



COUNTRY ASSESSMENT REPORT PERÚ

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Contents

1.1 Country Assessment Report Template.....	3
1.2 Electrical Generation and Demand	3
1.3 Electrical Interconnection and Import/Export	3
1.4 Market Structure.....	4
1.5 Responsible Government Department	6
1.6 Existing/Planned Legislation	7
1.7 Environmental and Renewable Electricity Legislation	7
1.8 Existing/Planned Certificate or Support Systems.....	8
1.9 Extent of Engagement with Government	9
1.10 Expected Response from Government.....	10
1.11 Proposed Restrictions	10
1.12 Any Other Relevant Information	11
1.13 Author	12

1.1 Country Assessment Report Template

Country Name	Perú
Introduction	The purpose of this report is to provide a comprehensive evaluation of Peru's economic, political, social, and commercial context. This analysis aims to deliver essential information for strategic decision-making, identifying opportunities and risks that may impact business development in the country. Peru, located in the western region of South America, is characterized by sustained economic growth, notable cultural diversity, and a strategic geographic position that makes it a relevant actor in international trade. This report presents updated data on the macroeconomic environment, the regulatory framework, market trends, and the sociopolitical factors that influence the Peruvian business climate.

1.2 Electrical Generation and Demand¹

EVIDENT REGISTRY DATA - PERIOD 2025		
Generation	Technology	Capacity (MW)
	Wind	867.310000
	Hydro	3,459.385808
	Fossil/Thermal	-
	Biomass	-
	Solar	292.510000
	Total	4,619.205808
DATA PERU		
Generation	Technology	Volume (GWh)
	Wind	3,915
	Hydro	32,028
	Fossil/Thermal	24,443
	Biomass	-
	Solar	1,263
	Total	61,649
Demand	Sector	Demand (GWh)
	Residential	13,325
	Commercial/Service/Public Sector	10,660
	Transport	2,665
	Industrial	26,650
	Primary Activities	-
	Total	53,300

¹ <https://www.gob.pe/institucion/minem/noticias/1121351-minem-generacion-electrica-eolica-y-solar-aumento-en-66-y-2-respectivamente-durante-el-2024>

1.3 Electrical Interconnection and Import/Export

Connected country	Capacity (MW)	Annual import from country (GWh)	Annual export to country (GWh)
Ecuador	900 MW (estimated capacity)	22 GWh	38 GWh
Additional information	Currently, Peru is developing electric interconnection projects primarily with Ecuador and is in the study phase with Chile and Bolivia, as part of the regional strategy for energy integration. Future connections with Brazil are also being evaluated within the framework of bilateral agreements.		

1.4 Market Structure

Structure of the National Electricity Market

The Peruvian electricity market is regulated by the Electricity Concessions Law (1992) and is organized into four main activities:

Generation

- In 2024, Peru's energy production reached 60,029 GWh, an increase of 3% compared to the previous year. Of this total, solar and wind energy accounted for 2% and 6.5%, respectively.
- Currently, 9 connected wind farms are in operation, which generated 3,914 GWh in 2024.
- Competitive activity: private companies participate in free market competition.
- Centralized economic dispatch operated by COES (Economic Operation Committee of the System).
- There are currently 64 generation companies operating within the SEIN (National Interconnected Electrical System).
- In 2025, 30 isolated systems supplied by 38 plants (thermal, hydro, and solar) were identified, operating mainly in the Amazon region. These systems experienced frequent interruptions due to failures, particularly in the Loreto area, and maintain critical generation levels, with reserve margins falling as low as 5.4% of maximum demand.

Transmission

- Regulated activity due to its nature as a natural monopoly.
- More than 22 companies operate 29,662 km of transmission lines. Main operators include Red de Energía del Perú, Consorcio Transmantaro, and ISA Perú.

Distribution

- Also a regulated activity.
- Five companies account for 58.7% of the market.

Commercialization

- Competitive activity for free customers (>200 kW).
- Regulated users (households and small businesses) pay tariffs set by OSINERGMIN.

Level of Liberalization and Commercialization Mechanisms

The market is partially liberalized, with significant state participation in price setting. Commercialization is carried out primarily through regulated bilateral contracts and an incipient wholesale market. Prices for end consumers are subject to regulated tariffs, while generators freely negotiate in the wholesale market.

