

THE GEOGRAPHY OF THE ENERGY TRANSITION

Where Oil Is Produced and Where the Future Is Built

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Energy Transition Observatory: Piloting A Civic Observatory for OCTP Revenue Transparency and Coastal Transition

About the project

The project, led by **AbibiNsroma Foundation**, will pilot a civic evidence dashboard that connects locally generated evidence from oil-producing communities with official public data and open-government systems, working with stakeholders including relevant District Assemblies, civil society organisations, youth representatives, media and community representatives. It used multi-stakeholder roundtables to examine how local evidence can become more accessible, interoperable and useful for public accountability and energy-transition decision-making. Its wider ambition is to shift transparency from the disclosure of information towards a system in which communities, governments and regional actors can collectively interpret evidence and use it to shape more accountable transition pathways.

Executive Argument

The Offshore Cape Three Points (OCTP) context provides a particularly important lens through which to examine this question. The proposed Energy Transition Observatory identifies the coastal districts associated with OCTP as places where extractive activity, public finance, energy access and community development intersect. Its proposed approach is designed to track petroleum-linked revenues and investments alongside local energy conditions and community experience.

The issue is not whether producing communities should automatically receive a predetermined share of petroleum revenues. Ghana's petroleum-revenue architecture operates through national fiscal arrangements, and the evidence available here does not support an assumption that OCTP revenues are directly transferred to particular districts. The more important question is whether the geography of value creation can be made visible.

That requires looking beyond the location of extraction itself. A barrel of oil originates in one geographical system, revenue enters another, public expenditure may occur somewhere else, infrastructure may benefit a wider population, and the environmental and livelihood consequences may remain concentrated within a much smaller area. The energy transition introduces another layer: future investment, employment and economic opportunity may emerge in locations that are different again. The resulting policy problem is therefore one of territorial alignment.

The central proposition of this brief is: The geography of extraction should not determine the geography of public investment, but it should matter to how Ghana measures transition risk, opportunity, resilience and public value.

1. The Policy Problem Is Spatial Before It Is Statistical

National energy statistics are essential for policy. They establish aggregate trends in electricity access, petroleum production, energy demand, emissions, investment and fiscal performance. They can also conceal important differences within the national picture.

Two communities can exist within the same national energy-access rate while experiencing fundamentally different energy realities. Two districts can participate in the same national transition programme while possessing very different productive economies, infrastructure, institutional capacity and exposure to declining fossil-fuel activity. A national investment can generate substantial economic value while leaving a particular producing landscape with limited capacity to diversify after extraction. This is why the geography of transition matters.

The national policy system is largely organised around sectors and aggregates: oil and gas, electricity, transport, industry, households, emissions and investment. Communities experience those sectors as places. They encounter energy policy through electricity connections, reliability, transport costs, employment, land-use change, fisheries, agricultural opportunities, public infrastructure and the changing economic fortunes of local businesses. Ghana's National Spatial Development Framework provides an important planning basis for examining how economic activity, infrastructure, settlement patterns and development opportunities are distributed across the country.[1]

The difference between these two perspectives can produce a form of spatial policy blindness. A transition can appear successful in national statistics while particular communities remain exposed to the economic consequences of fossil-fuel decline. Research on regional development and spatial inequality demonstrates why national growth and aggregate indicators should not be assumed to reflect equivalent improvements in opportunities across all territories.[2]

Ghana's National Energy Transition Framework already recognises that transition may have implications for employment, government revenues, infrastructure and social development.[3] The question that follows is whether these risks are sufficiently understood at the geographical scale at which they are actually experienced.

2. OCTP Reveals the Geography Behind the Revenue

The Offshore Cape Three Points (OCTP) landscape offers an important case because it brings several different geographies into contact. There is the geography of offshore extraction. There is the geography of onshore infrastructure and related economic activity. There is the geography of national petroleum revenue collection and allocation. There is the geography of district government and public services. There is the geography of households and livelihoods. There is also the ecological geography of coastal and marine systems on which communities depend. These boundaries rarely coincide.

The proposed Energy Transition Observatory is significant because it begins from this territorial complexity. Its design seeks to connect petroleum revenues, district-level investment, energy-access conditions and community experience rather than treating these as separate information systems.

The policy value of this approach lies in its ability to ask a question that conventional petroleum reporting does not easily answer: Where does the value associated with extraction ultimately appear, and where does it fail to appear?

