

ICT & Digitalization

OT-IC-xxx nodes

- [5.01 — IoT & Earth Observation](#)
- [5.02 — Climate Data](#)
- [5.03 — Climate Finance](#)
- [5.04 — Climate Risk](#)
- [5.05 — Climate Insurance](#)
- [CT-IC-001 — Satellite Deforestation Monitoring](#)
- [CT-IC-002 — AI-powered MRV & Carbon Measurement](#)
- [CT-IC-003 — Supply Chain Traceability \(EUDR\)](#)
- [CT-IC-004 — Climate Data Platforms & APIs](#)
- [CT-IC-005 — Precision Agriculture Data](#)
- [CT-IC-006 — Smart Grid & IoT for Energy](#)

5.01 — IoT & Earth Observation

origo_id	5.01
origo_label	IoT & Earth Observation
sector	IC
source	HoloniQ v2.1
gap_type	
latam_relevant	Y
cpi_aligned	TBD — Phase 1
eu_taxonomy_aligned	TBD — Phase 1
cbi_eligible	TBD — Phase 1
eudr_coffee	Y
eudr_cacao	N
eudr_relevant	Y
eudr_article9_field	geolocation
eudr_evidence_type	satellite_verification
col_gf_sector	ict
col_gf_activity	Digital solutions for emissions reduction
col_gf_aligned	partial
col_ndc2030_aligned	TBD — Phase 2
latam_colombia	Y
cr_gf_aligned	Y
cth_data_coverage	TBD — Phase 4
schema_version	1.0
last_updated	2026-05-26

Description

[To be populated — description of what this taxonomy node covers and its relevance to LATAM climate innovation and EUDR compliance.]

EUDR Compliance Relevance

[To be populated during Phase 3 — how data in this category supports Article 9 due diligence.]

Colombia Context

[To be populated during Phase 4 — Colombia-specific regulatory alignment, CTH field presence, market conditions.]

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{
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5.02 — Climate Data

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origo_label	Climate Data
sector	IC
source	HoloniQ v2.1
gap_type	
latam_relevant	Y
cpi_aligned	TBD — Phase 1
eu_taxonomy_aligned	TBD — Phase 1
cbi_eligible	TBD — Phase 1
eudr_coffee	Y
eudr_cacao	N
eudr_relevant	partial
eudr_article9_field	deforestation_risk_assessment
eudr_evidence_type	satellite_verification
col_gf_sector	none
col_gf_activity	
col_gf_aligned	N
col_ndc2030_aligned	TBD — Phase 2
latam_colombia	Y
cr_gf_aligned	N
cth_data_coverage	TBD — Phase 4
schema_version	1.0
last_updated	2026-05-26

Description

[To be populated — description of what this taxonomy node covers and its relevance to LATAM climate innovation and EUDR compliance.]

EUDR Compliance Relevance

[To be populated during Phase 3 — how data in this category supports Article 9 due diligence.]

Colombia Context

[To be populated during Phase 4 — Colombia-specific regulatory alignment, CTH field presence, market conditions.]

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  "eudr_relevant": "partial",
  "eudr_article9_field": "deforestation_risk_assessment",
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  "cr_gf_aligned": "N",
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5.03 — Climate Finance

origo_id	5.03
origo_label	Climate Finance
sector	IC
source	HoloniQ v2.1
gap_type	
latam_relevant	Y
cpi_aligned	TBD — Phase 1
eu_taxonomy_aligned	TBD — Phase 1
cbi_eligible	TBD — Phase 1
eudr_coffee	N
eudr_cacao	N
eudr_relevant	N
eudr_article9_field	none
eudr_evidence_type	none
col_gf_sector	none
col_gf_activity	
col_gf_aligned	partial
col_ndc2030_aligned	TBD — Phase 2
latam_colombia	Y
cr_gf_aligned	Y
cth_data_coverage	TBD — Phase 4
schema_version	1.0
last_updated	2026-05-26

Description

[To be populated — description of what this taxonomy node covers and its relevance to LATAM climate innovation and EUDR compliance.]

EUDR Compliance Relevance

[To be populated during Phase 3 — how data in this category supports Article 9 due diligence.]

Colombia Context

[To be populated during Phase 4 — Colombia-specific regulatory alignment, CTH field presence, market conditions.]