I. Wholesale Market:

Peru's wholesale electricity market operates under a centralized dispatch scheme with a marginal/spot price for energy and specific mechanisms for capacity/power. Commercialization combines bilateral contracts—both regulated contracts to supply regulated distribution demand and free contracts with large customers—and short-term market transactions. COES (Economic Operation Committee of the System) coordinates the system, while OSINERGMIN regulates tariffs, methodologies, and compliance. MINEM defines sector policies and carries out expansion planning.

a) Participants and Market Access

Generators, distributors (regulated market), free customers (non-regulated demand), and marketers—where applicable—participate in the market. The entry of new generators requires concessions/licenses and compliance with technical standards. Free customers may contract energy directly with generators or marketers above the demand and capacity thresholds established by regulation.

Price Formation and Contracts

The spot price is determined based on economic merit order dispatch, considering variable costs and system constraints. Capacity (or firm capacity) is remunerated through regulated schemes to ensure adequacy. Regulated demand is supplied through auctions for regulated contracts promoted by the regulator or the State, with prices resulting from competition for medium- and long-term supply. Free customers negotiate bilateral contracts with commercial terms (tenor, indexation to fuel prices or CPI, flexibility clauses, and guarantees). Short-term market settlements address imbalances between contracted amounts and actual production/consumption.

b) Transparency and Oversight

COES publishes spot prices, dispatch results, outages, generation by technology, and operational reports. OSINERGMIN publishes tariff methodologies, results of regulated auctions, and market statistics. Transparency is high for operational variables, although some details of bilateral contracts remain confidential.

Competition and Market Concentration

The market has multiple generating agents (hydro, natural gas, diesel, solar, wind) and a growing base of free customers. However, concentration can be observed in certain nodes or technologies (e.g., natural gas on the coast, hydropower in specific river basins). Market power risks are monitored during periods of critical hydrology, congestion, or maintenance events.

c) Ancillary Services and Reliability

Rules exist for operating reserves and ancillary services under COES coordination. Firm capacity operates as an investment signal and a reliability safeguard. Penalties for non-compliance and guarantee schemes are applied to mitigate credit and payment risks in market settlements.

Integration and Transition

Peru maintains interconnections with neighboring countries, with limited and evolving exchanges. The integration of renewable energy (wind/solar) is being promoted, and improvements are being evaluated to strengthen flexibility signals (ramps, reserves) and modernize intraday markets as renewable penetration grows. Natural gas remains a key driver of marginal costs, while hydrology introduces volatility into spot prices.

Key Risks

Dependence on hydrology and natural gas for marginal costs; potential transmission bottlenecks that create price separations; exposure to fuel indices and exchange rates in contracts; and default risks mitigated through guarantees and credit-risk management practices.

II. Retail Market:

The retail electricity market in Peru is composed primarily of regulated customers served by distribution companies under tariffs set by Supervisory Agency for Investment in Energy and Mining - OSINERGMIN. These tariffs include generation, transmission, and distribution components, with adjustments for inflation and fuel costs.

Free customers with demand above 200 kW may contract directly with generators or marketers through bilateral agreements. Competition in the regulated distribution segment is nonexistent, as distribution companies operate under exclusive concessions; however, there is a segment of users (between 200 kW and 2,500 kW) who may choose their supply condition in order to access market-based prices.

Supervisory Agency for Investment in Energy and Mining - OSINERGMIN oversees service quality and publishes tariffs on its website. Mechanisms to expand retail competition and facilitate the integration of renewable energy and smart metering are currently under evaluation.

Bilateral Contracts (PPAs):

These types of contracts reduce exposure to the spot market and provide price stability.

Types in Peru

- **Regulated contracts:** Awarded through auctions organized by OSINERGMIN to supply regulated demand (distribution companies).
- **Free contracts:** Negotiated directly between generators and free customers (demand $\geq$ 200 kW).

Terms and Conditions

- Regulated contracts: long-term (5–15 years), awarded through public bidding and subject to indexation mechanisms established in the regulation (fuel prices, CPI, and exchange rate).
- Free contracts: commercially negotiated terms (indexation to fuel prices, CPI, and exchange rate).
- Guarantees and penalties for non-compliance apply in both cases.

