

Guatemala — Taxonomy Node Mapping

country	Guatemala
mapping_type	taxonomy_node_mapping
schema_version	1.1

Node Mapping Summary

Guatemala's taxonomy node mapping reflects its diverse EUDR exposure (coffee, cacao, wood, rubber), its unique community forest concession model in Petén, strong geothermal energy potential, and highland agricultural adaptation needs. AFOLU nodes for coffee and forestry are tagged Y. Geothermal and solar energy nodes are tagged Y. NbS/bioeconomy extension nodes related to the Maya forest are tagged Y. Community forest governance creates a distinct node relevance pattern not seen in the other two countries.

AFOLU Nodes

Node ID	Label	latam_guatemala	Rationale
CT-AF-001	Land & Soil	Y	Highland coffee soil management; Petén land restoration after slash-and-burn
CT-AF-002	Forests & Woodlands	Y	Maya Biosphere Reserve — one of Mesoamerica's largest forests; community concessions
CT-AF-003	Oceans & Water	partial	Motagua and Polochic river basin management; Pacific coast fisheries
CT-AF-004	Ice & Snow	N	No relevance — tropical country
CT-AF-005	Air & Atmosphere	partial	Guatemala City air quality; volcanic emissions monitoring
CT-AF-006	Smart Farming	Y	Precision agriculture for highland coffee and cacao; cardamom production data
CT-AF-007	Livestock & Fisheries	partial	Petén cattle ranching contributes to deforestation; not a major EUDR exposure
CT-AF-008	Crops	Y	Coffee, cacao, cardamom — major export crops with climate vulnerability
CT-AF-009	Alternative Meat & Seafood	N	No market presence

CT-AF-010	Alternative Dairy & Egg	N	No market presence
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Energy Nodes

Node ID	Label	latam_guatemala	Rationale
CT-EN-001	Critical Minerals	partial	Nickel (Izabal), some metallic mineral reserves; controversial mining sector
CT-EN-002	Hydrogen	N	No hydrogen development programs
CT-EN-003	Nuclear	N	No nuclear program
CT-EN-004	Bio & Synthetic Fuels	partial	Sugarcane ethanol and palm oil biodiesel; controversial social impacts
CT-EN-005	Fossil Fuels (Transition)	partial	Oil production in Petén; transition planning needed
CT-EN-006	Solar	Y	Good irradiance across Pacific slope; rural off-grid solar for remote communities
CT-EN-007	Wind	partial	San Marcos wind corridor; 2 operating wind farms
CT-EN-008	Geothermal	Y	Strongest geothermal potential in Central America after Costa Rica; Zunil, Amatitlán
CT-EN-009	Biomass	Y	Sugarcane bagasse, coffee husk, and palm waste; significant installed capacity
CT-EN-010	Hydro Tidal & Wave	partial	Hydropower significant (~30% of generation); Chixoy dam; social controversy
CT-EN-011	Batteries	N	No battery production or significant storage deployment
CT-EN-012	Alternative Storage	N	No alternative storage projects
CT-EN-013	Grids	partial	SIEPAC interconnection; grid modernization for renewable integration
CT-EN-014	EV Charging	N	Minimal EV adoption
CT-EN-015	Peer-to-Peer Energy	N	No regulatory framework

Climate Intelligence & Carbon Nodes

Node ID	Label	latam_guatemala	Rationale
CT-IC-001	IoT & Earth Observation	Y	CONAP Petén monitoring; satellite deforestation detection for Maya Biosphere Reserve

CT-IC-002	Climate Data	Y	INSIVUMEH climate/volcanic monitoring; drought early warning for Dry Corridor
CT-IC-003	Climate Finance	Y	Largest Central American capital market; CABEL green bond access; REDD+ finance
CT-IC-004	Climate Risk	Y	Hurricane, drought (Corredor Seco), volcanic, and seismic risk — extremely high vulnerability
CT-IC-005	Climate Insurance	partial	CCRIF SPC parametric insurance; agricultural index insurance pilots
CT-XS-001	Carbon Capture & Storage	N	No CCS activity
CT-XS-002	B2B Carbon Offsets	Y	Maya Biosphere Reserve REDD+ projects; active carbon credit generation
CT-XS-003	B2C Carbon Offsets	partial	Tourism-linked offsets; limited scale
CT-XS-004	Carbon Intelligence	partial	Limited national carbon registry; REDD+ reporting systems
CT-XS-005	Carbon Accounting	partial	National GHG inventory; community forest carbon accounting for REDD+

