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Facultad de Ciencias Empresariales y Económicas
Carrera de Negocios Internacionales



SOSTENIBILIDAD EN LA LOGÍSTICA MINERA-NAVIERA EN LA REGIÓN SUDAMÉRICA OESTE: ESTRATEGIAS PARA INCENTIVAR UNA CADENA DE SUMINISTRO RESPONSABLE

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**SUSTAINABILITY IN MINING-MARITIME
LOGISTICS IN THE WEST SOUTH
AMERICA REGION: STRATEGIES TO
PROMOTE A RESPONSIBLE SUPPLY CHAIN**



RESUMEN

En el contexto actual de crisis climática y transformación energética global, el sector logístico —particularmente el marítimo— enfrenta una presión creciente para reducir sus emisiones de gases de efecto invernadero (GEI) y adoptar modelos sostenibles que garanticen la continuidad operativa sin comprometer el medio ambiente. La sostenibilidad ya no es un diferencial opcional, sino un requerimiento indispensable para acceder a mercados regulados como Europa y Norteamérica.

El transporte marítimo representa cerca del 3% de las emisiones globales de CO₂, siendo clave en sectores estratégicos como la minería, que depende en más del 90% del transporte oceánico. A nivel internacional, se han establecido nuevas normativas como el esquema de comercio de emisiones (EU ETS) y el índice de intensidad de carbono (CII), que exigen trazabilidad ambiental y uso de energías limpias. Las navieras líderes han iniciado la adopción de combustibles alternativos como metanol verde y biocombustibles certificados, aunque en regiones como Sudamérica Oeste, la falta de infraestructura portuaria y de proveedores energéticos limita su implementación.

En Perú y Chile, pese a ser motores de exportación de minerales críticos como cobre, litio y zinc, persisten barreras logísticas que dificultan la adopción de soluciones sostenibles a gran escala. No obstante, el contexto favorable de precios de los commodities y las exigencias de los mercados internacionales han impulsado el interés por modelos logísticos certificados, abriendo oportunidades para estructurar cadenas de suministro sostenibles y competitivas.

Este trabajo analiza la viabilidad técnica, operativa y estratégica de implementar una logística minera-naviera sostenible en Sudamérica Oeste. Propone un modelo replicable que integre criterios ESG, fomente acuerdos logísticos de largo plazo y permita a las empresas asegurar el acceso a mercados responsables, contribuyendo activamente a la descarbonización del comercio marítimo global.

Palabras clave: logística minera, sostenibilidad marítima, criterios ESG, transporte marítimo sostenible, Sudamérica Oeste.

ABSTRACT

In the current context of climate crisis and global energy transition, the logistics sector—particularly maritime transport—is under increasing pressure to reduce greenhouse gas (GHG) emissions and adopt sustainable models that ensure operational continuity without compromising the environment. Sustainability is no longer an optional feature but a mandatory requirement to access highly regulated markets such as Europe and North America.

Maritime transport accounts for approximately 3% of global CO₂ emissions and plays a crucial role in strategic sectors like mining, where over 90% of export volumes depend on ocean freight. International regulations such as the EU Emissions Trading Scheme (EU ETS) and the Carbon Intensity Indicator (CII) have pushed shipping lines to adopt alternative fuels like green methanol and certified biofuels. However, in regions like Western South America, limitations in port infrastructure and lack of alternative fuel suppliers hinder large-scale implementation.

Peru and Chile, as leading mineral-exporting countries, still face logistical challenges that delay the adoption of sustainable shipping practices. Nonetheless, the favorable commodity price outlook and pressure from international clients and regulators have increased demand for certified and traceable supply chains, opening a strategic window for greener logistics models.

This study analyzes the technical, operational, and strategic feasibility of implementing a sustainable mining-maritime logistics model in Western South America. It proposes a replicable framework that integrates ESG criteria, promotes long-term logistics agreements, and enables mining companies to meet international sustainability expectations while contributing to global maritime decarbonization.

Keywords: mining logistics, maritime sustainability, ESG criteria, sustainable ocean freight, Western South America.




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