

## About ECT2

Emerging Compounds Treatment Technologies (ECT2), a Montrose Environmental Group company, is a specialist provider of cutting-edge technology solutions to remove emerging and difficult to treat contaminants from water and vapour. Our systems use proprietary and cost-effective approaches that leverage a range of media to enable efficient removal of contaminants and on-site regeneration. Our solutions are field proven as well as sustainable to minimise requirements for future generations to manage waste by-products generated during treatment processes.

ECT2 offers a full array of services dedicated to understanding, removing and managing the impacts of contaminants in air and water.

## ECT2 Solutions

While ECT2 regularly provides specialist or discrete services and products focussing on emerging or complex-to-treat contaminants, we predominantly offer end to end solutions that cover the extraction of contaminated water from aquifers, basins, ponds, creeks, drains and the like, treating the water to meet nominated criteria, and subsequently disposing the treated water in accordance with relevant approvals. Disposal of treated water can include storage tanks for beneficial reuse or controlled discharge to the environment; irrigation via extensive sprinkler arrays; infiltration galleries; direct injection into the aquifer via well networks; immediate discharge to the environment via drainage networks or creeks; to drinking water networks; and any other approved methodology.

ECT2 recognises that a critical element of successfully delivering end to end solutions for the treatment of contaminated water routinely requires removal of a range of contaminants, not just the primary contaminant(s) of concern. Removing co-contaminants is also important when managing compounds such as per- and poly-fluoroalkyl substances (PFAS) due to the specialised treatment processes required and more importantly, the extremely low treated water criteria established through regulations or guidelines.

Regardless of whether the co-contaminants relate to fuel products including light non aqueous phase liquids (LNAPL) of various thickness; organics; dissolved or suspended solids; sub-micron particulates; biological foulants; or anything else found in the background chemistry of water, ECT2 has demonstrated experience in managing and/or removing the compounds to achieve the required treated water criteria in the most effective way possible. As with our treatment processes for emerging and complex contaminant removal, we focus on minimising the footprint of our equipment; minimising energy requirements to operate the equipment; and importantly, minimising waste generation to ensure we limit the need for additional processes to manage the waste or for future generations to have to deal with the waste as it has gone to landfill today.

## Pretreatment Options

### FUEL PRODUCTS

Where pre-treatment for fuel contaminated water (high concentrations of TPH and /or oil & grease) is required, ECT2 deploys several different types of processes, depending on the site specific nature of the contamination. These processes include oil/water separators, organo-clay, oil absorbent media (e.g., MyCelx (a proprietary oil absorbent) or other types), centrifuge and activated carbon. These pre-treatment processes are effective at removing fuel constituents from water to comply with treated water criteria and to ensure the media used for PFAS compounds retains its capacity for as long as possible.

### SOLIDS REMOVAL

For water containing relatively high levels of total suspended solids (TSS), iron, manganese and/or turbidity, we deploy processes such as coagulation, flocculation and sedimentation (CFS), Lamella clarifiers, backwashable multi-media filtration, bag and cartridge filters, ultrafiltration and nanofiltration membranes. To determine the best treatment process for the site specific water, ECT2 reviews the water quality to understand which process or processes will remove solids from the water stream to meet treated water criteria and protect down-stream media from fouling, reducing its capacity. We provide full solids handling equipment, including backwash supply tanks and pumps as well as backwash holding tanks, sludge thickening tanks and associated pumps and equipment to reduce the amount of waste to be removed from site and disposed of.

### ORGANICS

Where influent water contains organics, such as volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPH) and/or total organic carbon (TOC), we deploy activated carbon, air stripping and specialised ion exchange resin (for removal of complex TOC compounds such as natural organic matter (NOM)). Removal of these organics is sometimes required by discharge permits, and in some instances may be required to ensure the media used for PFAS compounds retains its capacity for as long as possible.

### BIOLOGICAL ACTIVITY

Some water streams contain readily biodegradable constituents which require the use of processes such as enhanced bioGAC to remove the potential foulants or control/prevent biogrowth using a non-toxic biocide to protect down-stream processes. For water with known biological fouling potential, we deploy chlorine dosing systems as well as ultra violet (UV) disinfection systems to control growth and minimize fouling of down-stream processes.

[Talk to our team today to find out how we help solve your most difficult water treatment challenges.](#)