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I submit this comment in support of TCEQ's rulemaking to establish a permitting pathway for produced water reuse in Texas, and urges the Commission to adopt two principles essential to the rule's success: prioritizing technologies with proven field performance, and facilitating appropriate technology transfer from solutions developed and validated outside the United States.

Texas is not the first jurisdiction to confront the challenge of large-scale produced water management. In the Sultanate of Oman, SusTeco operates an integrated biological treatment system currently processing some 300,000 barrels of produced water per day, through a proprietary constructed wetland system. In 4 years that system of constructed saline wetlands has become a stopover point for multiple species of migratory birds — an outcome that speaks to the volume of water being treated and to the beneficial ecological impact that can happen when we treat this waste product as a resource. The conditions SusTeco faces in Oman are similar to those in the Permian and Delaware basins—arid and water-scarce.

What distinguishes SusTeco's approach is what it does not require. Its systems provide disposal without the use of deep well injection, and reuse without desalination, by using hypersaline water to grow constructed wetlands that both process the contaminants within produced water, and convert this wastewater into a productive ecological asset. For Texas regulators writing rules today, this matters for two reasons. First, the economic feasibility of produced water reuse at Permian Basin scale will be determined largely by whether the treatment pathway requires desalination or not. If rules are written in ways that effectively mandate full desalination as a precondition for reuse permits, the economics will remain prohibitive for most operators and volumes. Second, if the rule creates a pathway only for technologies domestically familiar to regulators, it will systematically exclude operationally validated solutions available — many of which were developed precisely because other oil-producing nations have already faced this problem at scale.

I urge TCEQ to: (1) define reuse standards by outcomes rather than by treatment technology or process, allowing equivalent results through multiple pathways; (2) explicitly provide that treatment technologies demonstrated at commercial scale in other jurisdictions qualify for consideration under Texas permits, subject to appropriate technical review; and (3) include provisions that reduce permitting friction for technology transfer, recognizing that Texas stands to benefit from a global body of operational experience that should not require complete domestic re-demonstration before being eligible for permitting. In short, the Permian Basin's produced water challenge is too large and too urgent for Texas to limit itself to solutions it has already seen, or that only fit conventional wisdom.