



Water and Waste Management in the Dairy Industry



GHD is committed to assisting the dairy industry in achieving world's best practice. GHD is able to offer specialist advice drawing on its comprehensive understanding of the total dairy manufacturing process from farm gate to supermarket shelf, whilst minimising raw product consumption and waste production.

Scope of Services

GHD has experience in providing professional services to both small scale productions and major process augmentations covering all aspects from raw materials to waste management including:

- » Feasibility studies and options assessments
- » Project management
- » Detailed design
- » Project commissioning
- » Troubleshooting
- » Process optimisation

Multidisciplinary Skills

GHD is able to offer a multidisciplinary team to assess dairy processes by providing professional services in the following areas:

- » Process water balances
- » Cleaner production
- » CIP optimisation and recovery
- » Waste minimisation and treatment
- » Fit for purpose internal recycling
- » Energy reductions
- » HACCP and ISO accreditation
- » Cost minimisation
- » Cost effective solutions and attractive payback periods
- » Food safety
- » Environmental legislation and compliance

Industry Experience

As an international multidisciplinary consulting firm, GHD offers experience in the optimisation of raw product handling, process systems and waste treatment. With experience in cleaner production, major factory augmentations, water recycling and wastewater management, GHD is able to provide global solutions for the dairy industry without compromising product integrity, which is imperative given current water shortages and more stringent environmental discharge requirements.

The following is a list of Projects GHD has been recently involved in as a specialist advisor or as part of a project management team with the dairy industry.

Nestlé Oceania

GHD has a long standing agreement with Nestlé Oceania to provide technical assistance for on-site wastewater treatment plants at the Tongala, Smithtown, Blayney and Pacific Islands factories. GHD provides monitoring and reporting on performance and ensures compliance with regulatory requirements. Similar technical advice and involvement is also provided for other factories.

Parmalat

GHD developed a concept design for a water recycling plant to treat CIP wastewater for recycling to cooling towers and other minor uses. GHD also certified the Water Efficiency Management Plan developed for the site as a statutory requirement of Level 5 Water restrictions and reviewed and certified a BWER funding application for a CIP recovery circuit.

Norco Dairies

Dairy effluent from the Norco Dairy factory in Lismore is treated using an aerobic moving bed biofilm reactor followed by induced air flotation. GHD was involved with evaluating the impact on the biological treatment system of adding a spray drier to the dairy operation.

Nestlé Echuca

GHD was engaged to undertake study into cleaner production at the Nestlé Echuca production facility, which produces yogurts and desserts. GHD's food industry chemical engineering specialists interviewed site staff and identified opportunities for waste reduction, and undertook a waste audit. This identified current levels of waste production and energy use. Nine priority waste reduction opportunities were identified which either had an attractive payback or lead to a significant improvement in environmental performance. A total of 32 waste and energy reduction opportunities were identified and prioritised.

Warrnambool Cheese and Butter Factory

GHD has provided professional services to the Warrnambool Cheese and Butter Factory including water supply quality and quantity requirements and wastewater production and treatment. This work also involved liaising with the local water authority to assist with cost projections to determine required changes to the water supply system.

Murray-Goulburn Co-operative

GHD was engaged to develop treatment options and provide a concept design for an upgrade of Murray Goulburn's Leongatha site. The project involved identification of water quality standards for various uses and assessment of options for upgrades to the water supply systems, water re-use systems, water and condensate storages and reticulation systems.

Contact

For more information, please contact:

K. Athanasiadis 61 7 3316 3898 konstantinos.athanasiadis@ghd.com.au

Mitch Laginestra 61 2 9239 7140 mitchell.laginestra@ghd.com.au

Richard Lynn 61 8 6222 8490 richard.lynn@ghd.com.au

R. van-Oorschot 61 3 8687 8226 robert.van-oorschot@ghd.com.au

Nigel Vivian 61 3 6210 0676 nigel.vivian@ghd.com.au