Regulatory Framework

- Law No. 28832 – Law to Ensure the Efficient Development of Electricity Generation.
- Legislative Decree No. 25844 – Electricity Concessions Law.
- Wholesale Market Regulation (Supreme Decree No. 026-2016-EM).
- Free Users Regulation (Supreme Decree No. 022-2009-EM).

Types of Generation and Market Share²

In 2024, national electricity generation totaled 60,728 GWh: Hydropower: 51.8%, Thermal: 40.1%, Wind: 5.9%, Solar: 2.2%

Main generation companies:

- Kallpa (19.4%), Orygen Perú (14.5%), ENGIE (13.7%), Electroperú (8.7%)

Renewable Certificates Market (I-REC and Others)

I-REC (International Renewable Energy Certificates):

- Each certificate represents 1 MWh generated from renewable sources.
- Enables companies to demonstrate clean-energy consumption and comply with standards such as RE100, CDP, and GHGP.
- Operates with traceability, unique registration, and cancellation mechanisms to prevent double counting.

Other Mechanisms:

- Clean Energy Certificates (CELs) for free customers: these certificates are issued by the Energy Regulatory Commission (CRE) and certify the generation of 1 MWh of clean electricity, supporting compliance with consumption requirements for Load Centers.
- Green PPAs to secure renewable supply: these are bilateral contracts that guarantee the clean origin of energy through contractual traceability permitted under Law No. 28832 – “Ley para asegurar el desarrollo eficiente de la Generación Eléctrica”

In conclusion, Peru has a partially liberalized electricity market, characterized by a high share of hydropower and a growing contribution from renewable sources. The renewable attribute market (I-REC) offers opportunities for companies seeking sustainability and compliance with global standards.

² <https://kpmg.com/pe/es/home/media/press-releases/2025/03/expectativas-de-la-generacion-electrica-en-el-peru.html>

1.5 Responsible Government Department

Institutional Framework

The institutional framework of the Peruvian electricity sector is composed of ministries, regulatory bodies, and private entities involved in the certification of environmental attributes:

- **Ministry of Energy and Mines (MINEM):** Responsible for national energy policy, development of the electricity subsector, and promotion of renewable energy. It includes the Vice-Ministry of Electricity, the General Directorate of Electricity (DGE), and the General Directorate of Energy Efficiency (DGEE).
- **OSINERGMIN (Supervisory Agency for Investment in Energy and Mining):** An independent regulator overseeing the electricity and gas markets. It establishes tariffs, supervises quality and safety, and ensures regulatory compliance.
- **COES (Committee for the Economic Operation of the National Interconnected System):** Operator of the national power system, responsible for economic dispatch and the operation of the wholesale market.
- **Ministry of the Environment (MINAM):** Responsible for environmental policy, climate-change mitigation, and sustainability standards in energy projects.

Roles and Responsibilities

MINEM designs policies and grants concessions; OSINERGMIN regulates tariffs and oversees compliance; COES operates the system and manages the market; and MINAM ensures environmental standards and climate commitments.

1.6 Existing/Planned Legislation

Electricity Concessions Law (Decree Law No. 25844, 1992)

- **Purpose:** Organizes the electricity market by separating generation, transmission, distribution, and commercialization activities.
- **Impact on attributes:** Does not reference environmental certificates, but establishes the foundational market structure in which such attributes are generated.

Law No. 28832 – Efficient Development of Electricity Generation

- **Purpose:** Ensures efficiency and competition within the electricity market.
- **Impact:** Does not explicitly regulate certificates but promotes competition and contractual frameworks that may include renewable energy supply.

Legislative Decree No. 1002 – Promotion of Renewable Energy (RER)

- **Purpose:** Incentivizes Renewable Energy Projects (wind, solar, biomass, and small hydropower).
- **Impact:** Indirectly supports renewable generation that produces environmental attributes such as I-RECs.

General Environmental Law (Law No. 28611)

- **Purpose:** Establishes sustainability principles and emission-mitigation guidelines.
- **Impact:** Strengthens environmental reporting and traceability but does not regulate voluntary certificates.

National Policies

- **National Energy Policy to 2050**
 - **Objectives:** Increase renewable energy penetration, integrate storage technologies, and reduce GHG emissions.
 - **Impact:** Creates the conditions for greater demand for environmental certificates.

