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Energy Transition in the Peruvian Mining Sector: Regulatory Approach or Just Private Self-Regulation?

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9.1 Introduction

Nowadays, the world recognises energy and mining sectors as essential economic activities which provide benefits such as potential economic growth, employment, local income and development, and private investment.

In that regard, Peru is a country of ancient mining tradition, which has been preserved and cultivated by leading international companies that have been working to expand the mining activities within the country. At the global and Latin American level, and according to the information from the Ministry of Energy and Mines (MINEM for its Spanish acronyms), Peru is among the top producers of a variety of metals (gold, silver, copper, lead, zinc, iron, tin, molybdenum, tellurium, among

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others). This scenario reflects the abundance of resources, the production capacity of the Peruvian mining industry and the stability of economic policies in the country. All of which turn Peru into one of the main destinations for foreign mining project investors interested in exploration and exploitation.¹

On the other hand, the energy sector is going through a transitional stage towards more renewable energies. However, energy transition is only achievable by strategic, and coherent legislation that facilitates responsible investment and exploitation of resources. Consequently, this document's efforts focus on describing the energy policy as in the regulatory developments in Peru, which will give the reader a broad panorama of how the mining sector and energy transition are regulated.

9.2 The Mining Industry and the Energy Transition Regulatory Framework in Peru

9.2.1 The Mining Sector in Peru

Peru, especially the Andean region, has enormous geological potential, constituting the primary source of mineral deposits in Latin America and the world. In 2020, Peru was the world's second largest producer (after Chile) of primary copper and silver, the third largest zinc producer, the world's fourth largest tin and lead producer, and the world's eighth largest gold producer.²

There is currently a high demand for Peruvian produced minerals in the global market, whose development is based on production and

¹ Ministerio de Energía y Minas, *Anuario Minero 2020* (Primera, 2020), <https://cutt.ly/PmV2bhC>; INEI, 'Instituto Nacional de Estadística e Informática INEI' (2021), <http://www.inei.gob.pe/estadisticas/indice-tematico/economia/>, accessed 8 October 2021; Carlos et al. Monge, *Transiciones: Post Extractivismo y Alternativas Al Extractivismo En El Perú* (Alejandra; Alayza and Eduardo Gudynas eds, Primera Ed, Centro Peruano de Estudios Sociales - CEPES 2011).

² Ministerio de Energía y Minas (n 1); U.S. Geological Survey, *Mineral Commodity Summaries 2021: Sand and Gravel (Industrial)* (2021).

industry. According to the MINEM, the United States, China, Switzerland, Japan, Canada, and the European Union are the main users of these minerals.³ Peru also has great potential in non-metallic minerals, in fact, Peru is among the few countries where deposits of those minerals are found.⁴

Therefore, mineral exportation represents a significant income for the Peruvian government and is an important contributor to the national GDP. According to the Central Bank of Peru (BCRP for its Spanish acronyms),⁵ in the year 2020, the mining industry's contribution to GDP was around US\$ 42,663 million, representing approximately 21.12%.

Moreover, according to the Custom and Tax Authority (SUNAT for its Spanish acronyms) and the BCRP, mining exports have an important impact on Peru's economy. In 2020, they represented 60.8% of all national exportations.^{6,7}

9.2.2 Mineral Policy in Peru

The 1990s represented a decade of significant social, economic, and political change in the country's direction. Different industries, such as the mining sector, were subject to the incorporation of new regulatory and legal frameworks. Since then, the government's approach toward the mining industry has been more focused on promoting, regulating, and inspecting the sector.

Therefore, the Congress of the Republic of Peru approved, among others, the new General Mining Law in 1992 (GML) and complementary regulation such as the Environmental Code, and the Juridical

³ Ministerio de Energía y Minas (n 1).

⁴ Ibid.

⁵ BCRP, 'SISTEMA DE CONSULTAS DE ESTADÍSTICAS' (2021), <https://estadisticas.bcrp.gob.pe/estadisticas/series/anuales/resultados/PM04991AA-PM04973AA-PM05132AA-PM05133AA-PM05134AA-PM05135AA-PM05136AA-PM05137AA-PM05138AA-PM05139AA-PM05140AA-PM05145AA/html/2010/2021/>, accessed 27 July 2021.

⁶ SUNAT, 'Nota Tributaria - Búsqueda Por Actividad Económica' (2021), <https://www.sunat.gob.pe/estadisticasestudios/exportaciones.html>, accessed 28 July 2021; BCRP (n 5).

⁷ Ministerio de Energía y Minas (n 1).

