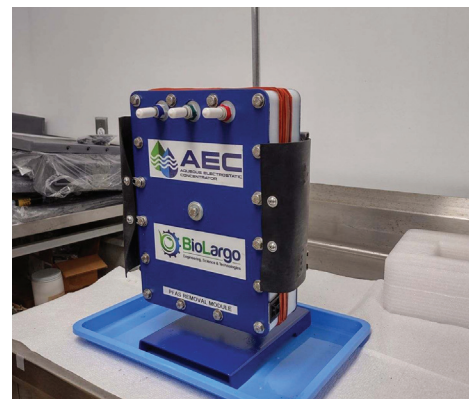


The Aqueous Electrostatic Concentrator (AEC) is a patented treatment system capable of removing over 99% of PFAS from aqueous solutions in a single pass with low contact time. The system's unique design handles **groundwater, surface water, wastewater or leachate from influent sources or operates as a mobile pump-and-treat groundwater remediation process.** The optional Service Exchange Program offers the all the benefits of removal without the headaches of disposal. The BioLargo AEC selectively targets and removes PFAS compounds from source streams with minimal disruption to the base water chemistry.

**Removes up to 99.99% of PFAS in a single stage. Capable of “non-detect” level removal**

The AEC's modular design provides a small footprint, and low energy consumption, and can be **skidded, trailer mounted or custom configured** to fit into existing spaces. Unlike traditional removal technologies, this non-carbon based treatment option is highly tolerant of TSS and TDS.



**Features**

- Long and Short Chain Removal
- Low Waste
- Easy to Operate
- Low O&M
- Short Contact Time
- No Carbon or Resin
- Flexible Footprint



The technology exploits the polar behavior of the PFAS molecule to optimize removal while minimizing waste. The system uses a proprietary process to collect and retain the PFAS compounds. After an extended operating life, modules are exchanged through a service program that handles the disposal of the PFAS-laden waste.

## Pilot Results

Treatment goal	CA		NM		KS		NJ		WI	
	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)
	70 ppt		5 ppt		70 ppt		4 ppt		Non Detect	
PFOA	3005	47.4	887	3	242	5.86	17.49	0.85	4.23	0
PFOS	3467	56.4	6	0	151	2.52	16.3	0.59	8.88	0
PFNA	26.5	1.09	3	0	2570	66	1.3	0.12	0	0
PFBS	6232	43.8	13	0	69.1	0	11.53	1.04	7.61	0
GenX	0	0	0	0	0	0	0.15	0	0	0
PFHxS	7524	38.7	0	0	217	2.87	5.2	0.47	8.88	0

Ground Water Remediation RO Concentrate Potable Water



Treatment Goal	MN		IL		FL1		FL2	
	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)	inlet (ppt)	outlet (ppt)
	70 ppt		5 ppt		70 ppt			
PFOA	1.72	0	9	<2	1027	1	1991	1
PFOS	1.67	0	61.5	2.7	200	0	74	0
PFNA	0	0	16.2	0	75	0	92	0
PFBS	0	0	21.2	2.2	1243	0	1422	0
GenX	0	0	0	0	0	0	0	0
PFHxS	2.76	0	93.5	0	313	0	199	0
PFHxA	N/A	N/A	N/A	N/A	2000	0	3340	0
PFDA	N/A	N/A	N/A	N/A	210	0	163	1
PFBA	N/A	N/A	N/A	N/A	1047	1	98	0

Groundwater remediation RO Concentrate Leachate (treatment train) Potable water

The AEC produces a fraction of the waste compared to traditional treatment methods. It is capable of removing both long and short chain PFAS as low as Non-Detect in a single pass. Service Exchange operations contract includes process guarantee and destruction.

## Budgetary Estimate for 2.5 MGD

AEC System Description: Three stage treatment system coupled with 90% recovery Reverse Osmosis system

	BioLargo AEC (2.5 MGD)	Carbon Filtration
Approx. population served		25,000 people
Capital cost (range)		\$4 – \$8 million
Amount of waste	1,994 lbs	540,000 lbs <sup>1</sup>
Est. Module or carbon replacement cost	\$309,840	\$3,300,000 <sup>2</sup>
Est. Disposal Cost (@ \$3/lb)	\$5,983	\$1,620,000

1 – Waste GAC includes weight of interstitial water  
Replacement and disposal costs are estimated as annually for budgeting. Modules could last up to 24 months. Travel and transportation not included in the maintenance costs.

2 – Pricing information comes from the cost estimating equations supplied in EPA's - Technologies and Costs for Removing Per- and Polyfluoroalkyl Substances (PFAS) from Drinking Water Prepared by: U.S. Environmental Protection Agency Office of Water Office of Groundwater and Drinking Water Standards and Risk Management Division Washington, DC 20460 EPA Document Number: 815R24012 March 2024

\*Disposal cost assumptions  
\$3.50/lb replacement carbon  
\$2/lb transport  
\$3/lb disposal

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