Environmental Attribute Systems

- **I-REC (International Renewable Energy Certificate):**
 - **Nature:** Voluntary system with no direct state regulation.
 - **Compliance:** Aligned with international standards (RE100, CDP, GHGP).
 - **Government role:** MINEM and MINAM provide indirect support through policies promoting renewable energy and sustainability.

1.7 Environmental and Renewable Electricity Legislation

Main Environmental and Energy Laws and Regulations

General Environmental Law (Law No. 28611)

- Establishes principles of sustainability, prevention, and environmental responsibility.
- Serves as the foundation for all environmental and energy policies.

Framework Law on Climate Change (Law No. 30754) and its Regulation (Supreme Decree No. 013-2019-MINAM)

- Defines principles and provisions for climate change mitigation and adaptation.
- Requires integration of climate measures into national and sectoral plans.
- International commitments: aligned with the Paris Agreement and the Nationally Determined Contributions (NDCs).

Framework Law of the National Environmental Management System (Law No. 28245)

- Organizes environmental management at all levels of government.
- Links energy policies with environmental objectives.

Legislative Decree No. 1002 and Supreme Decree No. 012-2011-EM

- Promotion of Renewable Energy Resources (RER): wind, solar, biomass, and small hydro.
- Establishes RER auctions to secure long-term contracts.

National Targets and Key Policies

Participation of non-conventional renewables (RER):

Goal: **20% of the electricity matrix by 2030** (currently ~8%).

Greenhouse Gas (GHG) Emission Reduction:

- 40% by 2030 (conditional on international financing).
- Carbon neutrality by 2050 (National Climate Change Strategy).

National Energy Policy to 2050:

- Integration of energy storage, smart grids, and transportation electrification.

Relation to Environmental Certificates (I-REC)

Current Legal Framework:

- No specific regulation enabling or restricting the use of I-REC certificates.
- The I-REC system operates as a voluntary, internationally recognized mechanism with accredited private issuers.

Indirect Support:

- Regulations promoting renewables (D.L. 1002, RER auctions) help provide the basis for certificate issuance.

Current Status of Peruvian Regulation:

- Lack of provisions on official recognition or mandatory disclosure of renewable electricity use.
- No policies require mandatory verification, although companies use them for ESG reporting and compliance with global standards.

Legislation Under Development

- **Reform of Law No. 28832 (Law No. 32249, 2025):**
 - Introduces hourly blocks, complementary services, and storage.
 - Impact: greater renewable integration, increasing potential for certificates.
- **Ministerial Decree No. 214-2025-MINEM/DM:**
 - Updates terms of reference for environmental studies in solar and wind projects, reducing regulatory uncertainty.
- **Ecological Transition Bill:**
 - Aims at decarbonization and diversification of the energy matrix.

1.8 Existing/Planned Certificate or Support Systems

Programs and Support Schemes for Renewable Energy

RER Auctions (Renewable Energy Resources):

- Based on Legislative Decree No. 1002 (2008) and its regulation (Supreme Decree No. 012-2011-EM).
- Convened by OSINERGMIN to award 20-year renewable power supply contracts.
- Technologies: wind, solar, biomass, small hydro.
- Benefits: fixed tariff, legal certainty, and an RER premium to compensate for low market prices.

Impact on attributes:

- The auctions drive renewable generation, which is a necessary condition for issuing environmental certificates such as I-REC.

Key Energy and Environmental Regulations

- **General Environmental Law (Law No. 28611):**
Principles of sustainability and emissions mitigation.
- **Framework Law on Climate Change (Law No. 30754):**
Establishes obligations to reduce GHG emissions and comply with NDCs (Paris Agreement).
- **Legislative Decree No. 1002:**
Promotion of renewable energy through incentives and auctions.
- **National Environmental Policy (Supreme Decree No. 023-2021-MINAM):**
Defines guidelines for sustainability and the energy transition.

1.9 Extent of Engagement with Government

Types of Engagement and Timeline

- **2024–2025 – Workshops and Technical Sessions**
 - Coordination with **MINEM** and **OSINERGMIN** to explain the international I-REC standard and its compatibility with national policies.
 - Official presentations on the I-REC system in MINEM communication platforms.
- **2023–2024 – Correspondence and Engagements**
 - Generation companies
 - Colca Solar
 - Orygen Peru SAA
 - Kallpa Generacion S.A.
 - Inland Energy S.A.C
 - Engie Energía Perú S.A.A
 - Empresa de Generacion Electrica Machupicchu S.A.
 - Compania Electrica El Platanal S.A.
 - La Virgen S.A.C
 - EMP. DE GENERACION ELECTRICA AREQUIPA S. A
 - Energia Eolica S.A.
 - Huaura Power Group S.A.
 - Tacna Solar S.A.C.
 - Empresa de Generacion Electrica de Junin S.A.C.

