



# WIA pitch for Oil / Gas Industry

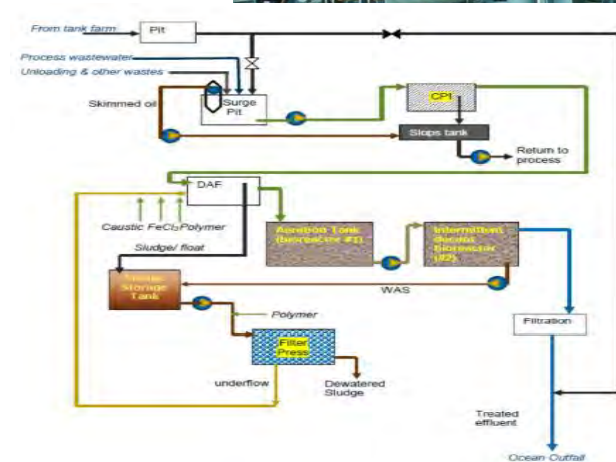
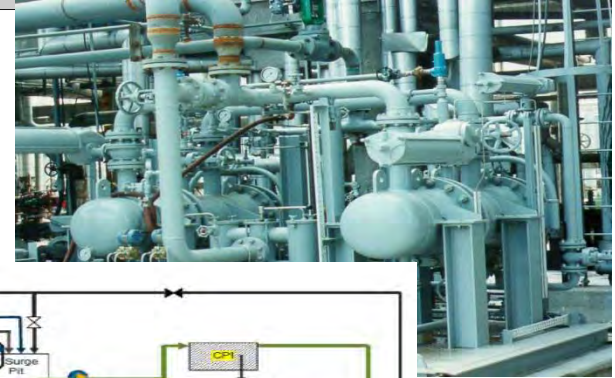
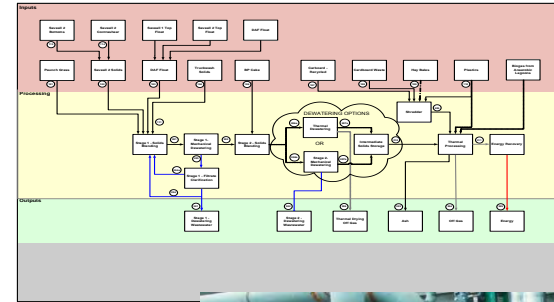


**GHD Water**

**Mitch Laginestra**  
Service Line Leader Wastewater Treatment

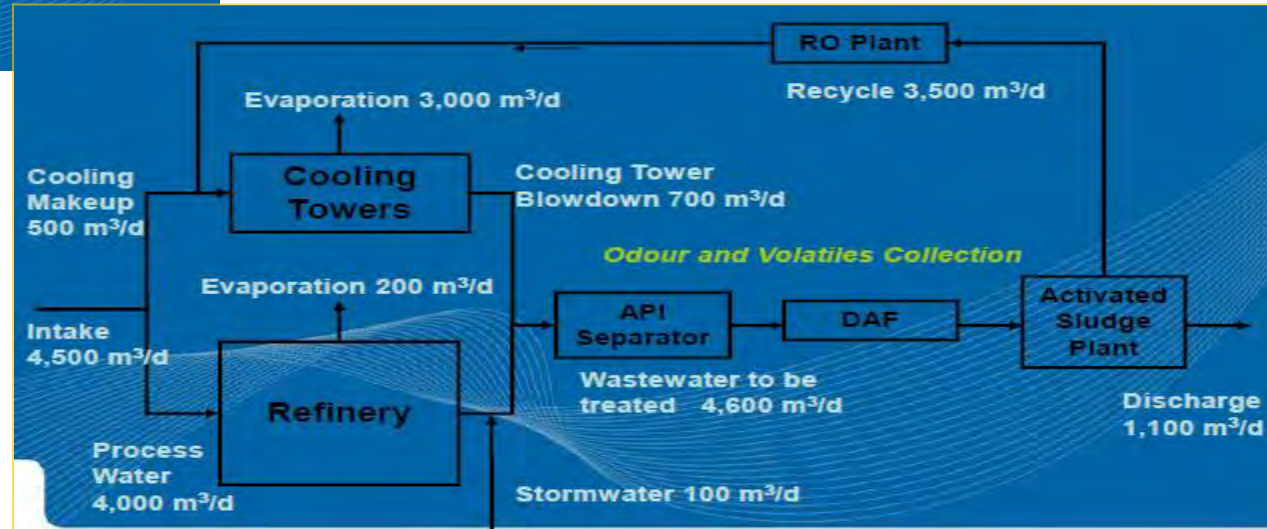
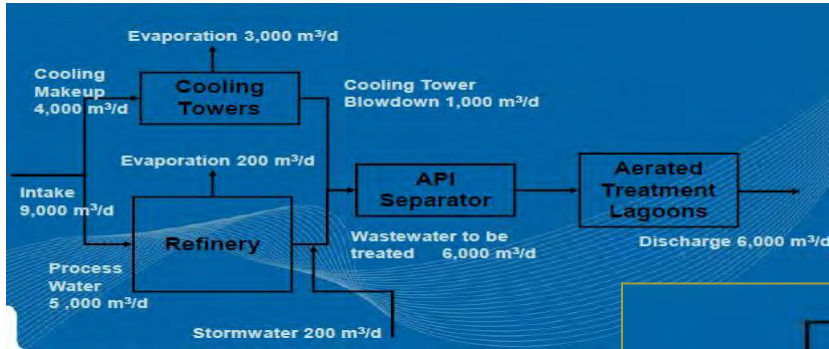
# Services