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  "latam_colombia": "Y",
  "cr_gf_aligned": "Y",
  "schema_version": "1.0",
  "last_updated": "2026-05-26"
}
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5.04 — Climate Risk

origo_id	5.04
origo_label	Climate Risk
sector	IC
source	HoloniQ v2.1
gap_type	
latam_relevant	Y
cpi_aligned	TBD — Phase 1
eu_taxonomy_aligned	TBD — Phase 1
cbi_eligible	TBD — Phase 1
eudr_coffee	N
eudr_cacao	N
eudr_relevant	N
eudr_article9_field	none
eudr_evidence_type	none
col_gf_sector	none
col_gf_activity	
col_gf_aligned	N
col_ndc2030_aligned	TBD — Phase 2
latam_colombia	Y
cr_gf_aligned	N
cth_data_coverage	TBD — Phase 4
schema_version	1.0
last_updated	2026-05-26

Description

[To be populated — description of what this taxonomy node covers and its relevance to LATAM climate innovation and EUDR compliance.]

EUDR Compliance Relevance

[To be populated during Phase 3 — how data in this category supports Article 9 due diligence.]

Colombia Context

[To be populated during Phase 4 — Colombia-specific regulatory alignment, CTH field presence, market conditions.]

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{
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  "origo_label": "Climate Risk",
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  "cr_gf_aligned": "N",
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5.05 — Climate Insurance

origo_id	5.05
origo_label	Climate Insurance
sector	IC
source	HoloniQ v2.1
gap_type	
latam_relevant	Y
cpi_aligned	TBD — Phase 1
eu_taxonomy_aligned	TBD — Phase 1
cbi_eligible	TBD — Phase 1
eudr_coffee	N
eudr_cacao	N
eudr_relevant	N
eudr_article9_field	none
eudr_evidence_type	none
col_gf_sector	none
col_gf_activity	
col_gf_aligned	N
col_ndc2030_aligned	TBD — Phase 2
latam_colombia	Y
cr_gf_aligned	N
cth_data_coverage	TBD — Phase 4
schema_version	1.0
last_updated	2026-05-26

Description

[To be populated — description of what this taxonomy node covers and its relevance to LATAM climate innovation and EUDR compliance.]

EUDR Compliance Relevance

[To be populated during Phase 3 — how data in this category supports Article 9 due diligence.]

Colombia Context

[To be populated during Phase 4 — Colombia-specific regulatory alignment, CTH field presence, market conditions.]

```
{
  "origo_id": "5.05",
  "origo_label": "Climate Insurance",
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  "cr_gf_aligned": "N",
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CT-IC-001 — Satellite Deforestation Monitoring

origo_id	CT-IC-001
origo_label	Satellite Deforestation Monitoring
sector	IC
source	origo
cpi_aligned	partial — CPI GLCF covers digital MRV under cross-cutting tech
eu_taxonomy_aligned	partial
cbi_eligible	N
iea_aligned	N — not energy-technology specific
col_gf_sector	ict
col_gf_activity	Soluciones digitales para reducción de emisiones
col_gf_aligned	partial
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	Y
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

Satellite-based Earth observation and remote sensing systems used for monitoring deforestation, land-use change, and forest degradation. Combines optical and radar imagery (Sentinel, Landsat, Planet) with ML classification algorithms to detect forest cover loss at high temporal and spatial resolution.

Colombia Context

Colombia operates the SMBYC (Sistema de Monitoreo de Bosques y Carbono) under IDEAM, which provides quarterly deforestation alerts for the entire national territory. The Amazon region accounts for over 60% of national deforestation, making satellite monitoring a critical policy input. MinAmbiente uses SMBYC data to prioritize enforcement actions under Ley 2169 de 2021 (Acción Climática). The system integrates with SISCLIMA for national climate reporting and NDC verification.

EUDR Relevance

Directly relevant to EUDR Article 9 due-diligence requirements. European importers of Colombian coffee, cacao, palm oil, and cattle products must demonstrate their supply chains are deforestation-free using geolocation data and satellite verification. SMBYC/IDEAM data serves as a national-level reference dataset for EUDR compliance, though operator-level verification typically requires higher-resolution commercial imagery.

CTH Data Coverage

High CTH data coverage. The Origo EUDR platform (data.cleantechhub.net) ingests deforestation alerts and provides commodity-specific risk scores. CLP cohort startups in precision agriculture and MRV rely on satellite monitoring outputs. REIN Hub includes satellite-derived datasets for climate risk assessment.

Green Finance Alignment

Partial alignment with Colombia's Taxonomia Verde Colombiana (TVC) under ICT sector. Not directly eligible for CBI certification as a standalone technology, but satellite monitoring is a critical enabler for verifying green bond project claims. EU Taxonomy recognizes digital solutions for emissions monitoring as a substantial contribution activity.

