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Energy, Authority, and Opportunity:

Somalia's Path to Energy Resilience

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Executive Summary

Somalia is endowed with one of the world's most challenging natural environments, marked by chronic security issues, institutional fragility, and infrastructure fragmentation. Yet, the country also displays immense renewable energy potential in solar and wind, along with untapped strategic mineral wealth that may be able to finance its energy future. This paper analyzes Somalia's current energy landscape, policy framework, and political economy factors to elucidate barriers and propose solutions for long-term development. It argues that Somalia's core problems are not technological but institutional, rooted in historically weak governance, poor regulation, and limited investment capacity. Policy options include regulatory enforcement, mineral wealth utilization, sovereign wealth fund establishment, foreign direct investment facilitation, and decentralized renewable energy system scalability. With strengthened institutions and smarter investment, Somalia can build an inclusive, resilient energy sector capable of supporting economic growth and state stabilization.

Background

Somalia, a sub-Saharan country on Africa's eastern seaboard, spans the arid and geopolitically significant region known as the Horn of Africa. At 637,000 km², roughly the size of Texas, it occupies a strategic position on the continent due to its proximity to major energy shipping lanes through the Gulf of Aden. A land of extremes, both climatically and politically, Somalia has endured decades of conflict, fragility, and institutional collapse, making it one of the most challenging environments for energy development in the world.[1] Since the fall of Siad Barre's regime in 1991, the nation has experienced prolonged political fragmentation, humanitarian crises, and widespread poverty. These issues have left deep scars on Somalia, contributing to one of the lowest electrification rates in the world, with heavy reliance on expensive and polluting diesel generation operated by largely unregulated private companies. In the absence of a centralized power authority or national grid, energy access remains highly unequal and is concentrated in urban areas like the capital Mogadishu, while rural communities are largely off-grid.

[1] Africa Development Bank Group, "Somalia Economic Outlook," *Africa Development Bank Group*, 2024, https://www.afdb.org/en/countries-east-africa-somalia/somalia-economic-outlook.

Somalia has undergone various political transitions that have incrementally improved state coherence and governance capability. A nearly two decade long civil war gave way to the formation of the Federal Government of Somalia (FGS) in 2012, marking a turning point that now enables greater coordination between federal and regional state apparatus. As relative stability increased, international donors have since re-engaged in Somalia's development via security, institutional, and economic initiatives. Energy has emerged as a key sector within this policy space, with a high potential for transformative impact. It is well established that electrification is critical for improving living standards as well as economic potential in developing countries, with China, Vietnam, Brazil, and Chile providing highly successful examples.[2] With one of the lowest Human Development Index scores in the world, Somalia may follow suit and stands to benefit greatly from this improved policy climate.

More tangibly, the geography of Somalia offers significant untapped renewable energy resources. It boasts one of the highest solar irradiance rates in the world, on par with regions like the Sahara and Mojave deserts. It also displays strong, steady wind currents along its extensive coastline and exhibits modest bioenergy potential.[3] Despite this, renewable energy resources remain largely unexploited. Security issues, weak governance, lack of infrastructure, and limited investment capital continue to stifle economic growth. Furthermore, the absence of formalized national energy policies until recently has resulted in fragmented and informal energy market development that is dominated by private actors operating without long-term planning or effective incentives. Regionally, Somalia also lags behind its neighbors. Ethiopia and Kenya have made notable strides in renewable energy adoption and electrification, particularly leveraging hydro and geothermal resources. They have well-developed donor support, public-private partnerships, and targeted national energy strategies. Somalia, by contrast, remains at an early stage of energy planning, though recent policy initiatives signal increasing government interest at growing institutional capacity, thereby enabling sector reform.

Against this backdrop, energy development in Somalia presents both challenges and opportunities. Energy expansion, particularly through decentralized renewable technologies,

[2] Michael Aklin, Patrick Bayer, S.P. Harish, and Johannes Urpelainen, *Escaping the Energy Poverty Trap: When and How Governments Power the Lives of the Poor* (Cambridge, MA: MIT Press, 2018), 180.