- ➔ Strategy & Options Studies
- ➔ Concept, Feasibility and Detailed Process Design
- ➔ Process Flow Diagrams and P & IDs
- ➔ Mass and Energy Balances
- ➔ Equipment Sizing and Selection
- ➔ Risk Assessment - HAZOP & HACCP
- ➔ Risk Assessment – Water quality
- ➔ Complete delivery of projects



# Strategy – Petroleum Refinery recycling

Challenge: *improve stormwater and water management and meet strict discharge requirements (N limit) to bay discharge*



# Project Biodiesel wastewater treatment

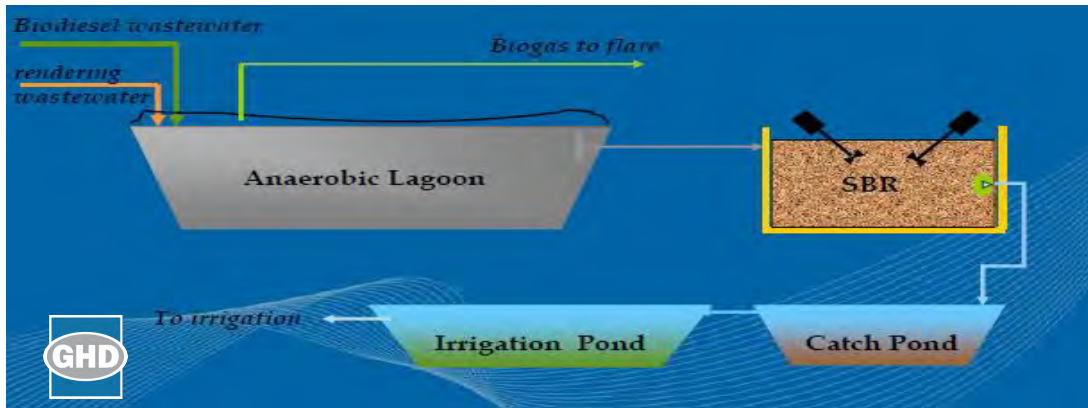
**Victoria** – management of wastewater - troubleshooting

Challenge:

Poor quality effluent associated with overloading

Solution:

Investigate causes (and determine short and long term solutions for anaerobic pond pre-treatment and SBR downstream treatment.



# Project - Oil refinery – wastewater treatment upgrade

**PNG** – New oil water treatment for desalter to tie in with existing WWTP

Challenge:

Process upset with periodic discharge of high salt, high flow from desalter unit

Solution:

Installation of a new oil-water treatment system is proposed - dedicated to remove free hydrocarbons from the desalter vessel. The new oil water treatment package is required to separate the oil, water and solid phases into independent streams, and treat effluent to below 10 mg/L of oil and grease. Options reviewed → Hydrocyclones proposed – specified.



## Other projects:

**Origin, Coal Seam Gas Extraction, Qld.** - detailed design and documentation of a 40 ML/d water treatment facility treating water from Coal Seam Gas extraction with the purpose of discharging the filtrate into the Condamine River. The treatment plant process includes Microfiltration, Ion Exchange and Reverse Osmosis.



**Santos, Fairview Coal Seam Methane Production field, Qld.** - engineering services for the implementation of a Reverse Osmosis Treatment Plants for the treatment and disposal of Coal Seam Gas Water, implementation of an irrigation plan

# Stormflow DMT – contaminant capture

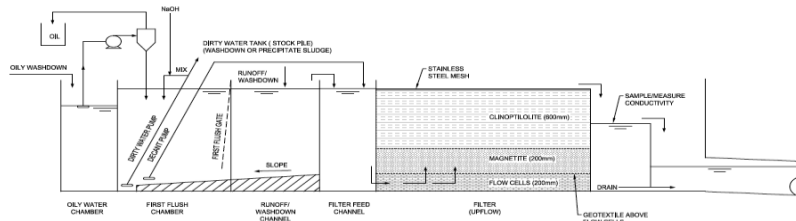
Challenge: stormflow (high volume, first flush effect with max contaminants), strict environmental discharge limits

Solution: Pollutant trap using zeolites to trap metals (Pb, Cu, Zn) Zeolites:

- ❖ Polypropylene
- ❖ Clinoptilolite
- ❖ Laterite

2 year saturation life of media

Trialled at Townsville port facility - > 80 % reduction





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