```
{
  "origo_id": "CT-IC-001",
  "origo_label": "Satellite Deforestation Monitoring",
  "sector": "IC",
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    "eu_taxonomy_aligned": "partial",
    "cbi_eligible": "N",
    "iea_aligned": "N – not energy-technology specific"
  },
  "colombia": {
    "col_gf_sector": "ict",
    "col_gf_activity": "Soluciones digitales para reducción de emisiones",
    "col_gf_aligned": "partial",
    "col_ndc2030_aligned": "Y",
    "col_sisclima_relevant": "Y",
    "col_ley2169": "Y"
  },
  "cth": {
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    "data_coverage": "Y"
  }
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CT-IC-002 — AI-powered MRV & Carbon Measurement

origo_id	CT-IC-002
origo_label	AI-powered MRV & Carbon Measurement
sector	IC
source	origo
cpi_aligned	Y — CPI GLCF includes digital MRV as climate finance enabler
eu_taxonomy_aligned	partial
cbi_eligible	N
iea_aligned	N — cross-cutting digital, not energy-specific
col_gf_sector	ict
col_gf_activity	Medición, reporte y verificación de emisiones
col_gf_aligned	Y
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	Y
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

AI and machine learning systems for Measurement, Reporting, and Verification (MRV) of greenhouse gas emissions, carbon sequestration, and climate project outcomes. Includes automated emissions estimation models, satellite-derived carbon stock measurement, and digital verification platforms for carbon credits.

Colombia Context

Colombia's SISCLIMA (Sistema Nacional de Cambio Climatico) requires robust MRV infrastructure for NDC tracking. IDEAM manages the national GHG inventory (INGEI) which feeds into biennial transparency reports under the Paris Agreement. Ley 2169 de 2021 established carbon neutrality targets that depend on credible MRV. MinAmbiente is piloting digital MRV tools for REDD+ projects in Choco and Amazonia. The Programa Nacional de Cupos Transables de Emisión (carbon market) requires third-party verification that AI-MRV can streamline.

EUDR Relevance

AI-powered MRV supports EUDR compliance by automating the verification of deforestation-free claims across supply chains. Machine learning models can cross-reference geolocation data with satellite imagery to generate compliance evidence at scale, reducing the cost of due-diligence for smallholder-sourced commodities.

CTH Data Coverage

Strong CTH coverage. Sustentia diagnostic platform incorporates emissions measurement modules. CLP cohort includes MRV and carbon-tech startups. The Origo platform tracks AI-MRV tools as part of the ICT sector digitalization layer.

Green Finance Alignment

Aligned with Colombia's TVC under ICT for emissions reduction. CPI GLCF recognizes digital MRV as a climate finance enabler. EU Taxonomy considers digital monitoring as a substantial contribution to climate mitigation when applied to eligible activities. Critical infrastructure for carbon credit markets and green bond verification.

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{
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  "source": "origo",
  "schema_version": "1.1",
  "last_updated": "2026-05-27",
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    "eu_taxonomy_aligned": "partial",
    "cbi_eligible": "N",
    "iea_aligned": "N – cross-cutting digital, not energy-specific"
  },
  "colombia": {
    "col_gf_sector": "ict",
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    "col_ndc2030_aligned": "Y",
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}
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CT-IC-003 — Supply Chain Traceability (EUDR)

origo_id	CT-IC-003
origo_label	Supply Chain Traceability (EUDR)
sector	IC
source	origo
cpi_aligned	partial — CPI covers digital supply chain tools indirectly
eu_taxonomy_aligned	partial
cbi_eligible	N
iea_aligned	N
col_gf_sector	ict
col_gf_activity	Plataformas de trazabilidad de cadenas de suministro
col_gf_aligned	partial
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	partial
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

Digital platforms and systems for end-to-end supply chain traceability of agricultural and forestry commodities. Includes blockchain-based provenance tracking, QR-code farm-to-port systems, and integrated due-diligence platforms that combine geolocation, satellite imagery, and transaction records to verify deforestation-free sourcing.

Colombia Context

Colombia is the world's third-largest coffee producer and a significant exporter of cacao, palm oil, and cattle products — all EUDR-regulated commodities. The Federacion Nacional de Cafeteros (FNC) has developed the SICA (Sistema de Informacion Cafetera) which maps 540,000+ coffee farms. MinAgricultura promotes traceability through the Programa de Agricultura por Contrato. EUDR Article 9 requires operators to collect geolocation of all plots of land and demonstrate due-diligence compliance by December 2025 (large operators) and June 2026

(SMEs).

