

PRODUCED WATER TREATMENT

**Robust and modular solution to reduce
costs and environmental footprint**



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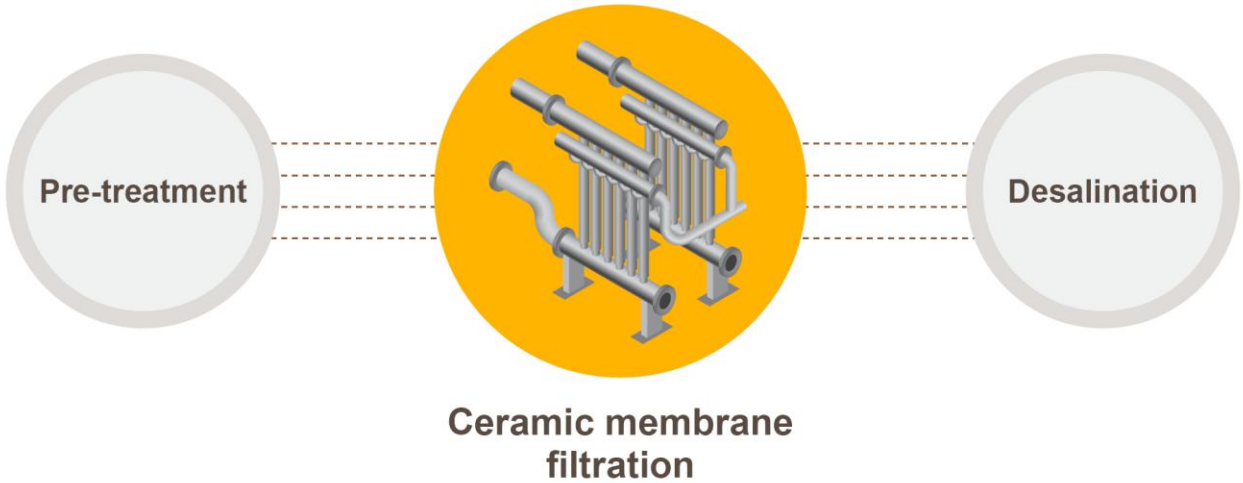
Advanced recovery technologies have drastically increased water production at oil and gas exploration. Recovering one barrel of oil now can require up to 4 barrels of water.

This produced water, coming to the surface from hydrocarbon reservoirs together with oil and gas, contains suspended solids, hydrocarbon and minerals. Subject to ever stricter environmental regulations, it will need

treatment before discharge, re-injection or re-use.

We offer a robust, reliable solution for the treatment of oil- or gasfield produced water. Based on ceramic membranes as the key technology, it offers removal of oil and suspended solids, and if necessary silica and hardness. Further treatment steps can remove dissolved salts.

The system combines very high availability with low operator input and maintenance. Footprint is much smaller than conventional treatment. The modular design is perfectly suited to incremental capacity increase. Our system is also an ideal addition to facilities to ease bottlenecks in production from existing, underperforming or undersized water treatment plants.



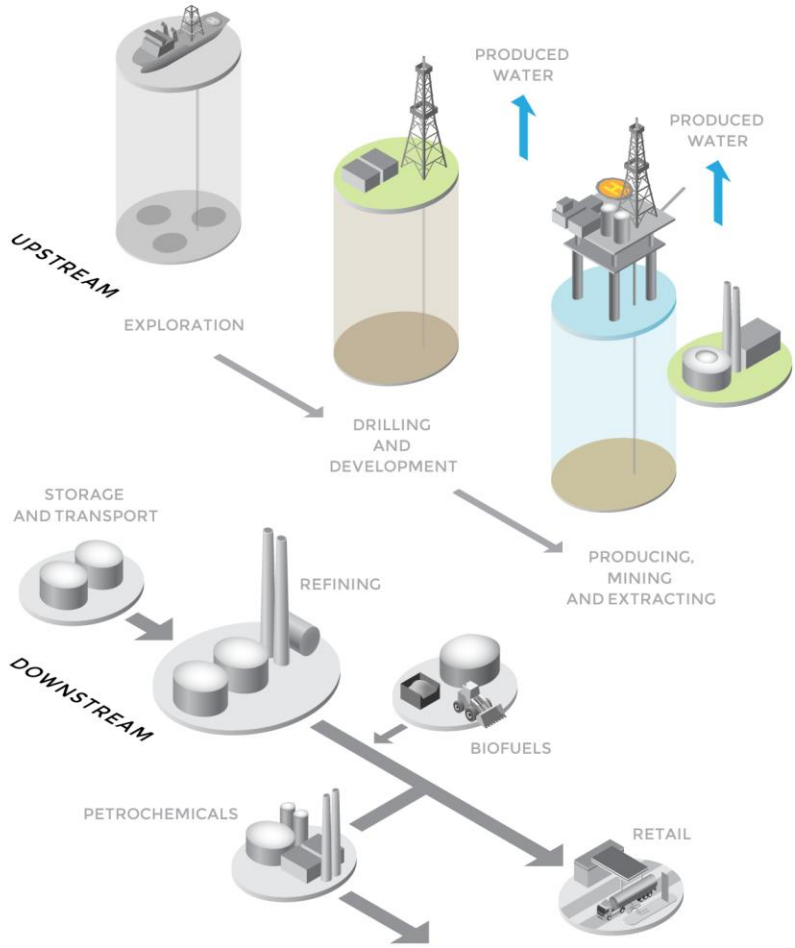
As no oilfield is the same, produced water will also vary in composition. To ensure optimal efficiency in de-oiling and desalination, we can offer several technologies:

- API separation or centrifuges
- Coagulation / flocculation
- Lamella settling or DAF
- Hot lime softening

METAWATER's 25m² ceramic membrane elements guarantee a robust barrier for solids and a reliable reduction of oil and grease, turbidity and TOC. The non-breakage track record of more than 15 years in various applications and an efficient cleaning procedure ensure a reliable and cost-effective treatment.

Before the permeate of the ceramic membrane filtration can be reused or discharged, the water needs to be desalinated. Depending on the demands and influent quality, we can offer the most optimal technology:

- Ion Exchange
- Reversed Osmosis
- Electrodialysis
- Evaporative crystallization



Benefits

- Meets or exceeds water quality standards, even with varying incoming water conditions
- Reliable, no membrane breakage since 1996 and efficient cleaning procedure
- Energy efficient
- Compact design (small footprint)
- Requires little operation and maintenance
- Low OPEX

Professionals in water!

Solutions and systems within the potable water, waste water and process water industry.

RWB differentiates itself by supplying standard systems on the one hand and by developing custom made solutions on the otherhand. By keeping all disciplines, like engineering, process management

assembly, commissioning and maintenance in-house and also because of a 24/7 service, RWB can offer a complete package in water treatment. That is our added value!

RWB's services



Process technology



Engineering



Project management



Service