This is not a claim that every benefit of petroleum extraction should remain in the producing region. National resource governance exists precisely because petroleum wealth is a national asset. The concern is analytical rather than distributive. Without a geographical account of value, it becomes difficult to understand whether producing regions are developing the capabilities required to remain economically resilient as the petroleum economy changes. A spatial transition lens therefore shifts attention from proximity to extraction towards proximity to future opportunity.

A community does not become transition-ready simply because it is located near an oil and gas installation. It becomes transition-ready when the surrounding economy possesses sufficient infrastructure, human capability, institutional capacity, productive alternatives and access to investment to absorb economic change. The International Energy Agency's work on clean-energy transitions and employment highlights the importance of anticipating the distribution of new economic opportunities and the adjustment needs of workers and regions affected by changes in energy systems.[4]

3. What We Know

Ghana's petroleum economy has a strong spatial dimension. The Western Region contains a significant concentration of petroleum, mining, port, industrial and coastal economic activity. National spatial planning documents provide a framework for examining differences among districts in economic structure, infrastructure and value creation, with the Sekondi-Takoradi area occupying an important position within the regional economy.[1]

The geography of local public finance also varies considerably. Recent national reporting and district-level budget documents provide information on revenue inflows, transfers, expenditure and development priorities across Western Region assemblies, including Jomoro and Ellembele. Such differences matter because district governments have different fiscal capacities to respond to development pressures and invest in local priorities.[5] A rigorous comparison should distinguish internally generated revenue from central government transfers, statutory allocations, donor funding and other receipts, rather than treating total district revenue as a direct measure of local economic strength.

The historical evidence also demonstrates that energy access has never been spatially uniform. The Ghana Statistical Service's 2021 Population and Housing Census provides district-level and locality-level data on household lighting sources, including electricity, solar lighting and non-electric alternatives. These data create an opportunity to examine differences between districts and between urban and rural localities within the Western Region using a consistent national statistical framework.[6]

At the national level, the transition itself is becoming increasingly investment-intensive. Ghana's Energy Transition and Investment Plan estimates approximately US\$550 billion in capital investment through 2060. It identifies opportunities across electricity, transport, industry, cooking and other parts of the energy economy. The plan also projects substantial employment gains, making the geographical distribution of future investments and associated jobs an important question for development planning.[7]

This creates an important policy opportunity. If the transition is expected to restructure infrastructure, employment, energy systems and economic activity, then where investment occurs becomes part of the transition strategy itself.

The economic importance of oil and gas varies considerably across places, as does dependence on particular livelihoods and industries. A district with a diversified productive economy may absorb changes in petroleum activity more easily than one where a small number of sectors dominate local employment and income. The transition therefore creates different risk profiles across geography.

Another uncertainty concerns the location of future opportunity. Ghana's transition investment requirements are enormous, but it remains important to understand where new renewable-energy systems, transmission infrastructure, clean industries, technical institutions, green enterprises and new employment opportunities will be concentrated. The spatial distribution of these investments could either reinforce existing regional inequalities or create new economic centres.

Lastly, institutional readiness matters. District assemblies vary in technical capacity, fiscal resources, planning systems and access to information. A national transition programme can therefore have very different outcomes depending on the ability of local institutions to translate investment into local economic value. A spatially informed transition strategy should assess not only where investment is planned, but also whether local institutions, workers, businesses and communities possess the capabilities to participate in and benefit from that investment.

5. What Is Contested

The first contest concerns what territorial fairness should mean in an energy transition: Ghana's petroleum economy creates a legitimate national claim over petroleum revenues. Oil and gas resources are national resources, and the revenues generated from them are therefore expected to support priorities that extend beyond the areas where extraction occurs. This principle remains important. Indeed, the distribution of petroleum revenues through national fiscal mechanisms reflects the understanding that resource wealth should contribute to development across the country and across generations. But national ownership does not eliminate the territorial consequences of extraction.

The Western Region and the coastal districts associated with Ghana's petroleum economy experience a different relationship with the resource than a district hundreds of kilometres away. They host or interact with production infrastructure, offshore activity, logistics, fisheries, coastal ecosystems, service industries, land-use pressures and associated economic activity. The relevant question is therefore not simply whether producing communities receive a larger share of petroleum revenues. It is whether national resource governance adequately recognises the different economic, environmental and institutional conditions created by extraction in particular territories.

