Water Supply & Treatment

Source Metadata

Field	Value
source	cpi
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source_id	CPI-WW-001
sector	Water & Wastewater
subsector	Water Supply & Treatment
mitigation	N
adaptation	Y
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CPI Definition & Scope

Water Supply and Treatment in CPI's GLCF framework tracks climate finance directed at securing and improving water supply systems in the context of climate change. CPI captures investment in water-efficient infrastructure, desalination powered by renewable energy, water loss reduction (non-revenue water programs), rainwater harvesting, managed aquifer recharge, and drinking water treatment upgrades that ensure supply resilience under changing precipitation patterns. CPI notes that water sector climate finance remains at low levels relative to its importance for climate adaptation.

Subsectors & Examples

- **Water Efficiency** — pipe replacement, pressure management, smart metering, leak detection
- **Desalination** — renewable-powered reverse osmosis, thermal desalination
- **Rainwater Harvesting** — urban and rural collection systems, rooftop harvesting
- **Aquifer Recharge** — managed aquifer recharge, aquifer storage and recovery
- **Water Treatment Upgrades** — membrane filtration, UV treatment, solar-powered systems

Mitigation & Adaptation Classification

Water supply and treatment is classified primarily as **adaptation** in CPI's framework. Water supply security is fundamentally an adaptation challenge as climate change alters precipitation patterns, glacier melt rates, and drought frequency. While energy-efficient water systems have mitigation co-benefits, CPI's primary classification is adaptation given the sector's direct role in building resilience to climate impacts on water availability.

LATAM Relevance

Water security is among the most urgent climate adaptation challenges in Latin America. Colombia's Andean cities depend on paramo ecosystems and glaciers that are shrinking due to climate change. Peru's Lima is one of the world's largest cities situated in a desert, facing acute water stress exacerbated by Andean glacier retreat. Costa Rica, while water-rich, faces increasing seasonal variability in the Guanacaste dry corridor. Regional water utilities lose 30-50% of treated water through leaks, making efficiency investment a priority for both climate and financial sustainability.

Cleantech Taxonomy Crosswalk

Maps to Cleantech Taxonomy sector **WW** (Water) for water supply. Cross-references with **ES** (Energy Systems) for energy-efficient pumping and renewable-powered desalination, and **AF** (AFOLU) for agricultural water management.

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