

## MBP Consulting

<u>Team Member Name</u>	<u>Year</u>	<u>Major</u>
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**Advisor:** Ignacio Ferrero Muñoz

**Topic Title:** Cooling the Cloud in a Warming World: The AWS Aragón Case

**Audience:** AWS's Board of Directors

### Sustainable Development Goal

SDG #1: Ensure availability and sustainable management of water and sanitation for all

SDG #12: Ensure sustainable consumption and production patterns

### Executive Summary

In March 2026, Amazon raised its planned investment in Spain to €33.7 billion through 2035 to expand AWS data centers and strengthen Europe's AI and cloud capacity. But scaling AI infrastructure creates a basic constraint: higher computing intensity generates more heat, and cooling that heat at scale increases pressure on both energy and water resources. Nowhere is this tension more visible than in Aragón, where AWS is expanding in a region where freshwater use is highly sensitive. In March 2025, reports said AWS had requested a roughly 48% increase in maximum annual water availability for its three existing Aragón sites, from 36.4 million to 53.9 million liters per site. Although AWS has introduced community water projects under its water-positive-by-2030 commitment, debate around its local water footprint continues. As expansion accelerates, AWS needs a water and cooling strategy that is not only operationally sound, but also legitimate in the eyes of regulators and communities.

We invite the judges to act as AWS's Board of Directors and evaluate our three-horizon water strategy recommendation for AWS in Aragón: in the short term, AWS should continue and expand regional water-stewardship partnerships with municipalities by fixing the system first, deploying leak-detection technologies and prioritizing pipe repairs in urban distribution networks, so that every recovered liter delivers immediate and measurable relief; in the medium term, AWS should switch the water input by investing in reclaimed-water treatment so that data-center cooling and related uses rely on regenerated wastewater rather than freshwater; and in the long term, AWS should redesign cooling by migrating new AI capacity to direct-to-chip liquid-cooling architectures that avoid water evaporation while enabling greater rack density, thereby supporting higher AI computing capacity.