[3] Peiyi Yu, "Renewable Energy in Somalia," *The Borgen Project*, accessed July 5, 2025, https://borgenproject.org/renewable-energy-in-somalia.

could address urgent humanitarian needs, foster economic growth, and stabilize a fragile state. Realizing this potential requires not only technical solutions but an understanding of the nation's governance structures, institutional constraints, and political economy. This paper analyzes Somalia's energy landscape, apparent opportunities and constraints, and political economy to identify key issues and strategic policy solutions towards further development. This research suggests that Somalia's core issues are not due to a lack of resources or technological options, but rather the lack of enabling political and institutional environments to support coordinated and sustainable energy development. Holistic policy evolutions are required involving strengthened governance, development of mineral resources, institutional capacity building, private investment engagement, and off-grid renewable expansions. Progress is feasible, however, effective energy sector progress hinges on addressing these crucial political-economic constraints.

Somalia's Energy Landscape

Access Rates

This section will begin by examining Somalia's current energy landscape, specifically, energy access. For context, Somalia boasts a population of just over 19 million people spread between urban, rural, and nomadic groups.[4] Reliable energy data therein can be challenging to find, an issue that will be touched upon later, however, in 2020 the World Bank estimated that approximately 49 percent of the country had access to electricity.[5] Another survey conducted by the Somali Household Budget in 2023 suggests that around 62 percent of the population gained access to electricity, indicating progress towards sustainable electrification.[6] Despite small variances between data sources, the urban-rural divide is starkly apparent, with 80 percent of the urban populace having access compared to only about 39 percent of rural residents.[7] In contrast, fewer than 9 percent of the nomadic population have reliable access even though they comprise between 10 to 26 percent of the total population of the country.[8]

[4] World Bank Group, "Somalia," *World Bank*, 2024, https://data.worldbank.org/country/somalia.
[5] International Trade Administration, "Somalia Country Commercial Guide," *International Trade Administration*, January 22, 2024, https://www.trade.gov/country-commercial-guides/somalia-energy-and-electricity.
[6] Ibid.
[7] International Trade Administration, "Somalia Country Commercial Guide."
[8] Marian Warsame, "Improving Access to Health Care Services for Pastoral Nomads in Somalia," *University of Gothenburg*, August 13, 2024, https://www.gu.se/en/research/improving-access-to-health-care-services-for-pastoral-nomads-in-somalia.

Economy and Energy Pricing

About three-fifths of Somalia's economy revolves around the cultivation of agriculture and livestock which is divided into three sectors: nomadic pastoralism, traditional subsistence, and crop harvesting.[9] Somalia's GDP is very modest, amounting to just over $12 billion annually, with a GDP per capita of approximately $637.[10] This is similar to Equatorial Guinea and Malawi, both much smaller in terms of land and resource potential. GDP growth shows decent potential at 4 percent in 2024.[11] While poverty has decreased in recent years, half of the population lives below the poverty line and unemployment rates remain high with roughly one-third of the population without jobs.[12] Similarly, in terms of energy pricing, Somalia has some of the highest in Africa at roughly $0.50-$1.00 per kWh which stifles consumption in an already poor nation.[13] Energy efficiency is chronically low, and improving this will be key to economic development. This requires reducing energy intensity, which is also elevated in Somalia compared with rates in neighboring countries.[14] With high unemployment, little government funding, and no national energy grid, Somalia's short-term economic outlook is modest, complicating efforts towards energy sector development.

Energy Sources and Infrastructure

Somalia's energy mix reflects the challenges posed by prolonged conflict and government instability in the nation's recent history. 87 percent of energy is produced from fossil fuels, primarily diesel generators.[15] 12 percent comes from solar photovoltaic (PV) sources, while only 1 percent is sourced from wind turbines.[16] Most of the diesel infrastructure is dated and inefficient, resulting in a low-quality supply of energy.[17] At present, Somalia lacks a national electricity grid. Before the civil war, the Somalia National Electric Corporation (Ente Nationale Energia Elettrica—ENEE) operated as the country's sole public utility, supplying Mogadishu and

[9] Jorg Janzen and Ioan Lewis, "Economy of Somalia," *Britannica*, last updated July 10, 2025, https://www.britannica.com/place/Somalia/Economy.

[10] World Bank Group, "Somalia."

[11] Africa Development Bank Group, "Somalia Economic Outlook."

[12] Ibid.

[13] International Trade Administration, "Somalia Country Commercial Guide."