Stability Agreements regulation in 1992.⁸ Since these changes were implemented, the governmental approach and strategy have not changed substantially, so the country remains as a mainly raw material exporter with undeveloped local industry (i.e. metallurgy, iron, and steel products). Subsequent governments have promoted investments in extractive industries in an attempt to turn Peru into a very competitive market and destination from the other mining countries.

However, the most significant changes were performed in the environmental field (i.e. the General Environmental Law in 2005) and the improvement of standards and control on industry.⁹ Later on, these changes brought new governmental institutions such as the Agency for Environmental Assessment and Enforcement (OEFA for its Spanish acronyms) and the Agency of Environmental Certification for Sustainable Investment (SENACE for its Spanish acronyms).

The National Development Strategic Plan—Bicentenary Plan (Plan Estratégico de Desarrollo Nacional—El Plan Bicentenario) was approved in 2011 and was updated in 2016. These documents explain the aspects in need of consideration in order to reach sustainable development. However, they have not described in any detail how to perform such ideas and objectives. Although the documents explain the economic benefits of the Peruvian mining industry, nothing therein is written regarding other equally important aspects related to the mining sector such as industrial diversification and development that could add additional value to the minerals (i.e. refineries, metalworking, mining clusters, among others).¹⁰

Moreover, the MINEM has not developed any policy documentation or any political plan that would diversify the industry, reduces the dependency on raw material exports, and reach the long-desired developmental goals. There are no in-depth discussions on the long-term process,

⁸ República del Perú, Texto Único Ordenado de la Ley General de Minería 1992 80; República del Perú, Ley General del Ambiente 2005; República del Perú, LEY DE PROMOCION DE LAS INVERSIONES EXTRANJERAS DECRETO LEGISLATIVO 1991 6.

⁹ República del Perú Ley General del Ambiente (n 8).

¹⁰ CEPLAN, 'Plan Estratégico de Desarrollo Nacional Actualizado' (2016), www.ceplan.gob.pe.

the future international need for minerals, or the global context (i.e. COVID-19, climate change, China's need for minerals).¹¹

9.2.3 Regulatory Mining Framework

According to the Peruvian constitution, all natural resources, renewable or not, including all minerals, belong to the state. The concession system is the mechanism devised under Peruvian law to grant rights to conduct mining activities (i.e. exploration, exploitation, beneficiation plants, mineral transportation). Moreover, the mining concession (i.e. exploration and exploitation activities) is a different and independent right from the ownership, or any other surface right, over the land under which a mining concession is located.¹²

Mining concessions in Peru are granted under the grid-based system and are single concessions for exploration and exploitation. In both scenarios, no overlap between mining concessions is allowed. Therefore, titleholders have unlimited rights to explore and exploit minerals they find within their concessions (delimited using the Universal Transverse Mercator (UTM) coordinates).¹³

However, the exercise of rights derived from a mineral concession (e.g. the right to explore, develop, and exploit within the internal boundaries of the mineral concession) is subject to the awarding of required permits, authorisations, and approvals, such as the approval of the Environmental Management Instrument (EMI) designed for distinct activities such as mineral exploration or exploitation.¹⁴

¹¹ Naciones Unidas, 'Minería Para Un Futuro Bajo En Carbono: Oportunidades y Desafíos Para El Desarrollo Sostenible' (2019).

¹² República del Perú, Constitución Política del Perú 1993 1; República del Perú Texto Único Ordenado de la Ley General de Minería (n 8); Martín Belaunde Moreyra, *Derecho Minero y Concesión* (Editorial San Marcos E.I.R.L. ed, Cuarta, 2011).

¹³ República del Perú Texto Único Ordenado de la Ley General de Minería (n 8); Belaunde Moreyra (n 12).

¹⁴ República del Perú Texto Único Ordenado de la Ley General de Minería (n 8); República del Perú, Sistema Nacional de Evaluación de Impacto Ambiental 2001; República del Perú, Reglamento del Sistema Nacional de Evaluación de Impacto Ambiental 2009 153; República del Perú, Reglamento Ambiental para las Actividades de Exploración Minera 1998; República del Perú Ley General del Ambiente (n 8).

