

Water & Wastewater (WW)

Water treatment, irrigation efficiency, flood management

- [CPI GLCF 2025 — Water & Wastewater \(WW\) Index](#)
- [Water Supply & Treatment](#)
- [Watershed Management](#)

CPI GLCF 2025 — Water & Wastewater (WW) Index

| | |
|--------------------|--|
| source | cpi |
| source_version | GLCF 2025 |
| source_name | CPI GLCF 2025 — Water & Wastewater (WW) |
| sector | WW |
| origo_nodes_mapped | TBD |
| last_verified | 2026-05-26 |
| license | CC BY-NC-SA 4.0 — contact adminsf@cpiglobal.org for commercial use |

Description

CPI Global Landscape of Climate Finance 2025 coverage for: Water treatment, irrigation, flood management. Populate with specific CPI sub-sector and activity nodes during Phase 0.

Cleantech Taxonomy Mapping Notes

[To be populated during Phase 1 schema alignment — document how this source node maps to Cleantech Taxonomy IDs, including convergences, divergences, and gaps.]

```
{
  "source": "cpi",
  "source_version": "GLCF 2025",
  "source_name": "CPI GLCF 2025 – Water & Wastewater (WW)",
  "sector": "WW",
  "origo_nodes_mapped": [],
  "last_verified": "2026-05-26",
  "schema_version": "1.0"
}
```

Water Supply & Treatment

Source Metadata

| Field | Value |
|----------------|--------------------------|
| source | cpi |
| source_version | GLCF 2025 |
| source_id | CPI-WW-001 |
| sector | Water & Wastewater |
| subsector | Water Supply & Treatment |
| mitigation | N |
| adaptation | Y |
| last_checked | 2026-05-26 |

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.

Watershed Management

Source Metadata

| Field | Value |
|----------------|----------------------|
| source | cpi |
| source_version | GLCF 2025 |
| source_id | CPI-WW-002 |
| sector | Water & Wastewater |
| subsector | Watershed Management |
| mitigation | Y |
| adaptation | Y |
| last_checked | 2026-05-26 |

CPI Definition & Scope

Watershed Management in CPI's GLCF framework tracks climate finance directed at protecting and restoring water catchment areas, river basins, and wetlands that regulate water supply and provide natural flood control. CPI captures investment in watershed reforestation, wetland conservation and restoration, natural flood management, payment for watershed services programs, and integrated water resource management (IWRM) that incorporates climate change projections into basin-level planning. This represents a nature-based solutions approach to water sector climate finance.

Subsectors & Examples

- **Watershed Reforestation** — riparian buffer zones, headwater reforestation, paramo restoration
- **Wetland Conservation** — protection and restoration of wetlands for flood regulation
- **Payment for Watershed Services** — PES programs linking downstream users to upstream stewardship
- **Integrated Water Resource Management** — basin-level climate adaptation planning
- **Natural Flood Management** — floodplain restoration, permeable surfaces, natural water retention

Mitigation & Adaptation Classification

Watershed management is classified as **dual-benefit** in CPI's framework. Adaptation benefits are primary: watershed protection maintains water supply, reduces flood risk, and improves resilience to changing precipitation patterns. Mitigation co-benefits come from carbon sequestration in restored forests and wetlands, and avoided emissions from preventing degradation of organic-rich wetland soils.

LATAM Relevance

Watershed management is critically important for Latin America where water supply, agriculture, and hydropower depend on intact Andean and tropical ecosystems. Colombia's paramo ecosystems provide water to major cities and are being targeted through PES programs by water utilities in Bogota, Medellin, and Cali. Peru's pre-Inca water infrastructure (amunas) and modern watershed management are being revived for Lima's water security. Costa Rica pioneered payments for ecosystem services in Latin America and has extensive watershed protection programs. The Natural Infrastructure for Water Security (NIWS) concept is gaining traction region-wide.

Cleantech Taxonomy Crosswalk

Maps to Cleantech Taxonomy sector **WW** (Water) for watershed management. Cross-references with **AF** (AFOLU) for reforestation and land use, and **XS** (Cross-Sectoral) for payments for ecosystem services policy frameworks.