[14] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," *IRENA*, 2025: 9, https://cisp.cachefly.net/assets/articles/attachments/95015_irena_cou_energy_transition_assessment_somalia_2025.pdf.

[15] Abdullahi Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," *Energy Strategy Reviews* 48 (2023): 6, 101108, https://doi.org/10.1016/j.esr.2023.101108.

[16] Ibid.

[17] International Trade Administration, "Somalia Country Commercial Guide."

major regional cities like Hargeisa, Berbera, Burao, Baidoa, and Kismayo through distributed diesel generators and small, localized distribution grids. Other regional centers were served by municipal authorities. This limited public infrastructure was largely destroyed during the conflict, and the institutional frameworks that supported it have since collapsed or been rendered nonfunctional.[18]

As such, Electricity Service Providers (ESPs), are the main power suppliers in Somalia, leveraging local private mini grids.[19] This comes with a host of issues including regional monopolization, lack of transparency, and limited regulation and oversight. In fact, due to inadequate infrastructure and financial collection, distribution losses are as high as 40% in some areas.[20] Efficiency issues abound, with one government study highlighting the absence of automation and synchronization as a key technical issue that prevents the ESPs from utilizing parallel generation, which would assure optimal generator performance and reactivity to electricity load variations in the system. This mode of operation leads to significant "wet stacking," a condition where unburned diesel accumulates due to low load running. The result is increased fuel waste, higher emissions, engine wear, and degraded performance. Over time, this reduces the generators' maximum power output, shortens engine lifespan, and drives up maintenance costs and unplanned downtime.[21] On a large scale this significantly reduces energy generation efficiency. From a management standpoint companies like BECO, NECSOM, and SOMPOWER dominate Somalia's energy distribution network despite these issues, and the state is reliant on them to continue fulfilling its energy needs for the foreseeable future.

Renewable Energy Potential

Solar

With a firmer grasp of Somalia's current energy situation and its reliance on fossil fuels, we will now examine its significant renewable energy potential. As it stands, Somalia boasts one of Africa's highest renewable energy potentials. It receives roughly 5-7 kWh/m^2/day of solar

[18] Ministry of Energy and Water Resources (MoEWR), "Stakeholder Engagement Plan – SEP For the Somali Electricity Sector Recovery Project (P173088)," *World Bank*, September 2021: 2, https://documents1.worldbank.org/curated/en/436541633013869652/pdf/Stakeholder-Engagement-Plan-SEP-Somali-Electricity-Sector-Recovery-Project-P173088.pdf.

[19] Ibid.

[20] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 10.

[21] Ministry of Energy and Water Resources (MoEWR), "Stakeholder Engagement Plan – SEP For the Somali Electricity Sector Recovery Project (P173088)," 3.

irradiance or roughly 3000 sun-hours/year, with greater potential in the country's north.[22] To put this into perspective, this is on par with the Mojave Desert in the American Southwest, an area with one of the highest solar potentials in the world, and twice the global average. In recent years several providers have built solar PV farms to provide power to small regions near major cities. BECO, the country's largest provider, announced a 25 MW plant in 2023 following the completion of two related projects.[23] Other international firms have also invested in small scale solar infrastructure development, but the nation is only exploiting approximately 0.08% of its predicted solar potential, highlighting a significant energy gap that has not been filled.[24] Some studies have shown that installed renewable energy capacity in Somalia was still low compared to conventional primarily due to a lack of investment, legislative framework, and limited technical capability.[25]

Wind

Somalia has enormous wind potential, with an estimated 45,000 MW of untapped production potential.[26] For context, the total installed capacity of renewable energy is 41 MW for solar and 1 MW for wind today.[27] Coastal regions such as Puntland and Somaliland in the north consistently record high wind speeds especially during the monsoon season. Currently, NECSOM, one of the larger ESPs, is the only entity successfully operating commercial-scale wind turbines in the country.[28] A handful of private actors and donor-backed initiatives have explored small-scale microgrid developments, but scaling remains extremely limited due to cost and technical capacity. If appropriately leveraged in the future, wind presents an excellent opportunity for Somalia to expand its energy infrastructure with a readily available resource.