Additionally, once the mining project is finished, titleholders must reclaim or close all mining works and facilities according to a Mine Closure Plan approved by the MINEM. This plan is submitted together with the EMI. It is important to premise this by recognising that forfeiture or expiration of a mineral concession does not release or discharge a titleholder or lessee from their mine closure obligations. In fact, there are some financial mechanisms in place to fulfil this obligation (i.e. letter of guarantee or surety bond, guarantee trust, and joint and several guarantees).¹⁵

Complementary to this, the state conducts a consultation process and under the ILO Convention 169, when the rights of indigenous or native peoples may be directly affected by a regulatory or administrative measure. This procedure is getting very critical in Peru, considering that Peru has an important number of native and indigenous communities, mainly located in the Andes, where most mining project development is taking place. The aim of this regulation is—in theory—to reach an agreement between the governmental entity (e.g. MINEM) and the indigenous people with regard to the implementation of regulatory or administrative measures (e.g. EMI or its modification). However, many social conflicts have arisen due to the lack of, or poor approaches in its implementation.¹⁶

9.2.4 Energy Transition Framework

During the last twenty years, the energy sector in Peru has registered a noteworthy growth due to the increase in internal demand, which is related to economic development. This economic boom period in Peru has seen the government developing different regulatory mechanisms

¹⁵ República del Perú Ley General del Ambiente (n 8); República del Perú, Ley que Regula el Cierre de Minas 2003.

¹⁶ República del Perú, Ley del Derecho a la Consulta Previa a los Pueblos Indígenas u Originarios, reconocido en el Convenio 169 de la Organización Internacional del Trabajo (OIT) 2011; República del Perú, Reglamento de la Ley del Derecho a la Consulta Previa a los Pueblos Indígenas u Originarios, reconocido en el Convenio 169 de la Organización Internacional del Trabajo (OIT) 2012; Monge (n 1); La Ley and others, '¿ Con Quién Estás de Acuerdo ? ¿ Con Quién Estás de Acuerdo ? Las Instituciones Socioambientales'.

for these monopolistic activities (i.e. energy transport and distribution services), allowing the support of a secure energy supply due mainly to natural gas (i.e. Camisea project). Consequently, the supply for other energy sources registered a slight decrease (i.e. crude oil production).¹⁷

On May 31, 2010, the National Energy Policy Project of Peru 2010–2040 was published and circulated to receive any contribution from the private and public sectors. Later, on November 24, 2010, by Supreme Decree N° 064-2010-EM, the government approved the National Energetic Policy of Peru 2010–2040.¹⁸

In general terms, this document is a long-term plan,¹⁹ centred on sustainable development, with an emphasis on promoting and protecting the private investment, minimising social and environmental impacts, and respecting and encouraging energy markets. Moreover, the plan aims to promote energy efficiency, and the development of renewable energies at the local, regional, and national levels.²⁰

Four years later, on November 28, 2014, the Peruvian Ministry of Energy and Mines presented a new proposal for the National Energy Plan (2014–2025) and sought contributions about the role of the energy sector in national development. Also, part of the objective is aligned with those established by the OECD, and meets its requirements, with an environmental emphasis.²¹

According to this plan, there are nine main objectives. These range from developing a diversified energy matrix with an emphasis on renewable sources and energy efficiency to integrating with the energy markets

¹⁷ Petroleo y Energia (SNMPE) Sociedad Nacional de Minería, *El Sector Minero Energetico y El Cambio Climatico* (2014); MINEM, 'Plan Energetico Nacional 2014–2025' [2014] Ministerio de Energía y Minas 9, http://www.archivogeneral.gov.co/sites/all/themes/nevia/PDF/Transparencia/ACUERDO_02_DE_2014.pdf.

¹⁸ Republica del Peru, Decreto Supremo N° 064-2010-EM 2010; MINEM (n 17).

¹⁹ The plan is based on the guidelines of the Strategic Plan for National Development—Plan Peru 2021, prepared by the CEPLAN.

²⁰ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MEM, 'National Energy Plan 2014–2025 | Peru' 36.

²¹ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM, 'Plan Energético Nacional 2014–2025' (2014); Sociedad Nacional de Minería (n 17).

of the region, encouraging long-term commitments and market integration, through to incentives to develop the required infrastructure.²²

It is also important to take note of what has been mentioned regarding the regulatory framework intended to be developed. This, in general terms, seeks to promote private investment in energy activities, corresponding to the state continuing the “business as usual” approach.²³

Regarding the energy transition towards more environmentally favourable alternatives, the aim of which is the development and use of clean energies and technologies with low polluting emissions, this could be accomplished by implementing measures that mitigate emissions from energy activities, for example, promoting energy projects that obtain the benefits of emission reduction certificates for the carbon market.²⁴

Moreover, the plan proposes, among other things, the substitution of liquid fuels derived from oil with natural gas and liquefied petroleum gas, the use of solid and liquid waste for energy production, and social responsibility practices in energy activities and facilitate a decentralised system in the distribution of natural gas for all sectors in Peru.²⁵

The plan resulted from a diagnosis made about the situation in the Peruvian energy sector, where it was determined that emissions in Peru came mainly from: deforestation and the loss of forest biomass thereby releasing CO₂ into the atmosphere (i.e. the Amazon); the consumption of fossil energy (oil, gas and coal) for transportation, electricity generation, and fuel consumption; gases released in agricultural and livestock activities; the decomposition of solid waste and wastewater. Consequently, activities where the focus is on gross domestic product

²² Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM (n 17).

