Hydrogen & Alternative Fuels

Source Metadata

Field	Value
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sector	Energy Systems
subsector	Hydrogen & Alternative Fuels
mitigation	Y
adaptation	N
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CPI Definition & Scope

Hydrogen and Alternative Fuels in CPI's GLCF 2025 framework tracks investment in the production, distribution, and end-use of green hydrogen and other low-carbon fuels. The 2025 edition added green hydrogen as a specifically tracked energy transition category. CPI captures finance directed at electrolysis plants, hydrogen transport and storage infrastructure, ammonia and synthetic fuel production, and sustainable aviation fuels (SAFs) where they substitute fossil fuels.

Subsectors & Examples

- **Green Hydrogen Production** — alkaline and PEM electrolyzers powered by renewables
- **Blue Hydrogen** — natural gas reforming with carbon capture
- **Hydrogen Infrastructure** — pipelines, compression, liquefaction, refueling stations
- **Green Ammonia** — hydrogen-derived ammonia for shipping fuel and fertilizer
- **Sustainable Aviation Fuels (SAF)** — bio-based and power-to-liquid jet fuels
- **Synthetic Fuels** — e-methanol, e-methane, Fischer-Tropsch fuels

Mitigation & Adaptation Classification

Hydrogen and alternative fuels are classified as **mitigation** in CPI's framework. These technologies provide decarbonization pathways for hard-to-electrify sectors including heavy industry, long-haul transport, and high-temperature industrial heat. They represent enabling infrastructure for deep decarbonization beyond direct electrification.

LATAM Relevance

Latin America is positioning itself as a global green hydrogen hub. Colombia's national hydrogen roadmap targets production in La Guajira leveraging cheap wind power. Chile leads the region with its National Green Hydrogen Strategy and is attracting international investment for export-oriented hydrogen projects. Peru has significant potential for green hydrogen production from its solar and wind resources. Costa Rica is exploring hydrogen for decarbonizing its transport sector beyond passenger vehicles.

Cleantech Taxonomy Crosswalk

Maps to Cleantech Taxonomy sector **ES** (Energy Systems) for hydrogen production and infrastructure. Cross-references with **TR** (Transport) for hydrogen fuel cell vehicles and SAF, **IN** (Industry) for industrial hydrogen use, and **AF** (AFOLU) for biofuel feedstocks.

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