EXECUTIVE SUMMARY · COVER MEMO

Brackish Water & Desalination — At a Glance

A one-page summary of the full briefing memo, for cover-page or verbal-briefing use. Full detail, case citations, and the vendor/engineering-firm directories are in the companion document.

PREPARED FOR: NM STATE LEGISLATURE — MEMBER BRIEFING

REGION: SIERRA COUNTY & RIO GRANDE CORRIDOR **DATE:** JULY 2026

TYPE: NON-ADVOCACY BACKGROUND SUMMARY

THE CORE DISTINCTION

Every desalination figure in the news is really two numbers: the **price to own** a plant (one-time capital cost) and the **cost once it's in service** (capital amortized, plus energy, membranes, labor, brine disposal, and the "last-mile" pipeline to actually deliver the water). New Mexico's own Alamogordo plant shows why the second number matters more — the treatment plant was completed, but an unfinished 16-mile pipeline has left it running well below potential.

1,000–10,000 PPM TDS — NM'S LEGAL DEFINITION OF "BRACKISH"	**2–4B** ACRE-FEET OF BRACKISH GROUNDWATER ESTIMATED UNDER NM	**0** FULLY OPERATIONAL BRACKISH PLANTS DELIVERING WATER IN NM TODAY	**$1.25–$2.60** COST PER 1,000 GAL, BRACKISH DESAL (TWDB, 2026)

WHAT THE CASE HISTORIES SHOW

PLANTS COMMUNITIES ARE GLAD THEY BUILT

- **El Paso, TX** — matched to proven chronic need, delivery infrastructure finished on day one, 15+ years of iterative O&M improvement.

PLANTS COMMUNITIES REGRET

- **Alamogordo, NM** — built, stranded by an unfinished pipeline.
- **Yuma, AZ** — built for a treaty target, never operated at scale.
- **Australia (2006–07 drought plants)** — sized above near-term demand; mothballed for years at real ratepayer cost, though now being reactivated as drought returns.

> THE PATTERN
>
> Regretted projects are almost never failures of the desalination technology itself — they fail on unfinished delivery infrastructure, a plant sized to a policy target instead of proven demand, or no realistic plan for standing costs if conditions change.

OPPOSITION & REGULATORY LANDSCAPE

New Mexico's Strategic Water Supply Act (HB 137, 2025) is the operative framework — a brackish-only program (produced/oilfield water was stripped out after 2024 opposition), initially funded at $40M, amended on the House floor to guarantee public-protest rights after pushback from Amigos Bravos, Pueblo Action Alliance, and New Mexico Wild. Leading opposition concerns: brine-disposal/aquifer contamination risk, the public-process gap (now addressed), ratepayer exposure if a plant is oversized, and — from an entirely different direction — oil-and-gas industry objections to fee provisions in the same bill. Expect opposition from more than one direction at once, for different reasons.

Texas runs the most regulatorily mature program in the region (aquifer characterization since 2009, formal production-zone permitting since 2015). **Arizona** is funding desal proposals outside its own borders because its Groundwater Management Act blocks moving brackish water between basins in-state.

FINANCIAL SNAPSHOT BY USE CASE

USE CASE	ILLUSTRATIVE CAPACITY	PLANNING-LEVEL CAPEX	UNIT COST
Farmer / ag co-op	5,000–50,000 gal/day	$50K–$500K	~$250–$800/acre-foot
Small rural community (<25,000)	2–5 MGD	$25M–$70M	$1.25–$2.60/1,000 gal
Lake/river augmentation	10–30+ MGD	$100M–$300M+	$1.00–$2.00+/1,000 gal

Planning-level ranges from TWDB and industry cost studies — not site-specific bids. See full briefing, Section 7.

ENVIRONMENTAL CONSIDERATIONS

- **Aquifer interconnectivity** — brackish and fresh zones are usually described as separate, but that's a site-specific finding to verify, not assume; heavy pumping has already migrated brackish water into freshwater zones near El Paso–Juárez.
- **Surface footprint** — wellfields, access roads, and pipeline corridors disturb working rangeland; any paired solar/wind capacity needs its own siting review.
- **Monitoring tier** — most brine wells fall under EPA's lighter-touch Class V category rather than Class I; states can require stricter monitoring as a funding condition.
- **Review trigger** — federal Reclamation funding requires full NEPA review; state-only funding may not, making NM's own permitting the operative safeguard.
- **One point in its favor** — well-sourced brackish desal avoids the marine entrainment/impingement harm associated with open-water seawater intakes.

See full briefing, Section 3, for sourcing and detail.

TALKING POINTS RECAP

1. Not the same as ocean desalination — brackish water starts far less salty, so it costs less energy to treat.

2. Not the same as a wastewater plant, either — different source water, different treatment process, separate infrastructure questions.
3. Doesn't replace Rio Grande Compact water — it's an additive second account, not a substitute.
4. Brine isn't only waste — zero-liquid-discharge and mineral-recovery paths (lithium, potash) exist alongside deep-well injection, evaporation ponds, and surface discharge; every proposal still needs its own site-specific disposal review.
5. Alamogordo proves the pipeline matters as much as the plant.
6. Conservation and desalination are complements, not competitors.
7. Who pays depends on scale and financing — but sizing a plant to proven demand, not aspirational growth, is the single biggest financial safeguard.
8. Aquifer, land, and monitoring questions are legitimate and answerable — they call for a site-specific study and clear permitting conditions, not a blanket yes or no.
9. It clearly works where supply need, delivery infrastructure, and a sound brine plan all exist before construction (El Paso) — and clearly doesn't where any one of those three is missing (Yuma, Alamogordo, the Australian drought plants).

COMPANION DOCUMENT — BRACKISH WATER & DESALINATION: FULL LEGISLATIVE BRIEFING (HTML/PDF, 9 SECTIONS + ENVIRONMENTAL CONSIDERATIONS, CASE CITATIONS, VENDOR & ENGINEERING-FIRM DIRECTORIES). NOT ATTACHED? REQUEST IT FROM THE PREPARER OF THIS SUMMARY.

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