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Managing the Resource Curse in the Clean Energy Transition:

Lessons from Nigeria, the Democratic Republic of Congo, Chile, and Norway

COMPARATIVE POLICY BRIEF: POLITICAL ECONOMY

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Managing the Resource Curse in the Clean Energy Transition: Lessons from Nigeria, the Democratic Republic of Congo, Chile, and Norway

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Learning Objectives

After reviewing this policy brief, readers should be able to:

1. Explain the political and economic risks associated with resource dependence.
2. Compare resource governance in Nigeria, the DRC, Chile, and Norway.
3. Analyze how institutions shape the use of extractive revenue.
4. Evaluate policies for transparency, public investment, community protection, and ethical supply chains.

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Key Terms

Resource curse

The idea that natural resource wealth can produce negative political, economic, or social outcomes when governance systems fail to manage that wealth effectively.

Critical minerals

Minerals considered necessary for modern technology, energy systems, defense, and economic security. Examples include lithium, cobalt, copper, nickel, graphite, and rare earth elements.

State capacity

The ability of a government to design, implement, and enforce policies effectively.

Revenue dependence

A condition in which a government relies heavily on one sector, such as oil or mining, for public revenue.

Sovereign wealth fund

A state-owned investment fund that manages public revenue, often from natural resources, for long-term financial stability and future public benefit.

Stabilization fund

A public fund designed to reduce the impact of volatile commodity prices by saving revenue during boom periods and supporting budgets during downturns.

Beneficial ownership

Information identifying the real individuals who ultimately own or control a company, even when ownership is hidden through other firms or legal structures.

Supply-chain accountability

The expectation that companies and importing states should verify that goods are produced under acceptable labor, environmental, and governance standards.

Community benefit agreement

An agreement between a company, government, and affected communities that outlines local benefits, protections, or investments connected to a development project.

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Comparative Policy Brief

Background

Natural resources can be a source of national wealth, but they can also create political and economic risks when states depend too heavily on extractive industries. This problem is commonly known as the resource curse.

Ross (2015) defines the resource curse as the adverse effects of natural resource wealth on a country's political, economic, or social well-being. His review of the literature finds that petroleum wealth is especially associated with three political risks: more durable authoritarian rule, higher levels of certain forms of corruption, and greater risk of violent conflict in some low- and middle-income countries. These risks do not appear in every resource-rich country, but they are common enough to make resource governance a major political economy concern.

The resource curse is not only a fossil fuel problem. The global clean energy transition is increasing demand for minerals needed for electric vehicles, batteries, renewable energy systems, and electricity infrastructure. The International Energy Agency (IEA, 2024) identifies copper, lithium, nickel, cobalt, graphite, and rare earth elements as key minerals for energy transition technologies. The World Bank (n.d.) similarly projects that demand for key minerals such as copper, lithium, graphite, nickel, and rare earth elements may nearly double by 2040. This creates an important policy challenge: the global shift away from fossil fuels could reproduce old extractive-economy problems if critical mineral production is not governed carefully.

This brief compares four resource-rich countries: Nigeria, the Democratic Republic of Congo, Chile, and Norway. Nigeria represents a classic petroleum-dependent case. Its oil and gas sector accounts for about 65 percent of government revenue and more than 85 percent of exports (EITI, n.d.-b). The Democratic Republic of Congo is central to the clean energy minerals economy because of its copper and cobalt production. The DRC produces around 70 percent of the world's cobalt, making it a major supplier for battery technologies and global industries (EITI, 2026). Chile is a leading copper producer and a major lithium producer, but it has stronger governing institutions than many resource-dependent states. Norway provides a contrasting case because it has used oil and gas revenue to build a long-term sovereign wealth fund intended to stabilize the economy and preserve benefits for future generations (Norges Bank Investment Management, n.d.).

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Policy Issue at a Glance

Country	Key Resource	Evidence of Dependence or Importance	Institutional Pattern
Nigeria	Oil and gas	Oil and gas account for about 65% of government revenue and more than 85% of exports.	High fiscal dependence increases exposure to commodity price shocks, corruption, and weak economic diversification.
Democratic Republic of Congo	Cobalt and copper	DRC production accounts for about 70% of the world's cobalt, making it central to battery and clean-energy supply chains.	Weak oversight, conflict risks, labor abuses, and illicit financial flows limit the conversion of mineral wealth into broad public benefit.
Chile	Copper and lithium	Chile is one of the world's leading copper producers and holds some of the world's largest lithium reserves.	Stronger governing institutions support a more active state role, but environmental pressures and community concerns remain central policy challenges.
Norway	Oil and gas	Petroleum revenue is managed through the Government Pension Fund Global to support long-term fiscal stability and intergenerational benefits.	Strong institutions, public oversight, and long-term revenue rules reduce volatility and constrain short-term political spending.

