

MagWater / Electro-Aeration

MECE Platform: Introduction & Three-Vertical Market Summary

Hydroponics & Regenerative Agriculture | Clean Water for Livestock & Cattle | In Situ Chlorination (Farm to table Chain)

Introduction to MECE

Magnetically Enhanced Catalytic Electrolysis (MECE) is MagWater's core water-treatment platform. The system applies low-voltage power—compatible with solar or battery operation—to saltwater flowing across coated titanium electrodes (Ru/Ir-Ti dimensionally stable anodes). A magnetic field improves ion mobility and accelerates reactions at the electrode surface, allowing one system to deliver three functions at once instead of relying on separate equipment:

- **Oxygenation** — creates nanobubble-scale dissolved oxygen that stays suspended longer than conventional aeration, supporting the biological and chemical processes that depend on it.
- **Disinfection** — turns saltwater into an on-site HOCl-type sanitizer, avoiding the need to store, transport, or handle bulk chemical disinfectants.
- **Water conditioning** — lowers surface tension and reduces water cluster size, helping water spread, infiltrate, and extract soluble compounds more effectively, with benefits for irrigation efficiency and drought resilience.

By changing electrode configuration, current density, and treatment time, the same hardware can be tuned for different outcomes—from disinfected water for food-safety compliance to oxygenated, conditioned water that supports soil and crop biology. This flexibility allows MECE to serve as a shared technology platform across MagWater's three go-to-market verticals, rather than requiring a separate product for each use case.

The Value of MagWater's Three Vertical Markets

Taken together, the three studies point to a significant opportunity: the verticals complement one another strategically rather than competing for resources or focus. Each serves a different buyer, sales process, and pain point, yet all rely on the same MECE hardware and the same \$5,000 / \$100-per-month entry product. As a result, customer acquisition and R&D investments in one vertical can strengthen the others instead of pulling resources away from them.

Hydroponics + Regenerative Agriculture — the volume engine

This vertical is the fastest-moving, highest-volume channel of the three. Over three years, it targets 58,000–84,000 customers, \$159M–\$200M in cumulative revenue, and roughly \$54M–\$69M in ARR by Year 3. The subscription model drives the opportunity by turning yield-focused growers into recurring-revenue customers with little friction. Short crop cycles for sprouts, herbs, and leafy greens also allow growers to see results and renew within days, not months.

Canada’s federal cannabis legalization gives this channel a structural advantage by avoiding the state-by-state policy risk that complicates the U.S. market. In regenerative agriculture, the tractor-mounted MECE delivery system expands the opportunity by solving the logistics barrier that has kept vermicompost tea limited to small acreages. This opens large-scale Prairie grain and row-crop farms to biological input delivery for the first time. The USDA’s \$700M Regenerative Pilot Program and Canada’s C\$3.5B SCAP fund may also offset customer costs, shortening MagWater’s sales cycle, while carbon-credit MRV data creates an additional revenue stream beyond yield gains and input-cost savings.

Clean Water for Livestock & Cattle — the highest-value deal

This vertical has the highest average deal value of the three. With a \$825M–\$1.4B SAM, a five-year revenue target of approximately \$55M, and gross margins of 60–80%, it is also the most capital-efficient opportunity. The ROI is clear and measurable: a 500-head beef operation can recover \$15,000–\$40,000 per year from weight gain alone, giving a \$50K–\$150K MagWater system a 1–3 year payback with minimal customer risk because ranchers can track the value directly on the scale.

The three-channel go-to-market model—feed stores, direct sales, and influencers—reinforces itself. Influencers generate demand before direct sales conversations begin, while feed stores provide broad distribution without requiring MagWater to build the infrastructure from the ground up. Because no competitor currently serves this space with comparable technology, MagWater has a rare opportunity to define and own the category before the ROI story becomes widely recognized in ranching circles.

In Situ Chlorination (Food Chain) the largest, most urgent market

This is the largest market by total addressable size — \$3.3B–\$6.2B across agriculture/field, trucking, and restaurant applications — and the most urgently demand-driven of the three. The FSMA Pre-Harvest Agricultural Water Rule has created a compliance mandate that is active right now for large farms and arrives

for small farms in April 2026, converting a discretionary purchase into a near-mandatory one on a fixed regulatory timeline.

Every customer in this vertical already budgets for the chemical cost MagWater displaces, so the value proposition is cost reduction plus compliance risk elimination — not a new expenditure category, which materially shortens the sales conversation. The 5-year revenue projection reaches ~\$31.5M in Year 5 from this channel alone, with recurring revenue from electrode replacement and service SLAs compounding as the installed base grows — giving this vertical a durable annuity-like revenue tail on top of initial system sales.

The strategic conclusion across all three

The three verticals share the same core technology, the same \$5,000/\$100-per-month product entry point, and many of the same distribution relationships — but they address entirely different buyer communities, buying cycles, and pain points. That means they don't cannibalize each other; they stack. A rancher reached through the livestock channel may also be a regenerative agriculture candidate. A produce packing facility targeted for in situ chlorination may irrigate with a MagWater system on the same water line. A hydroponic distributor relationship opens doors to controlled-environment agriculture customers who need food chain disinfection.

The combined 3-year revenue potential across all channels is conservatively \$194M–\$271M, scaling toward \$54–69M+ in annualized recurring revenue by Year 3 — all from a single core patented technology with no direct like-for-like competition in any of the three verticals today.

The single most important observation: MagWater is not selling into three separate markets. It is establishing one water treatment platform across three entry points, each of which builds the installed base, the case study library, and the brand credibility that makes the next vertical easier to penetrate.

Note: Figures above reflect MagWater's internal bottoms-up market build-up models across the three verticals. Vertical-specific technical performance claims should continue to distinguish EA-only effects from validated MECE effects per the standing three-arm validation framework before use in external investor or regulatory materials.