Hydro and Geothermal

[22] Power Africa, "Unlocking Somalia's Clean Energy Potential," *Medium*, June 5, 2024, https://powerafrica.medium.com/unlocking-somalias-clean-energy-potential-17ff580124a4.

[23] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 9.

[24] Ibid.

[25] Ibid, 12.

[26] Abdi Aynte, Eugene Chen, and David Mozersky, "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," *The Stimson Center & Energy Peace Partners*, March 2022: 22, https://www.stimson.org/wp-content/uploads/2022/03/PoweringPeaceSomaliaFinalMarch2022.pdf.

[27] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 4.

[28] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 21.

Hydropower and geothermal energy resources are still largely unassessed and untapped in Somalia's energy portfolio.[29] The country's rivers, particularly the Juba and Shebelle, are seasonal and highly variable, making consistent hydropower generation impossible without substantial investment into flow regulation and catchment management. Moreover, Somalia has not yet developed operational hydroelectric plants as the topography and hydrology offer limited opportunities outside of micro-hydro systems in limited areas. Geothermal potential is theoretically possible due to Somalia's proximity to the East African Rift System though has not been assessed in a meaningful way. The country has yet to conduct comprehensive surveys or feasibility studies to determine the extent of reservoirs, a key theme that also applies to strategic minerals, which will be discussed later. The International Renewable Energy Agency (IRENA) suggests that geothermal resources could provide base power production that helps stabilize service provision, though this must be explored further.[30] As a result of this lack of data, both hydro and geothermal stand as distant prospects rather than actionable components of any short-term renewable energy strategy.

Biomass & Waste-to-Energy

Biomass and plant waste must be examined as well since they play a significant role in Somalia's energy consumption. Biomass stands as a vital energy source for many Somali households, particularly in rural and displaced populations. Firewood and charcoal dominate domestic energy use which contributes to deforestation and health hazards posed by indoor air pollution. While promising in principle, waste-to-energy solutions remain underdeveloped due to the nation's poor waste management infrastructure. Urban hubs like Mogadishu, Hargeisa, and Bosaso may find localized potential for small scale conversion, but limited municipal capacity and a lack of technical expertise hinders progress. IRENA notes that biomass may be able to play a transitional role within hybrid energy systems especially if paired with sustainable forestry management practices or waste processing.[31] Once again, scaling these systems would require significant financial investment as both regulatory oversight and sanitation infrastructure are severely lacking.

[29] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 13.
[30] Ibid, 11.
[31] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 19.

Opportunities and Constraints

Opportunities

As evidenced, Somalia's energy environment presents an enormous convergence of untapped renewable sources that hold significant microgrid potential. With some of the highest solar and wind potential in the world, the country is well positioned to pursue decentralized energy solutions. These resources offer a pathway to affordable, climate-resilient electrification, especially in remote and underserved areas. The ESPs already power most urban centers using diesel, though are displaying growing interest in these technologies.[32] The current unregulated ecosystem, while showing signs of greater control, demonstrates adaptability and could further expand solar PV systems with Pay-As-You-Go models that are more affordable. Microfinance for solar home systems has shown promise in this vein (e.g. Bangladesh's IDCOL model, which expanded rural solar power to 12% of the rural population).

International donors have begun investing in Somalia as well. The World Bank's Electricity Sector Recovery Project supports both infrastructure development as well as institutional reform while IRENA and the IEA have identified Somalia as a critical node in regional energy transition strategies.[33, 34] Perhaps an unexpected positive side effect of transitioning away from fossil fuels and over to renewables are peace dividends. More solar and wind power leads to decreased reliance on oil and diesel, which is imported into the country from ports and funneled further inland along a limited number of supply routes. The terrorist organization Al-Shabab controls significant portions of these supply routes and generates revenue from taxes set on the import of this fuel.[35] As more ESPs make the switch to renewable energy, the reduction in diesel requirements deprives Al-Shabab of direct financing opportunities, indirectly promoting regional stability.

Constraints

[32] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 4.
[33] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia."
[34] International Energy Agency (IEA), "Clean Energy Transitions in the Greater Horn of Africa," *IEA*, October 2022, https://iea.blob.core.windows.net/assets/656b8a1f-5aff-4da9-908f-c669dda28914/CleanEnergyTransitionsintheGreaterHornofAfrica.pdf.
[35] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 23.