EUDR Relevance

This is the core EUDR technology node. Supply chain traceability platforms are the primary mechanism through which Colombian exporters and European importers comply with EUDR Article 9. The regulation requires plot-level geolocation, deforestation risk assessment, and chain-of-custody documentation. Coffee, cacao, palm oil, soy, cattle, wood, and rubber are all covered commodities with significant Colombian export volumes.

CTH Data Coverage

Highest CTH data coverage in the ICT sector. The Origo EUDR platform (data.cleantechhub.net) is purpose-built for EUDR commodity traceability. CLP cohort includes multiple traceability startups. Sustentia diagnostics capture supply chain sustainability metrics. REIN Hub aggregates traceability solution providers.

Green Finance Alignment

Partial TVC alignment — traceability is an enabler for green finance eligibility rather than a directly financed activity. CBI does not certify traceability platforms per se, but traceability is a prerequisite for green bond-funded commodity projects. EU Taxonomy recognizes supply chain transparency as a Do No Significant Harm criterion.

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    "cbi_eligible": "N",
    "iea_aligned": "N"
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  "colombia": {
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    "col_gf_activity": "Plataformas de trazabilidad de cadenas de suministro",
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    "col_ndc2030_aligned": "Y",
    "col_sisclima_relevant": "Y",
    "col_ley2169": "partial"
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    "data_coverage": "Y"
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CT-IC-004 — Climate Data Platforms & APIs

origo_id	CT-IC-004
origo_label	Climate Data Platforms & APIs
sector	IC
source	origo
cpi_aligned	partial — CPI covers climate information services
eu_taxonomy_aligned	N
cbi_eligible	N
iea_aligned	N
col_gf_sector	ict
col_gf_activity	Plataformas de datos climaticos y servicios digitales
col_gf_aligned	N
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	partial
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

Open and commercial platforms that aggregate, process, and distribute climate, weather, and environmental data via APIs and dashboards. Includes national hydrometeorological services, climate reanalysis products, and digital infrastructure for climate-informed decision making across sectors.

Colombia Context

IDEAM operates DHIME (Sistema de Informacion Hidrologica y Meteorologica) as the national reference for climate data. MinTIC's Colombia Digital strategy promotes open data portals including datos.gov.co which hosts environmental datasets. SISCLIMA requires climate data integration across sectoral nodes (agriculture, energy, transport). The Tercer Comunicacion Nacional and subsequent NDC updates depend on robust climate data infrastructure. Colombia's vulnerability to El Nino/La Nina cycles makes climate data platforms critical for early warning and adaptation planning.

EUDR Relevance

Indirect EUDR relevance. Climate data platforms support deforestation risk assessment by providing precipitation, temperature, and drought indices that correlate with deforestation drivers. Climate APIs enable automated risk scoring in EUDR due-diligence workflows.

CTH Data Coverage

Strong CTH coverage. The Origo platform itself functions as a climate data API. CLP cohort includes climate data startups. The sovereign-climate-data wiki (wiki.cleantechhub.net) catalogs climate data sources for LATAM. CTH Research platform aggregates climate intelligence for decision support.

Green Finance Alignment

Limited direct green finance alignment. Climate data platforms are enablers rather than financed activities. TVC does not include a specific category for data platforms, though they support eligibility verification for multiple TVC-aligned sectors. CBI uses climate data for certification verification but does not certify data platforms.

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  "origo_label": "Climate Data Platforms & APIs",
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  "source": "origo",
  "schema_version": "1.1",
  "last_updated": "2026-05-27",
  "taxonomy_alignments": {
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    "eu_taxonomy_aligned": "N",
    "cbi_eligible": "N",
    "iea_aligned": "N"
  },
  "colombia": {
    "col_gf_sector": "ict",
    "col_gf_activity": "Plataformas de datos climaticos y servicios digitales",
    "col_gf_aligned": "N",
    "col_ndc2030_aligned": "Y",
    "col_sisclima_relevant": "Y",
    "col_ley2169": "partial"
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  "cth": {
    "clp_coverage": "Y",
    "data_coverage": "Y"
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}
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CT-IC-005 — Precision Agriculture Data

origo_id	CT-IC-005
origo_label	Precision Agriculture Data
sector	IC
source	origo
cpi_aligned	partial — CPI covers climate-smart agriculture technology
eu_taxonomy_aligned	partial
cbi_eligible	N
iea_aligned	N
col_gf_sector	agriculture
col_gf_activity	Agricultura de precision y tecnologia digital agropecuaria
col_gf_aligned	Y
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	Y
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

Digital technologies applied to agricultural production: drone-based crop monitoring, soil sensors, variable-rate application systems, and farm management platforms. Leverages IoT, satellite imagery, and machine learning to optimize input use, reduce emissions, and improve yields while minimizing environmental impact.