These companies initiated I-REC certification processes with AENOR Peru, which involved regulatory consultations with national authorities.

Nature of the Engagement

- **Meetings and Workshops:**
 - Public–private dialogue spaces to explain the benefits of the I-REC system and its alignment with the country’s climate and energy goals.
- **Participation in National and International Forums**
 - The I-TRACK Foundation has promoted adoption of the standard in Peru as part of its regional strategy.
- **Official Correspondence**
 - No MOUs or formal commitment letters have been published between I-TRACK and the Peruvian government, but authorities have expressed interest in integrating renewable traceability into future policies.

Level of Progress

- **Partial Implementation**
 - Peru currently has a single accredited issuer, AENOR, and companies certified under the I REC scheme.
- **No Regulatory Restrictions**
 - The Peruvian legal framework does not prohibit the use of international standards such as I REC, although there is no official mandatory recognition.
- **Government Interest**
 - MINEM has shown openness during events and technical platforms, but there is still no formal working group or specific regulation.

1.10 Expected Response from Government

Political and Institutional Context

- Peru is aligned with international commitments (Paris Agreement, SDGs) and aims to:
 - Reduce GHG emissions by 40% by 2030.
 - Achieve carbon neutrality by 2050.
 - Increase the share of non-conventional renewables to 20% of the electricity matrix by 2030 (currently ~8%).
- MINEM and MINAM have shown openness toward voluntary mechanisms such as I-REC in events and workshops, but there is no specific regulation that officially recognizes these certificates.

Anticipated Government Position

- **Expected Level of Support:**
 - Moderate to positive, given that:
 - The government promotes renewable energy and environmental traceability.
 - There are no legal restrictions on voluntary systems such as I-REC.
- **Favorable Factors:**
 - National policies (Energy Policy to 2050, Framework Law on Climate Change) support the energy transition.
 - Leading companies already use I-REC, demonstrating technical and commercial feasibility.

Estimated Timelines

- **Short Term (2025–2026):**
 - Continuation of workshops and technical roundtables.
 - Issuance of voluntary guidelines for renewable traceability.
- **Medium Term (2027–2028):**
 - Possible formalization through secondary regulation (bylaws).
- **Long Term (2030):**
 - Integration into climate goals and official reporting frameworks.

In conclusion, the Peruvian government does not show resistance to the implementation of energy attribute systems. There is indirect support through renewable energy and sustainability policies. Next steps involve strengthening institutional dialogue and pursuing formal approval mechanisms to ensure regulatory certainty.

1.11 Proposed Restrictions

Restrictions on Eligible Generation Types

- **Allowed:**
 - Renewable Energy Resources (RER): wind, solar, biomass, small hydro (<20 MW).
- **Excluded:**
 - Thermal generation (gas, coal, diesel) and fossil-based cogeneration.
 - Plants with unmitigated social or environmental impacts (according to the General Environmental Law and Environmental Impact Assessment requirements).

Exclusion of Products or Participants

- **I-REC Registry:**
 - Requires a single declaration to avoid double issuance; accredited issuers (e.g., AENOR Peru) verify information.

Conclusion

- There are no explicit legal restrictions, but it is recommended to:
 - Exclude fossil-fuel generation and projects with socio-environmental conflicts.
 - Avoid double counting or double benefits in projects receiving subsidies.

1.12 Any Other Relevant Information

RE Market Potential:

Peru has significant potential for renewable energy development, particularly solar and wind.

Average solar irradiation ranges from 5.5 to 6.5 kWh/m²/day, representing an exploitable potential of 399,287 MW, although only 1% is currently utilized.

For wind energy, wind speeds range between 6 and 9 m/s, with an estimated potential of 20,493 MW, of which only 5% is in operation. Currently, Peru's energy matrix consists of 53% thermal, 37% hydroelectric, 7% wind, and 3% solar, with projections estimating total capacity will reach 8.98 GW by 2025 and 18.85 GW by 2030, with a compound annual growth rate (CAGR) of 15.98%.