These opportunities for development are strained by a fragile enabling environment. Security threats are a constant risk to energy infrastructure and staff, inhibiting government control and undermining investor confidence. Land access is often blocked by unclear property rights and limited governance, making project siting difficult. Somalia's lack of a national power grid keeps energy systems localized, inefficient, and expensive with current technology, with costs exceeding $1.00 per kWh, among the highest globally.[36] At the institutional level Somalia must confront policy fragmentation and regulatory uncertainty. Federal and state governments often operate with little coordination, delaying implementation of national energy goals.[37] The energy demand is only expected to increase as the private sector invests in buildings and other sectors like irrigation, cold storage, and small industries expansion.[38]

For ESPs one of the greatest challenges to significantly expanding renewable energy usage is access to financing. The up-front capital required to switch from diesel generators to solar or wind turbines is substantial and prohibitive in many cases.[39] Most ESPs are small companies with slim profit margins, rendering them unable to mobilize the necessary resources to make the switch to renewable energy technologies.[40] Finally, as alluded to previously, data scarcity makes planning difficult. Somalia lacks reliable and sometimes contradictory information on energy usage, capacity, and demand; all of which undermine both policy design and investment targeting.[41, 42] IRENA suggests that these resources should be integrated in a publicly available geographic information system database that includes resources, needs, and future projects, thereby supporting the efficiency of interventions and investments.[43] Without better data and stronger institutions the transition to clean, renewable energy will remain out of reach despite the country's abundant natural potential.

Political Economy of Somalian Energy

Government Interest

[36] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 4.
[37] International Energy Agency (IEA), "Clean Energy Transitions in the Greater Horn of Africa."
[38] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 4.
[39] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 22.
[40] Ibid.
[41] World Bank Group, "Somalia."
[42] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia."
[43] Ibid, 11.

Somalia's energy sector reform is still in its relative infancy; however, the government has shown interest in expanding energy access and several foundational legal instruments have emerged in the last decade. The National Energy Policy (2018) was the first document to formally articulate Somalia's intention to promote equitable energy access, diversification, and encourage private sector participation. The policy highlights solar and wind as strategic national assets, framing energy as a catalyst for national development and service delivery.[44] The subsequent Master Power Plan (2019) followed shortly thereafter, expanding upon much of the previously laid legislative groundwork.[45] The National Renewable Energy Plan (2020) was then introduced, espousing the goal of tripling renewable energy capacity by 2030, reflected in Somalia's pledge at the UN's COP28 convention. The National Electricity Act (2023) introduced legal recognition for independent Energy Service Providers, clarified licensing procedures, and laid the foundation for the establishment of a much-needed centralized regulatory body, the National Electricity Authority (NEA).[46] The most recent Somali Transmission Development Plan (2025) is a 20-year roadmap that sets cost-optimized generation and transmission infrastructure goals and emphasizes phased integration of renewables.[47] It is directly tied to Infrastructure Authority licensing and financial mobilization efforts as well.

Together, these policy tools signal high government interest as well as Somalia's shift towards a market-facilitated but state-coordinated energy model, ideal for its current geoeconomic position. These reforms are also generating tangible results: based on 2016-2023 country data, installed capacity is projected to reach 392 MW in 2030 using a compound annual growth rate of 6% per year; this is set to meet the goal Global Renewables and Energy Efficiency Pledge that Somalia made since the projection for 2030 is more than triple the amount seen in 2022.[48] That said, actual state presence in the energy sector is still limited. Much of the policy development has been externally driven, with frameworks often produced in collaboration with

[44] Ministry of Energy and Water Resources (MoEWR), "Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) (P181341): Revised Draft Environmental and Social Management Framework (ESMF)," *MoEWR*, November 2023: 9, https://moewr.gov.so/wp-content/uploads/2023/11/ESMF-ASCENT_Somalia.pdf.

[45] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 12.

[46] Ministry of Energy and Water Resources (MoEWR), "The Present Signed the National Electricity Act," *MoEWR*, March 8, 2023, https://moewr.gov.so/ova_doc/somalia-electricity-act/.

[47] Ministry of Energy and Water Resources (MoEWR), "Optimized Cost Electricity Generation and Transmission Development Plan for Somalia," *MoEWR*, June 2025: 7, https://moewr.gov.so/wp-content/uploads/2025/07/Somalia-Generation-and-Transmission-Plan-2025-MoEWR.pdf.