This distinction is becoming more important because Ghana is no longer dealing with a petroleum economy at the beginning of its expansion. Crude oil production has declined for five consecutive years, falling to 48.25 million barrels in 2024 from a peak of 71.44 million barrels in 2019. Yet petroleum revenues remain economically significant and highly sensitive to international prices: revenues increased to approximately US\$1.36 billion in 2024, before falling by 56 percent in the first half of 2025. The central territorial question is therefore beginning to change. It is no longer only about how the benefits of extraction are distributed while production expands; it is increasingly about how territories connected to petroleum will remain economically resilient as production becomes less predictable.

The policy challenge is consequently to move beyond the binary of national benefit versus local benefit. A more useful approach would ask how different territories contribute to, depend upon, host and are affected by the petroleum economy, and how their productive assets can be repositioned within the emerging energy economy.

The second contest is whether compensation can adequately address transition risk: Communities affected by petroleum operations may require remediation, livelihood restoration, participation, infrastructure, social investment and other appropriate responses to existing or historical impacts. These obligations should not disappear simply because national policy begins to speak more frequently about energy transition. But compensation and transition investment perform different functions.

Compensation responds to harm, loss, disruption or rights-based claims. Transition investment creates future economic and institutional capacity. It can support skills, enterprise development, energy infrastructure, local value chains, technology adoption, economic diversification and new sources of public revenue. Treating one as a substitute for the other creates a significant policy risk: long-term diversification could become a justification for leaving unresolved environmental, livelihood or participation concerns inherited from the petroleum economy. A just transition therefore requires both accountability for the past and capability for the future.

The third contest concerns where the next generation of energy investment will occur: The transition will not necessarily distribute opportunity according to the geography of existing need. Capital is likely to favour territories with better infrastructure, reliable electricity, ports and transport connections, skilled labour, stronger institutions, available land, industrial demand and access to finance. This creates a paradox for Ghana. The transition could expand national opportunity while simultaneously concentrating new investment in already advantaged locations.

This matters because the emerging energy agenda is not limited to replacing petroleum with solar panels. Ghana's current energy planning increasingly connects renewable energy, electricity access, productive use of energy, private investment, industrial development and employment. The 2026 National Energy Compact estimates that Ghana requires approximately US\$4.4 billion in investment to expand energy access between 2025 and 2030, with a substantial role for private capital, while explicitly identifying productive use of energy and job creation as transition objectives.

The territorial question is therefore larger than renewable-energy deployment. It is where the productive economy enabled by the new energy system will emerge. Without deliberate policy, Ghana could reproduce an old spatial pattern under a new technological system: some territories

supply resources and absorb environmental or social pressures, while higher-value investment, technical employment and industrial opportunity accumulate elsewhere.

The fourth contest concerns how Ghana understands petroleum-producing territories themselves: One approach is to treat these territories principally as areas requiring diversification because petroleum production will eventually decline. This is an understandable approach, but it begins from the assumption of decline.

A more strategic approach would begin from territorial conversion. Petroleum-producing areas have accumulated physical, human, institutional and logistical assets that may have value beyond petroleum. Coastal infrastructure, technical skills, engineering capabilities, logistics networks, universities and training institutions, environmental monitoring capacity, industrial land, port connectivity and relationships between public institutions and private operators can potentially become assets for new energy and industrial activities.

This does not mean assuming that petroleum infrastructure can simply be transferred to renewable energy. Much of it will not be directly reusable, and some assets may carry environmental liabilities or become stranded. The more useful question is which territorial capabilities created around petroleum can be repurposed.

That distinction is particularly important in Ghana because the country is simultaneously seeking to address declining upstream production and build a more diversified energy system. The Ghana National Petroleum Corporation reported in 2026 that national crude production had experienced a fifth consecutive year of decline, while continuing to emphasise the need to bring new petroleum resources into development. At the same time, Ghana's energy institutions are positioning the country for a broader transformation across electricity, natural gas and renewable energy. The policy choice is therefore not simply oil or renewables. It is increasingly about how Ghana manages the institutional, infrastructural and economic transition between them.

There is also a wider regional dimension. Ghana's transition will occur within an increasingly integrated West African energy market. The World Bank's US\$1.6 billion West Africa Regional Electricity Market Programme is intended to strengthen regional electricity trade, interconnection, renewable-energy deployment and energy security. This means that Ghana's future energy territories should not be understood only through national boundaries. Coastal infrastructure, transmission systems, generation capacity, industrial demand and emerging renewable-energy resources will increasingly interact with regional markets. Territorial transition should therefore be considered simultaneously as a national development question and a regional competitiveness question.