Colombia Context

Colombia's coffee sector is the primary adoption vector for precision agriculture. Cenicafe (Centro Nacional de Investigaciones de Cafe) develops climate-smart agronomic practices that precision ag tools help implement at scale. The CLP (Cleantech Launchpad) cohort has included multiple precision agriculture startups targeting coffee, cacao, and fruit value chains. MinAgricultura's Programa de Agricultura de Precision supports adoption among medium-scale producers. Digital agri platforms are growing in the Eje Cafetero and Cauca regions.

EUDR Relevance

Precision agriculture data supports EUDR compliance by providing farm-level productivity evidence that can demonstrate intensification without deforestation. Yield-per-hectare data and input efficiency metrics help validate that production increases come from improved practices rather than land expansion.

CTH Data Coverage

High CTH coverage. CLP cohort priority sector with multiple startups in precision ag. Sustenttia diagnostics include agricultural input efficiency metrics. The Origo platform maps precision ag solutions to EUDR commodity value chains. CTH Research tracks AgTech investment flows in LATAM.

Green Finance Alignment

Aligned with TVC under agriculture sector. EU Taxonomy recognizes precision agriculture as a climate mitigation contributor through reduced fertilizer use and emissions intensity. CBI does not directly certify precision ag tools, but they support verification of climate-smart agriculture projects eligible for green bond financing.

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  "origo_label": "Precision Agriculture Data",
  "sector": "IC",
  "source": "origo",
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    "eu_taxonomy_aligned": "partial",
    "cbi_eligible": "N",
    "iea_aligned": "N"
  },
  "colombia": {
    "col_gf_sector": "agriculture",
    "col_gf_activity": "Agricultura de precision y tecnologia digital agropecuaria",
    "col_gf_aligned": "Y",
    "col_ndc2030_aligned": "Y",
    "col_sisclima_relevant": "Y",
    "col_ley2169": "Y"
  },
  "cth": {
    "clp_coverage": "Y",
    "data_coverage": "Y"
  }
}
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CT-IC-006 — Smart Grid & IoT for Energy

origo_id	CT-IC-006
origo_label	Smart Grid & IoT for Energy
sector	IC
source	origo
cpi_aligned	Y — CPI GLCF covers smart grid and grid modernization
eu_taxonomy_aligned	Y
cbi_eligible	Y
iea_aligned	Y — IEA ETCS covers smart grids and digital energy
col_gf_sector	energy
col_gf_activity	Redes inteligentes y digitalizacion del sector electrico
col_gf_aligned	Y
col_ndc2030_aligned	Y
col_sisclima_relevant	Y
col_ley2169	Y
latam_colombia	Y
cth_clp_coverage	Y
cth_data_coverage	Y
schema_version	1.1
last_updated	2026-05-27

Description

Smart grid infrastructure, advanced metering, demand-response systems, and IoT sensor networks applied to energy generation, distribution, and consumption management. Enables integration of distributed renewable energy, real-time grid balancing, and energy efficiency optimization through digital infrastructure.

Colombia Context

Colombia's electricity system operator XM manages the SIN (Sistema Interconectado Nacional) and provides real-time grid data. CREG (Comision de Regulacion de Energia y Gas) issued Resolucion 40072 on smart metering standards for distributed generation. The energy transition law (Ley 2099 de 2021) promotes grid modernization to accommodate growing FNCER (non-conventional renewable energy) capacity. UPME's expansion plans include significant smart grid investments. IoT for distributed generation is growing with Colombia's autogeneracion and prosumer regulations.

EUDR Relevance

No direct EUDR relevance. Smart grid and energy IoT technologies do not intersect with commodity supply chain traceability or deforestation monitoring.

CTH Data Coverage

Good CTH coverage. CLP cohort includes energy-tech startups working on smart grid solutions. Sustentia tracks energy efficiency metrics. The CTH agents stack monitors energy transition policy developments. REIN Hub maps energy technology providers.

Green Finance Alignment

Strong green finance alignment across all frameworks. TVC energy sector explicitly includes smart grid activities. CBI certifies smart grid investments under its energy criteria. EU Taxonomy includes smart grid infrastructure as a climate mitigation activity. IEA ETCS covers smart grids and digital energy technologies. CPI GLCF tracks smart grid as a core climate finance category.

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