[48] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 17.

international agencies like the World Bank rather than growing from internal momentum.[49] Agencies such as the Ministry of Energy and Water Resources (MoEWR) have expanded in scope but continue to struggle with limited staffing, low budgets, and weak institutional memory. Fragmented authority between federal and state governments further complicate implementation, with overlapping jurisdictions and vague legalese contributing to delays and duplicative efforts.[50]

Institutional Capacity

Somalia's energy goals are ambitious: universal access by 2030, a heavy renewable energy mix, and a standardized regulatory environment. All are appropriate but challenging prospects considering its economic realities. Institutions are the vehicle for how policy is translated into reality, but they have traditionally been weak in Somalia due to its recent and violent history; however, this is showing signs of change. The National Electricity Authority, established under the National Electricity Act, is tasked with overseeing licensing, tariff regulation, and technical standardization for ESPs.[51] Until now, its ability to enact significant change has been very limited, but its authority is expected to be strengthened in the newest 2025 legislation.[52] To combat data issues the MoEWR also aims to establish a national electrification database for demand forecasting and cost planning. The Generation and Transmission Plan represents a shift towards this more structured, long-range planning. Broader capacity-building targets include energy planning units within various government ministries as well as investment frameworks to guide donor and private capital into priority areas.

In theory, these reforms should serve to improve coordination between governmental levels, standardize energy sector practices, and lower investor risk. They aim to address deep-seated issues such as data scarcity, informal monopolization, and technical fragmentation. Unfortunately, progress remains slow, and many agencies lack the requisite human and financial resources necessary to fulfill these mandates.

Local Dynamics and Accountability

[49] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 17.
[50] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia."
[51] Somali Electricity Sector Recovery Project, "ESPs Consultation on Licensing Framework - NEA," July 22, 2024, https://sesrp.moewr.gov.so/2024/07/22/consultation-on-licensing-framework/.
[52] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 17.

At the local level energy consumption in Somalia is driven more by informal networks and market necessity than by state regulation. Independent ESPs dominate the sector where they operate microgrids powered largely by diesel or hybrid solar systems. While this decentralized model has ensured basic access following the destruction of state infrastructure, it has spawned a very uneven energy landscape. Service quality, pricing, and reliability vary wildly by region and provider and until recently, most of these companies operated without oversight but that is beginning to change. The creation of the National Electricity Authority is a major step in the right direction; however, it is still a very young and underdeveloped organization.

In many areas, clan dynamics, local business elites, and informal security actors exert greater influence than government authorities. These localized power structures can enable democratized and pragmatic energy access but also invites rent-seeking, corruption, and patronage politics.[53] Citizens often have few formal mechanisms to seek redress and demand state accountability which can exacerbate public distrust in state capacity. The absence of consumer protections also disincentivizes private actors from investing in long-term projects. Without clear rules on quality enforcement, tariff structures, or grid integration, ESPs will optimize for short-term survival rather than long-term renewable energy expansion.

Strategic Policy Options

Strengthening Governance

To realize its energy potential and achieve its stated energy ambitions, Somalia must enforce legislation while cohesively aligning fiscal incentives with renewable energy goals. Currently, solar and wind technologies are taxed as luxury commodities, unlike neighboring countries that waive tariffs and more directly incentivize development.[54] Unequal treatment distorts market signals that are crucial to attracting private investment into clean energy solutions. Establishment of a rural energy agency and renewable energy development agency would help address localized and sectoral considerations from a governmental standpoint, giving more teeth to a system that desperately needs to fill capacity gaps.[55] Simultaneously, the National Electricity Authority needs to have the power to implement licensing, standards enforcement,

[53] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 17.
[54] Samatar et al., "The Utilization and Potential of Solar Energy in Somalia: Current State and Prospects," 10.
[55] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 10.

and tariff regulation transparently. Due to the security situation in the country, enforcement mechanisms will likely require military and law enforcement involvement, however, specific recommendations are outside the scope of this paper.