6. What Government May Eventually Need to Decide

Ghana may ultimately need to introduce a more explicit territorial transition lens into national energy, fiscal and development planning.

The first requirement is stronger spatial intelligence for energy-transition planning. Government should be able to identify, at district and regional level, where petroleum-dependent economic activity is concentrated; where employment and enterprise exposure is greatest; where energy-access and reliability deficits persist; where environmental and livelihood pressures are

accumulating; where local fiscal capacity is weak; where industrial infrastructure exists; and where existing assets could support new energy and productive activities.

These layers should not remain in separate sectoral databases. They should be brought together into a territorial transition intelligence system capable of answering a more practical question: Which places are most exposed to the changing energy economy, and what combination of public policy, infrastructure, finance, skills and private investment would allow those places to adapt?

This would also strengthen the evidence base for national investment decisions. Ghana's Energy Commission already has a statutory responsibility to maintain a comprehensive energy database for national decision-making. The next step could be to connect energy intelligence more deliberately with spatial economic, environmental and local-government data.

The second requirement is investment sequencing based on territorial economic spillovers. An energy project should not be assessed only according to how much electricity it produces or how much carbon it avoids. Its developmental value should also be examined through the economic activity it enables around it.

A renewable-energy investment that supplies electricity but generates limited local economic activity has a different territorial effect from an investment that simultaneously improves energy reliability, enables agro-processing, supports small enterprises, develops technical skills, strengthens local supply chains and expands productive employment. This is consistent with the direction of Ghana's emerging energy-transition agenda, which increasingly links energy access with productive use, private investment and employment rather than treating electricity access as an end in itself.

The third requirement is to bring district-level planning into the transition architecture. District Assemblies should have sufficient information and institutional capacity to understand how national energy investments interact with local economic-development plans. This is particularly important because many of the outcomes associated with a just transition; employment, enterprise creation, land-use change, skills development, local infrastructure, livelihood resilience and environmental management, are ultimately experienced territorially.

A transition that remains designed primarily through national sector institutions may therefore achieve national energy targets without necessarily producing territorially inclusive economic transformation.

The fourth requirement is a more deliberate policy approach to petroleum-producing landscapes as transition territories. Selected petroleum-producing districts could be treated as demonstration territories in which government, industry, local authorities, universities and communities jointly test how petroleum-dependent economies can be repositioned.

Such territories could track a common set of indicators covering petroleum exposure, local employment, fiscal flows, energy access and reliability, environmental conditions, infrastructure utilisation, skills, enterprise formation, investment, women and youth participation, and the emergence of new economic activities. The objective would not be to manufacture a new special economic zone around every oil-producing community. It would be to generate evidence about what actually enables a resource-dependent territory to diversify.

This could be particularly valuable for Ghana because the country still has an opportunity to act before petroleum decline becomes a full-scale local economic shock. Current evidence already points to a structural tension: Ghana continues to seek investment to reverse upstream production decline, while simultaneously positioning its energy system for renewable energy, improved access, productive use and lower-carbon development.

A just transition for Ghana should not be understood simply as protecting workers from the decline of fossil fuels or compensating communities affected by extraction. It should mean ensuring that the geographies that have carried the costs and responsibilities of the energy economy are not excluded from the economic opportunities of its next phase. This is where territorial fairness becomes a national development issue rather than a narrow question of local compensation.

Conclusion

The energy transition will not happen everywhere in the same way. Some places will experience it through new energy infrastructure. Others will experience declining fossil-fuel activity. Some regions may attract new industries and skilled employment. Others may struggle to replace economic activity associated with the petroleum economy. Some communities may gain more reliable energy and new productive opportunities, while others may remain disconnected from the investment flows associated with the transition.

National averages will not adequately reveal these differences. Ghana therefore needs to treat geography as a central dimension of transition governance. The location of extraction, infrastructure, revenue-linked investment, energy-access deficits, economic dependence and future opportunity should be examined as parts of the same transition system.

The proposed Energy Transition Observatory can contribute to this shift by making territorial patterns visible. Its value would lie in connecting fiscal information with spatial evidence and community experience, allowing policymakers and citizens to see where public value is accumulating, where vulnerability persists and where future opportunities remain underdeveloped.

The deeper policy proposition is not that producing regions should automatically receive more. It is that Ghana should know what different territories contribute to, receive from and risk losing through the energy transition. The first brief asks what the petroleum era will leave behind.

This brief asks where that legacy will be found. And the answer will matter because the future of Ghana's energy transition will ultimately be built in places—not in national averages.

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