Waste, Built Environment & Transport Nodes

Node ID	Label	latam_guatemala	Rationale
CT-WA-001	Waste to Energy	partial	Guatemala City landfill methane; sugarcane waste cogeneration
CT-WA-002	Sustainable Materials	partial	Timber from community concessions (FSC-certified); bamboo potential
CT-WA-003 to CT-WA-005	Waste (remaining)	partial	Municipal waste challenges in Guatemala City; coffee processing waste
CT-BU-001 to CT-BU-005	Built Environment (all)	partial	Guatemala City green building emerging; seismic resilience technology overlap
CT-TR-001 to CT-TR-005	Transport (all)	partial	Transmetro BRT expansion; limited cleantech transport startup activity

Extension Nodes

Node ID	Label	latam_guatemala	Rationale
CT-EX-001	Drought-resistant crop varieties	Y	Corredor Seco drought affecting staple crops and coffee; critical food security

CT-EX-002	Flood resilience (nature-based)	Y	Hurricane and tropical storm flooding; Polochic/Motagua basins
CT-EX-003	Heat adaptation for agriculture	Y	Coffee rust at lower elevations; heat stress in Corredor Seco
CT-EX-004	Early warning systems	Y	Volcanic, seismic, hurricane, and drought early warning critical
CT-EX-005	Community-led reforestation	Y	Maya Biosphere community concession model — global best practice
CT-EX-006	Mangrove restoration	partial	Pacific coast mangroves; smaller scale than Caribbean nations
CT-EX-007	Silvopastoral systems	Y	Petén cattle ranching — silvopastoral as deforestation alternative
CT-EX-008	Bioeconomy: NTFPs	Y	Petén community concessions: xate palm, chicle, allspice — globally significant
CT-EX-009	PES platforms	Y	REDD+ payments for Maya Biosphere conservation; PINPEP incentive program
CT-EX-010	Solar home systems	Y	Rural electrification gaps in Alta Verapaz, Petén, and western highlands
CT-EX-011	Community biodigesters	partial	Highland livestock communities; limited scale
CT-EX-014	Remote sensing deforestation monitoring	Y	Petén deforestation monitoring; CONAP surveillance; fire detection
CT-EX-015	AI-powered carbon MRV	Y	Maya Biosphere REDD+ MRV requirements; community concession verification
CT-EX-016	Supply chain traceability	Y	Coffee, cacao, and timber traceability for EUDR and voluntary markets
CT-EX-017	Precision agriculture platforms	Y	Highland coffee, cacao, and cardamom farm management
CT-EX-018	Deforestation-free certification	Y	EUDR compliance for coffee and cacao; FSC for community timber
CT-EX-019	Supply chain due diligence	Y	EUDR operator obligations for Guatemalan exporters
CT-EX-020	Smallholder EUDR assistance	Y	Highland coffee smallholders need EUDR compliance support
CT-EX-021	EUDR operator documentation	Y	Documentation for coffee, cacao, and timber operators
CT-EX-022	Cacao geolocation	Y	Alta Verapaz cacao plot mapping
CT-EX-023	Cacao agroforestry monitoring	Y	Cacao under forest canopy in Alta Verapaz

CT-EX-032	Cross-commodity landscape compliance	Y	Multi-commodity landscapes in Petén and Alta Verapaz
CT-EX-038	Timber legality verification	Y	Community concession timber legality — FSC-certified operations in Petén
CT-EX-039	Community forest management	Y	ACOFOP community concessions — global best practice for forest governance
CT-EX-040	Smallholder group certification	Y	Highland coffee cooperatives; community forestry group certification

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