas, J. A. and Zaragoza, G., Evaluation of Permeate Quality in Pilot Scale Membrane Distillation Systems, Scientific paper / Journal, *Membranes*, 2019
- Alkhudhiri, A., Darwish, N., and Hilal, N., Membrane distillation: A comprehensive review, Scientific paper / Journal, *Desalination*, 2012
- Al-Obaidani, S., Curcio, E., Macedonio, F., di Profio, G., Al-Hinai, H., and Drioli, E., Potential of membrane distillation in seawater desalination: Thermal efficiency, sensitivity study and cost estimation, Scientific paper / Journal, *Journal of Membrane Science*, 2008
- Zaragoza, G., Andres-Mans, J. A. and Ruiz-Aguirre, A., Commercial scale membrane distillation for solar desalination, Scientific paper / Journal, *Clean Water*, 2018
- Naves Arnaldos, A., van den Broeke, J., Guleria, T., Bruni, C., Fantone, F., Touloupi, M., Iossifidis, D., Giménez Lorang, A., Sabbah, I., Farah, K., Baransi-Karkaby, K., Pidou, M., Reguer, A., Kleyböcker, A., Jährgig, J., Vredenburg, L., Thisgaard, P., D1.9 Start-up and intermediate results of plant operation from all case studies, Project report, *ULTIMATE*, 2023

Scale

Operational scale of this case study related to the application of tools and technologies

- Local scale

Challenges

Challenges that are addressed through the application of tools and/or technologies to the case study

- Water Scarcity
- Increasing water demand by growing industrial sectors
- Need for reuse and recovery schemes for wastewater & sludge

Related tags

Reclaimed water

nZLD technologies

Contact data

Contact person

Andrea Naves (Fundació Eurecat), andrea.naves@eurecat.org; Sandra Casas (Fundació Eurecat), sandra.casas@eurecat.org; Daniel Montserrat (AITASA) dmontserrat@aitasa.es

Involved organisations

1. Aguas de Tarragona S.A. (AITASA)



Fundació Eurecat (EURECAT)

URL

<https://ultimatewater.eu/demonstration-cases/>