²³ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM (n 17); Patricia Patrón Álvarez, *¿Energía o REDD? Primero EAE Evaluación Ambiental Estratégica En El Perú: Próximos Pasos* (Ambiente y Recursos Naturales Derecho ed, Primera, 2011), http://www.dar.org.pe/prensa_publicaciones.htm; Sociedad Nacional de Minería (n 17).

²⁴ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); Patrón Álvarez (n 23); Sociedad Nacional de Minería (n 17); MINEM (n 17).

²⁵ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM (n 21); Sociedad Nacional de Minería (n 17).

growth (i.e. agriculture, livestock, construction, mineral production) are also responsible for the increase in greenhouse gas emissions.²⁶

The objective was to make improvements aimed at achieving a sustainable, safe, reliable, timely, and accessible energy supply for all sectors in Peru, with an emphasis on climate change. This is a problem that Peru must face by reducing the contribution of liquid and gaseous hydrocarbons in the energy matrix and look for renewable energy alternatives (such as hydroelectricity).²⁷

9.3 Energy Transition in the Mining Industry

The mining industry in Peru fits within the definition of predatory extractivism, characterised by, among other aspects, its aggressive expansion within its different stages, environmental liabilities, violation of human rights (i.e. indigenous communities), forced displacements, and conflicts. As a result, this industry is faced with many social conflicts, showing serious governance problems and a lack of an adequate institutional framework allowing companies and the government the capacity or tools to address conflicts and turn them into opportunities.²⁸

Moreover, this industry is energy intensive with permanent access to a stable electricity source. With every new mining project, the demand for energy increases, especially due to the implementation of new technologies and the automation and electrification of mining sites.^{29,30}

Currently, the electricity produced and acquired by mining companies is based primarily on fossil fuels (i.e. Camisea natural gas project) and hydropower plants. However, despite the declining of costs related to other renewable energies (i.e. solar and wind), neither the mining

²⁶ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM (n 17); Sociedad Nacional de Minería (n 17).

²⁷ Republica del Peru Decreto Supremo N° 064-2010-EM (n 18); MINEM (n 17); Sociedad Nacional de Minería (n 17).

²⁸ Monge (n 1).

²⁹ Nicolas Maennling and Perrine Toledano, 'La Energía Renovable En La Minería: Acelerando La Integración de Energías Renovables' (2018), <https://bit.ly/2yv8OZP>.

³⁰ MINEM (n 17).

industry nor the Peruvian government has established any actions that would contribute to preventing global temperature rise.³¹

However, for a developing country like Peru that relies on models which in turn depend on an economy based on raw material exportation, the transition towards a more sustainable economy is a challenge. This requires political willingness and institutional efforts to implement coherent public policies, programmes, and plans.^{32,33}

According to Monge, the transition to sensible mining practices implies breaking the predominance of private self-regulatory mechanisms, which are the result of a defensive and intransigent mining industry swaying the legal framework. The proposals are linked to create self-regulatory mechanisms (i.e. codes of conduct and corporate social responsibility practices), including those related to the energy transition.³⁴

These mechanisms recognise the existence of certain negative externalities, a consequence of their activities, and that mining companies have the capacity to control them without the need to create new regulation.³⁵ The efforts related to climate change from the mining industry focus on aspects linked to the stakeholders more than the internal procedures that would help in reducing energy consumption or performing an energy transition.³⁶

Nevertheless, the National Energy Plan aims to achieve low carbon emissions by promoting the use of clean energies, with broad or vague objectives, and without indicators or targets with which to measure the progress and results. Moreover, the plan indicates that in the next period from 2014–2025, new mining operations are the main factor that will increase final energy consumption.³⁷

³¹ Maennling and Toledano (n 29); Monge (n 1).

³² Maennling and Toledano (n 29).

³³ International Energy Agency (IEA), 'The Role of Critical Minerals in Clean Energy Transitions' [2021] IEA Publications.

³⁴ Monge (n 1).

