

PAYNE COMMENTARY SERIES: **COMMENTARY**

## Resource Conflict in the Energy Transition

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This November at COP26, the United Nations Conference on Climate Change, nations around the world responded to a global call for an energy transition away from fossil fuels and towards renewable forms of energy. Many countries released their commitments to reach net-zero greenhouse gas emissions and in response, activists, policymakers, and businesses are working to make the energy transition a reality. However, such large changes in socio-technical systems do not come without consequences.

Energy transitions occurring globally—towards low-carbon technologies, increased electrification, and electric vehicles and battery storage capacity—will also produce significant challenges in resource-rich areas. The demand for a varied set of mineral resources and metals that are required for renewable energy technologies such as solar panels and batteries is set to grow at an unprecedented scale. Many of the countries with the largest potentials for these minerals are in emerging and developing economies that face capacity and governance challenges. In light of the increased pressure that will be placed on these countries, more research, analysis, planning, and innovative business models are required to address governance challenges in developing countries.

Peru is one of the most resource-rich countries in the world and provides an abundance of minerals and metals important to the energy transition. It is the second-largest producer of copper, which is required in the production of cables, rods, and sheets that are used to build solar panels, windmills, and electric cars. It is also the second-largest producer of silver, used for various solar technologies. Peru is also the third-largest producer of Zinc, used in rechargeable batteries, and on wind turbines to prevent metal corrosion. In addition, Peru is a producer of selenium and indium.

The mining industry employs many Peruvians, mobilizing different types of resources, and has spurred growth to the nation's economy over the past three decades, but that is not the full

story. It has also caused negative environmental and social impacts that create opposition at a local and community level against mining projects and operations.

[Sixty-five percent of socio-environmental conflicts in Peru are related to mining](#) and several regions face the greatest mining conflict impacts: Apurimac, Ancash, Ayacucho and the rest of the so-called mining corridor in Southern Peru. Recent protest in the Apurimac region highlight the governance challenges faced by mining companies, the State, and communities.

A low-carbon future demands effective and efficient governance for mutual benefit. There is a need to implement thoughtful research and communications on the connection between global energy demand and local community impacts as well as the complexity of conflicts on the ground. The Universidad Nacional de San Agustín de Arequipa (UNSA) and the Payne Institute for Public Policy – a policy research institute at the Colorado School of Mines – have the opportunity to establish a group of professionals and experts to generate and provide the information and analysis necessary to connect the Peruvian mining industry with international energy trends and local economic and environmental needs. Doing so is the first step to understanding and addressing the complex global energy transition that lies ahead in the remainder of the twenty-first century.

In this alliance, a group of professional experts from UNSA will carry out objective research using the technical and scientific experience of the University. The UNSA faculty has significant knowledge and experience related to the extractive operation of mining, mining policy and complex conflict. Relevant experts come from the fields of mining engineering, communications, social sciences, geology and other multidisciplinary related sciences, as well as also a wide network of UNSA students and alumni who can contribute to this area.

By partnering with the world-renowned Payne Institute for Public Policy, the UNSA think tank can connect UNSA’s professional and technical expertise with relevant local experts and stakeholders in order to advance policy making in Arequipa and other regions in Peru and above all to participate in the global discussion around resources and the energy transition. UNSA will be the first university outside of Lima to dedicate a research center to contribute to the proposition of positive extractive policies and the construction of scenarios of mutual benefit.

Such a cross-cutting organization is needed in Peru now more than ever. As the energy transition continues to create even greater demands for these minerals and metals, increased investment into mining in Peru without rethinking new socially responsible policies and the active governance role of the State could increase resistance in populations where mining activity has already caused conflicts between local communities and companies. UNSA can play an important role within Peru to ensure adequate governance systems, human rights protections, and peacebuilding mechanisms for the impending increase in resource demand. UNSA can also communicate with the international community to ensure there is a commitment to the design and funding of just and effective governance institutions in Peru with as much fervor as they have committed to enacting a clean energy transition.

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## ABOUT THE PAYNE INSTITUTE

The mission of the Payne Institute at Colorado School of Mines is to provide world-class scientific insights, helping to inform and shape public policy on earth resources, energy, and environment. The Institute was established with an endowment from Jim and Arlene Payne, and seeks to link the strong scientific and engineering research and expertise at Mines with issues related to public policy and national security.

The Payne Institute Commentary Series offers independent insights and research on a wide range of topics related to energy, natural resources, and environmental policy. The series accommodates three categories namely: Viewpoints, Essays, and Working Papers.

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