The central policy question is not whether resource wealth is inherently good or bad, but whether institutions can convert extractive revenue into public investment, economic diversification, environmental protection, and local development before dependence, corruption, or conflict take hold.

Analysis

The four cases show that resource wealth produces different outcomes depending on institutional capacity, state-society relations, and the way revenue is managed. Hay (2020) warns against treating capitalist systems as if they fit neatly into fixed types. His argument is useful here because resource-rich states do not follow one single path. They vary across political institutions, development strategies, and state capacity. Nigeria, the DRC, Chile, and Norway all depend on natural resources in important ways, but their policy challenges are not identical.

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The first major distinction among the four cases is the relationship between resource dependence and fiscal vulnerability. Nigeria demonstrates the danger of fiscal dependence on a single extractive sector. When oil and gas account for most government revenue and exports, public finance becomes vulnerable to price shocks, corruption, and short-term political spending. This type of dependence can weaken incentives for economic diversification. It can also create political conflict over who controls the benefits of resource wealth. Ross (2015) notes that petroleum wealth can increase corruption and help authoritarian regimes remain durable under certain conditions. Even in formally democratic settings, oil revenue can distort accountability if leaders use public funds for patronage rather than development.

The second distinction is that clean-energy minerals can reproduce resource-curse dynamics even when they are connected to low-carbon technologies. The DRC shows how the resource curse can appear in the clean energy transition. Cobalt and copper are essential for batteries, electric vehicles, and energy infrastructure, but mineral demand does not automatically produce broad-based development. The DRC's role in global cobalt supply gives it strategic importance, but it also raises governance concerns. Weak oversight, illicit financial flows, labor abuses, and conflict risks can prevent mineral wealth from becoming public benefit. The DRC case is especially important because it shows that clean energy supply chains can still be politically and socially harmful if extraction takes place under weak institutional conditions.

Chile illustrates a middle position: stronger institutions can reduce resource-curse risks, but they do not erase environmental and distributional conflicts. Chile offers a more institutionally developed case, but it also shows that stronger governance does not eliminate resource dilemmas. Chile's copper and lithium reserves make it central to the energy transition. Chile is one of the world's leading copper producers and holds some of the world's largest lithium reserves, making its resource policy central to both national development and global clean-energy supply chains (U.S. Geological Survey, 2025). Its National Lithium Strategy places the state in a more active role and emphasizes economic development, environmental sustainability, and local community participation (Government of Chile, n.d.). This approach recognizes that lithium is not just a commodity. It is a strategic resource tied to national development, environmental protection, and global energy policy. However, Chile still faces difficult tradeoffs. Lithium extraction can place pressure on water resources and ecosystems, especially in salt flat regions. Policy must therefore

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balance global demand, national revenue, environmental protection, and Indigenous or local community concerns.

Norway represents the strongest institutional contrast, showing how long-term revenue rules can limit the political temptation to spend resource income immediately. Norway provides a useful contrast because it shows that resource wealth can be managed in ways that reduce volatility and support long-term public benefit. Norway's Government Pension Fund Global was established after the discovery of oil in the North Sea. Its purpose is to shield the economy from fluctuations in oil revenue, serve as a financial reserve, and preserve oil wealth for current and future generations (Norges Bank Investment Management, n.d.). Norway's model cannot simply be copied everywhere because it rests on strong institutions, high public trust, and effective oversight. Still, it offers a policy lesson: resource revenue should not be treated as ordinary short-term income. It should be managed through rules that prevent political overuse and support long-term public investment.

The comparison also connects to Ornston and Vail's (2016) distinction between different state responses to economic pressure. In their comparison of France and Finland, France became a "marketizing state" that relied more heavily on market competition, while Finland became an "investment state" that prioritized productivity-enhancing public goods such as education, research, and risk capital. This distinction is useful for resource-rich states. The goal should not be extraction alone. Resource revenue should help states build the foundations for future economic capacity. In this sense, the best response to resource dependence is not simply more market access or more production. It is the conversion of temporary extractive wealth into durable public goods.

International organizations and multinational corporations also play a role. Resource governance cannot be left only to producing states, especially when global consumers and importing countries benefit from cheap oil, cobalt, copper, and lithium. The Extractive Industries Transparency Initiative has become an important framework for improving disclosure and accountability in oil, gas, and mining sectors. However, transparency alone is not enough. Clean energy supply chains require enforceable standards for labor, environmental protection, revenue reporting, and community benefit. Without these standards, the energy transition may move pollution and exploitation from fossil fuel systems into mineral supply chains.

