



## Reference Case

Boosting solids performance and cutting chemical OPEX in dairy wastewater

**CarboNet** ●●

**One of North America's largest dairy producers** needed tighter control over its wastewater system. Their DAF and belt press systems relied on high polymer doses but still produced variable results, with off-spec performance and rising treatment costs.

**Background:**

The facility runs DAF clarification and sludge dewatering to manage high-strength dairy effluent. It needed a chemistry program that could improve TSS control, increase cake solids, and reduce polymer volumes—all without overhauling existing infrastructure.

**Problem:**

Operators struggled with rising polymer costs, off-spec TSS during high flows, and inconsistent belt press performance. Tote handling and dilution water requirements added operational burden.

**Approach:**

Over a 10-day trial, the facility tested PreFlight 10080C (for DAF) and SimpleFloc 3078C/3080C (for belt presses). Products were injected using the plant's existing Velodyne units and Venturi system. Operators monitored performance across flow changes, maintenance cycles, and minor dosing issues. CarboNet supported optimization throughout.

**Results:**

CarboNet chemistry achieved better solids capture, higher cake dryness, and lower chemical OPEX. Floc quality held up under upset conditions, reducing effluent carryover. Belt press cake solids rose from 14.3% to 15.7%, while polyacrylamide use dropped by 62%. No infrastructure changes were needed.

“It’s the most technologically innovative water treatment application I have laid eyes on this decade. It’s the difference between a system that just meets regulations and one that’s set up to accelerate and scale.”

**Randy Khalil**

Dewatering & Water Treatment SME

**RESULTS**

KPI	INCUMBENT	DAFLOC 10080C
DAF TSS	600–700 ppm	Lower
DAF Dose	4.1 GPH	3.5 GPH
Cake Solids	14.3%	15.7% (↑9%)
PAM usage	-	↓62%
Chem OPEX	-	↓13% (~\$91K/yr)

**IMPACT**

- 17% polymer cost reduction (belt press)
- 25% Scope 3 emissions reduction
- ~5 million gallons/year dilution water saved

**CarboNet:** As freshwater becomes increasingly scarce and regulated, companies from energy and mining to food and beauty turn to CarboNet to reduce, recycle, and renew the water they need to compete.