



Case study factsheet

Tain, United Kingdom

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ULTIMATE Project ULTIMATE

Tain , United Kingdom (Great Britain)



Description

For this case study, the symbiosis first interlinks the Glenmorangie whisky distillery and the company Aquabio which provides circular economy (CE) enabling treatment and reuse solutions. This first started in 2017, with the design and installation by Aquabio of a system for the treatment of the wastewater from the distillery. An anaerobic membrane bioreactor (AnMBR) was installed to treat the wastewater generated in the distillery during the whisky making processes and allows to discharge the treated effluent in the local estuary, the Dornoch Firth. However, the Glenmorangie whisky distillery which belongs to the Louis Vuitton Malletier Holdings (LVMH) has a strategy engrained in sustainability and the symbiosis can then also be extended to the local farmers and the local community and environment. Indeed, the Glenmorangie distillery is part of the Dornoch Environmental Enhancement Project which aims to restore Native European oysters and enhance biodiversity in the Dornoch Firth for the benefit of the local environment and community.

As part of Ultimate, Aquabio and Cranfield University (partners in the project) will collaborate with the Glenmorangie distillery and Alpheus, the current operator of the treatment site, (both stakeholders but not beneficiaries) to evaluate options to expand the CE approach at the site. The AnMBR effluent provides opportunities for heat recovery, nutrient recovery and finally with further advanced treatment for water recycling within the distillery.

Applied technologies

- [Ammonium sulphate production \(air stripping & scrubbing\)](#)
- [Anaerobic Membrane Bioreactor \(AnMBR\) with degassing unit](#)
- [Low grade heat recovery from wastewater](#)

Publications and references

- 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., Jährig, J., Vredenbregt, 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

Related tags

air stripping

ammonia

fertiliser

heat

Circular Economy

Contact data

Contact person

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Involved organisations

1. Aquabio
2. Cranfield University