³⁵ *ibid.*

³⁶ Sociedad Nacional de Minería (n 17).

³⁷ MINEM (n 17).

However, the National Energy Plan does not reflect an important intersectoral coordination, lack of consistency in public policies, and little progress on the diversification of the Peruvian energy matrix. As a matter of fact, there are no specific or clear actions that link energy transition and the mining industry, such as incentives for the transition and use of renewable energies. This reflects the Peruvian government's position to keep the "business as usual" approach instead of, for instance, adopting an energy governance criteria.³⁸

An example is the prioritisation of natural gas exportation over the impulse of industrialisation to satisfy national demand and avoid a supply crisis due to continuous growth. Peru has a high demand for fuels, especially natural gas, and this scenario generates concern about the future availability of natural gas for the domestic market and its 'possible' industrialisation.^{39,40,41}

However, the promotion of hydroelectric plants in the Peruvian Amazon (i.e. the energy agreement between Peru and Brazil) does not represent a solution or option because the implementation of these projects will result in deforestation, involuntary displacement of local populations and indigenous peoples, as well as possibly producing methane, contributing further to the generation of greenhouse gases.^{42,43,44}

Finally, there is no strategic planning from the government, an approach which makes it difficult to identify Peruvian demand and reserves for more efficient, sustainable, and equitable use of energy. Also, the National Energy Plan does not show any guidelines for a gradual change of the energy matrix, ensuring a balance between sources and use.⁴⁵

³⁸ Monge (n 1); Ivan Lanegra, *El Camino Ambiental Hacia La OCDE* (2018); MINEM (n 17).

³⁹ Macroconsult, 'Impacto Económico de La Minería En El Perú' (2012).

⁴⁰ Naciones Unidas (n 11).

⁴¹ International Energy Agency (IEA) (n 33).

⁴² Patrón Álvarez (n 23).

⁴³ Vanessa Cueto La Rosa, *Buscando La Gobernanza Energética En El Perú* (Primera, 2011).

⁴⁴ Denise Humphreys Bebbington and others, 'Evaluación y Alcance de La Industria Extractiva y La Infraestructura En Relación Con La Deforestación: Amazonía' 76.

⁴⁵ Monge (n 1).

9.4 Conclusions

Peru has enormous geological potential in the Andeans, constituting the primary source of mineral deposits in Latin America and the world that at the same time has represented a considerable income (i.e. national GDP) for the Peruvian government. However, during the last twenty years, the energy sector in Peru has registered remarkable growth due to the increase in internal demand. The Peruvian government has published a plan centred on sustainable development, emphasising the promotion and protection of private investment, minimising social and environmental impacts, and respecting and encouraging the energy market.

The National Energetic Policy of Peru 2010–2040 has concluded that the origin of the emissions is: (i) loss of forest biomass that releases CO₂ into the atmosphere due to deforestation (i.e. the Amazon); (ii) the consumption of fossil energy (oil, gas, and coal) for transportation, electricity generation and fuel consumption; (iii) gases released in agricultural and livestock activities; and (iv) the decomposition of solid waste and wastewater.

Although the objective of this chapter was to improve the way to achieve a sustainable, safe, reliable, timely, and accessible energy supply for all sectors in Peru (emphasising climate change), there is no evidence that the mining industry is moving or contributing to reducing the use of liquid and gaseous hydrocarbons in the energy matrix, nor is it apparently looking for alternatives in the form of renewable energies. Moreover, the mining industry has an intensive use of energy and permanent access to a stable electricity source. Still, despite the declining costs related to other renewable energies (i.e. solar and wind), neither the mining industry nor the Peruvian government has established actions in the National Energy Plan to prevent the rise of global temperatures, with the implementation of these energies on their mining sites.

The mining industry's efforts related to climate change focus on aspects linked to the stakeholders more than the internal procedures that would help reduce energy consumption or play a role in the energy transition. The transition to a sensible mining activity implies breaking the predominance of private self-regulation mechanisms, which would

change the current legal framework, something the mining industry is not looking for.

Moreover, the National Energy Plan does not reflect crucial intersectoral coordination but a lack of consistency on public policies and little progress on the diversification of the Peruvian energy matrix. Consequently, no specific or clear actions link the energy transition and the mining industry, reflecting that the Peruvian government keeps the “business as usual” approach.

The National Energy Plan does not show any guidelines for a gradual change of the energy matrix, ensuring a balance between sources and use, reflecting the lack of government planning, which makes it difficult to identify the Peruvian demand and reserves for more efficient, sustainable, and equitable energy use.