MOMENTIV™ 2020
Biofuels & Biomaterials

BIOFUEL PRODUCTION PROCESS WATER TREATMENT

How membrane filtration recovers residual product from process water and reduces wastewater treatment cost

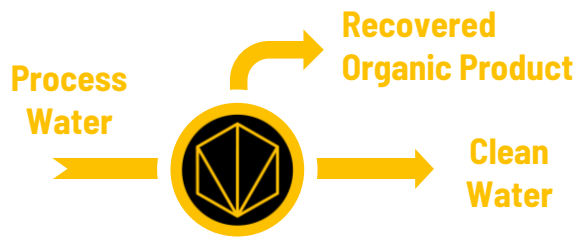
THE SITUATION

Biofuel production generates aqueous process streams containing dissolved organics - residual sugars, fermentation byproducts, and organic acids. These streams pass to wastewater treatment, carrying embedded product value to destruction at substantial cost. Residual product lost to the wastewater stream is both a yield loss and an added treatment cost - and treatment capacity becomes a production constraint. Membrane filtration recovers the residual organic fraction for increased yield while generating clean permeate compatible with lower-cost disposal.

THE PROBLEM

- **Residual Product Loss to Waste** – Dissolved organics in process water represent lost yield currently directed to wastewater treatment.
- **Wastewater Treatment Bottleneck** – High-COD process water constrains production rate, and expanding treatment capacity requires capital.
- **Economic Feasibility Threshold** – Downstream processing cost is often the margin between viability and not for emerging bio-based processes.

THE MOMENTIV™ 2020 SYSTEM



Membrane filtration system integrated into the process water handling circuit. Recovers residual organic product as a concentrated retentate suitable for return to process and generates clean permeate with significantly reduced organic loading. Permeate is compatible with biological wastewater treatment at lower cost, or direct discharge or reuse depending on regulatory context. Designed for continuous operation with integration into process infrastructure. Modules are field-replaceable without specialized tooling.

RESULTS DELIVERED

> 99%	Recovered Organics
60%	Wastewater Volume Reduction
< 0.1 ppm	C3+ in Permeate

OUR TECHNOLOGY – Powered by ViaForge™ Resilience

Bioprocess streams combine fermentation byproducts and variable pH conditions that challenge conventional membrane materials. ViaForge™ membrane technology is engineered to withstand the range of conditions found in bio-based production – enabling membrane separation to be designed into novel processes from the start, not bolted on as an afterthought.

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