Historical Support or Development of Renewables in the Country/Region

Since 2006, Peru has implemented policies to promote renewable energies, with Legislative Decree No. 1002 (2008) being one of the most notable instruments that incentivizes investment in renewable electricity generation.

Additionally, the National Energy Policy 2010–2040 sets a goal for 20% of electricity generation to come from renewable sources by 2030. Thanks to these measures, the share of renewables increased from 0.002% in 2008 to nearly 9% today, including small hydro projects.

Demand-Side Market Potential or Strategic Nature of Market Development

Electricity demand in Peru is growing at an average rate of 3.5% per year, driven by industrial and urban expansion. Although 94% of households have access to electricity, significant gaps remain in rural areas, where coverage can fall below 35%.

The country's commitment to achieving carbon neutrality by 2050 makes renewable energy a strategic pillar for meeting climate commitments and ensuring long-term energy security.

Analysis of Political Disruptions or Market Risks

Political instability is one of the main risks affecting sector development, with five presidents since 2020, high legislative fragmentation, and persistent corruption.

Social conflicts, particularly in the mining sector, can delay energy projects.

At the operational level, dependence on natural gas and vulnerability to droughts undermine the reliability of the electric system, while the lack of political consensus delays approval of key laws for auctions and financing.

Analysis of Regulatory Risks, Including Linkages with Carbon Markets and Support Systems

Peru's regulatory framework is based on the Renewable Energy Law (Legislative Decree 1002) and auctions as the main mechanism for allocating contracts. The country has committed, through its Nationally Determined Contributions (NDCs), to reducing emissions by 40% by 2030 and achieving carbon neutrality by 2050.

However, uncertainties remain regarding integration with carbon markets, credit rights, and validation of unregistered reductions. Although Peru has the National Registry of Mitigation Measures (RENAMI) and REDD+ methodologies, the lack of clear incentives, slow bureaucratic processes, and the absence of an updated legal framework for emerging technologies (such as green hydrogen and energy storage) represent significant risks.

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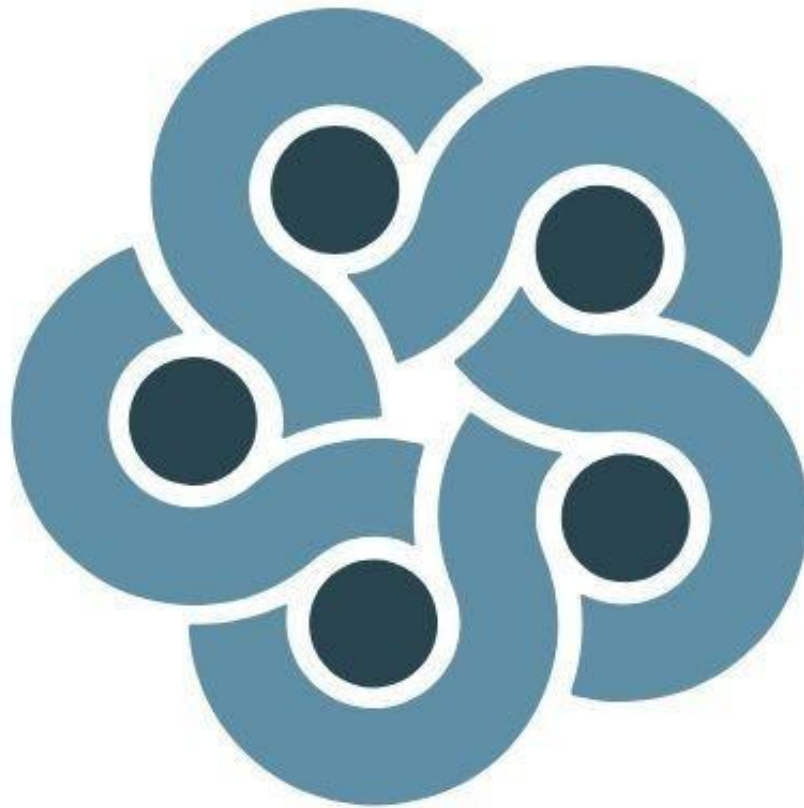
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