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Policy Recommendations

1. Strengthen extractive-sector transparency and public reporting.

Resource-rich states should require public disclosure of extraction contracts, revenue flows, beneficial ownership, licensing decisions, and environmental obligations. Transparency helps citizens, civil society, journalists, and oversight bodies track whether public resources are being converted into public benefit. Nigeria and the DRC especially need strong reporting systems because heavy dependence on extractive revenue creates opportunities for corruption and revenue leakage. International organizations should support technical capacity for reporting and auditing, but domestic institutions must retain ownership of enforcement.

2. Create or strengthen sovereign wealth and stabilization funds.

Countries that depend heavily on oil, gas, or minerals should separate part of extractive revenue from annual political spending. Stabilization funds can reduce vulnerability to commodity price swings, while sovereign wealth funds can preserve revenue for future generations. Norway's model shows the value of long-term planning, but other countries may need more modest versions suited to their institutional capacity. The key principles should be clear deposit rules, withdrawal limits, independent oversight, and regular public reporting.

3. Convert resource revenue into public investment.

Resource revenue should fund education, infrastructure, health systems, research, energy access, and non-extractive sectors. This approach reduces long-term dependence on commodities and moves countries toward an investment-state model. For Nigeria, this means using oil revenue to strengthen agriculture, manufacturing, digital infrastructure, and human capital. For the DRC, this means ensuring that cobalt and copper revenue supports roads, schools, public health, and industrial capacity rather than leaving mining communities with little benefit.

4. Tie extraction licenses to community and environmental safeguards.

Governments should require extraction firms to meet clear standards for labor protection, water use, pollution control, land restoration, and community consultation. These requirements are especially important in the DRC and Chile, where mining affects local communities and sensitive ecosystems. Community benefit agreements should be public, enforceable, and tied to measurable outcomes. Local residents should not bear the environmental and social costs of minerals used for global clean energy goals without receiving meaningful benefits.

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5. Make international buyers responsible for ethical supply chains.

Importing states and multinational corporations should not treat resource governance as only the responsibility of producing countries. Battery manufacturers, electric vehicle companies, and renewable energy firms should be required to verify sourcing standards across their supply chains. International organizations should develop stronger standards for traceability, labor rights, environmental protection, and revenue accountability. A clean energy transition should not depend on opaque governance, unsafe labor practices, or environmental harm in producing countries.

Conclusion

The clean energy transition is creating new demand for minerals that are essential to batteries, electric vehicles, and renewable energy infrastructure. This demand creates opportunities for resource-rich countries, but it also creates serious political economy risks. Nigeria's oil dependence, the DRC's cobalt and copper sector, Chile's lithium strategy, and Norway's sovereign wealth model show that natural resources do not produce one fixed outcome. The difference lies in governance.

Resource wealth becomes a curse when it strengthens corruption, conflict, dependency, or short-term political survival. It becomes a development tool when institutions convert temporary extractive revenue into long-term public goods. The main policy challenge is therefore institutional rather than geological. Countries do not need only more resources. They need transparent rules, public accountability, diversified economies, local protections, and long-term revenue management.

The clean energy transition should not repeat the failures of fossil fuel extraction. If governments, international organizations, and corporations treat governance as part of energy security, resource wealth can support both national development and global sustainability. If they do not, the world may replace one extractive crisis with another.

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Supplemental OER Discussion Questions

Discussion Questions

1. Why does resource wealth produce development in some countries but corruption, conflict, or dependency in others?
2. How does the clean energy transition change the politics of natural resource extraction?
3. In what ways might critical minerals such as cobalt, copper, and lithium create new resource-curse risks?
4. What does Norway's management of oil revenue suggest about the relationship between institutions and resource wealth?
5. Why might Nigeria's dependence on oil and gas make economic diversification more difficult?
6. How does the Democratic Republic of Congo's role in cobalt production complicate the idea that clean energy is automatically socially or politically "clean"?
7. What policy lessons can Chile offer as a resource-rich democracy managing economic opportunity, environmental protection, and community concerns?
8. Should international buyers, such as electric vehicle and battery companies, be held responsible for labor and environmental conditions in mineral-producing countries? Why or why not?
9. Are transparency initiatives enough to address the resource curse, or do countries need stronger enforcement mechanisms?
10. How can resource-rich states balance national economic development with the rights and needs of local communities?
11. What are the strengths and limits of using sovereign wealth funds as a solution to resource dependence?
12. How does this comparison show the value of studying political economy through multiple countries rather than one case alone?

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