Date: 20 April 2026

Briefing Note: AquaFed's response to the Global Stocktake on the OECD's Principles on Water Governance

Introduction

This document presents AquaFed's response to the Global Stocktake on the OECD's Principles on Water Governance.

AquaFed's comments are to Principle 5: Data and Information.

AquaFed's response

Evolution of the Subject Matter and Policy Context (Past 10 Years)

- **Comprehensive Accountability Frameworks:** The sector has moved toward highly granular, target-driven monitoring. Modern Public-Private Partnerships (PPPs) routinely feature hundreds of Key Performance Indicators (KPIs) covering every UN Human Rights criteria, as well as technical and socio-economic targets. Crucially, these KPIs are tied to strict performance targets and backed by financial penalties if unmet.
- **The Rise of "Smart Water" and Real-Time Integration:** Data acquisition has shifted from periodic sampling to advanced network integration using Internet of Things (IoT) and Supervisory Control and Data Acquisition (SCADA) systems. Depending on public authority requirements, data is now tracked anywhere from an annual basis down to real-time predictive modeling.
- **Expanding Scope (Micropollutants & Climate):** Regulatory and societal expectations have forced a rapid expansion of data collection to include emerging chemicals and the Water-Energy-Carbon nexus. Utilities increasingly use complex process simulations to evaluate greenhouse gas emissions and biomethane potential, transforming standard operational reporting into broader climate-impact

data.

- **Predictive Climate Risk Data:** Data systems have evolved to integrate local climate projections and multi-hazard scenarios (e.g. droughts, floods, or heatwaves) to pinpoint utility vulnerabilities. The sector increasingly relies on scenario-based analysis, a prospective method considering multiple plausible futures to plan actions and strengthen decision-making in the face of deep uncertainty.

Main Challenges Limiting Progress (Next 10 Years)

In OECD Countries: The primary challenges revolve around **cybersecurity**, data **interoperability**, and data **overload**. With expanding regulations around emerging contaminants—such as the USEPA's strict 4 ppt PFAS limit —utilities must process vast amounts of continuous data. Integrating legacy IT systems with advanced analytics to overcome institutional "data silos" remains difficult. Furthermore, utilities face the ongoing challenge of navigating strict data privacy regulations while simultaneously meeting open-data mandates.

In Non-OECD Countries: The overarching challenge is the "Digital Divide" and **foundational data gaps: Digitalization to start with,** and **lack of national KPI frameworks**, leaving local municipalities to develop their own fragmented systems. While this regulatory gap is bridged in PPP contracts through the support and standardized toolboxes of Multilateral Development Banks (MDBs), in-house public delivery models often struggle to secure the funding and standardized frameworks necessary to digitize effectively.

Practical and Actionable Priorities (Next 10 Years)

- **Establish National, Mandatory, and Transparent KPIs:** Implement standardized KPIs for water and wastewater utilities. Countries that have done so are in a much stronger position to evaluate the impact of national policies, providing utilities with a clear baseline to systematize their own reporting.
- **Establish Interoperability and Open Standards:** Governments and basin authorities should mandate standardized data protocols. This ensures that data collected by diverse public agencies, private operators, and environmental bodies can be seamlessly integrated and compared across jurisdictions.
- **Incentivize Predictive Modeling and Nexus Metrics:** Shift from reactive to predictive data use. Policy should incentivize digitalization of networks, which includes the adoption of real-time sensors, digital twin models, and mandatory tracking of the water-energy-carbon nexus, such as capturing carbon recovery and monitoring N2O emissions.
- **Standardize Scenario-Based Climate Risk Assessments:** Utilities should

implement comprehensive, quantitative methodologies to assess cascading climate risks across the multi-barrier approach, encompassing water resources, treatment processes, and distribution networks. Water information systems must incorporate recognized climate projections to establish future scenarios over 2035 and 2050 horizons. These transform generalized climate data into actionable operational and capital solutions.

World-Class or Highly Successful Practice

Comprehensible public information regarding local river basins and utility performance remains surprisingly poor; citizens and stakeholders are often overwhelmed by "data noise" that obscures actual health and operational realities.

A highly successful and replicable approach is combining **independent, third-party audited data acquisition with predictive, multi-barrier risk modeling**.

First, implementing noise-free public dashboards driven by audited data guarantees the integrity and comparability of shared information. In modern PPP contracts, this is a built-in feature: operators are contractually bound to third-party verified KPI reporting to ensure targets are transparently met and penalties are assessed fairly.

Second, applying this rigorous data approach to **multi-barrier climate risk assessments** allows utilities to evaluate cascading impacts across the entire system—from the water resource to the distribution network. By transforming audited data and climate scenarios into actionable insights, utilities can move beyond reactive maintenance toward transformative adaptation, ultimately ensuring sustainable, climate-resilient drinking water services.