Developing Strategic Resources

While a departure from traditional visions of green energy development, the discovery of strategic minerals has the potential to drastically alter the course of a nation's economic outlook and is very salient in a case like Somalia. It is believed that Somalia is rich in strategic minerals critical to technological development such as platinum, lead, zinc, copper, nickel, chrome, manganese, lithium, and titanium.[56] Further reserves of oil and natural gas are also believed to be present. The prospective value of these assets has yet to be quantified, but geological surveys suggest significant revenue flow potential should they be developed. Strategic mineral utilization here could serve to catalyze economic growth and renewable energy investment if revenue is managed wisely and directed towards discrete and transparent objectives, namely, infrastructure development.[57] Effective resource surveying and mapping is required, though already neatly falls within Somalia's stated legislative reform architecture. A portion of revenues should be earmarked by law for energy infrastructure through a dedicated fund. By treating mineral production not just as an export strategy but as a financing tool for electrification, Somalia can reduce long-term reliance on foreign aid, improve unemployment issues, and attract investors into a high growth market.

Sovereign Wealth Fund

As noted, Somalia has significant untapped natural resource wealth. If exploited, care must be taken to avoid "Dutch Disease," where a sudden surge in revenues (typically generated from minerals) leads to a harmful economic consequences. Somalia, however, has the opportunity to link these efforts towards clean energy expansion by offering a dual path that emphasizes both economic independence and energy resilience. The government should therefore establish a Sovereign Wealth Fund (SWF) in conjunction with strategic resource development, mandated by law, to allocate a certain percentage of revenue generated from the

[56] Ibid.

[57] Robert D. Lamb, Kathryn Mixon, and Sadika Hameed, "Sovereign Wealth Funds in Commodity-Rich Fragile States," *Center for Strategic and International Studies*, https://www.csis.org/analysis/sovereign-wealth-funds-commodity-rich-fragile-states.

production and sale of the minerals in order to internally finance future energy projects rather than having to solely rely on Foreign Direct Investment (FDI). To ensure stability and credibility, certain provisions must be established. Transparent oversight is necessary to combat corruption in fragile states like Somalia. As such, the fund should adhere to the IMF's Santiago Principles, delineating transparent governance and oversight mandates. International organizations such as the International Monetary Fund and World Bank are excellent choices to help draft and implement accountability mechanisms, ensuring the fund stays aligned with its codified values and objectives.[58] Such an approach mirrors successful examples from Chile and Angola, where SWFs intentionally funded national development goals while weathering commodity cycles.[59] A Somali SWF could feasibly build a sustainable financing anchor and expand over time.

Stimulate Foreign Direct Investment

Blended finance architecture is essential to overcoming high risk and market barriers. The World Bank's $150 million Somalia Electricity Recovery Project aims to reestablish a stable electricity supply and support regional integration efforts with nearby countries. Significant for Somalia's energy ambitions, it highlights growing international confidence in Somalia's energy sector, forming a solid base for further investment.[60] Additional funding may be available from multilateral institutions such as the Green Climate Fund, African Development Bank, and bilateral donors.[61] A group of international donors recently launched the Nordic Horn of Africa Opportunities Fund to support ESPs with concessional loans, demonstrating the potential of donor-partnered finance to catalyze private capital.[62] The Somali government would be wise to actively incentivize and coordinate these mechanisms via a cooperative investment agency to maximize external finance and de-risk private investment in the future. Energy auctions may also be an effective way to tangibly turn this into reality in areas with high solar and wind potential. In any case, encouraging FDI and outside assistance will be necessary to develop the country's infrastructure in more significant ways.

Expand Off-Grid Renewables

[58] Lamb, et al., "Sovereign Wealth Funds in Commodity-Rich Fragile States."
[59] Ibid.
[60] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 20.
[61] International Energy Agency (IEA), "Clean Energy Transitions in the Greater Horn of Africa." 114.
[62] Ibid.

Decentralized renewables offer immediate, scalable access in areas unlikely to be connected to a centralized grid. Studies suggest that a focus on decentralized renewable energy solutions like solar micro-grids and wind power could significantly enhance energy access.[63] Mini-grids are already common and supported by ESPs and civil society as the backbone of Somalia's energy future.[64] These power companies have even been lobbying federal and state authorities to adopt new laws favorable to mini-grid development. Reflecting this trend, the National Electrification Strategy and Generation and Transmission Plan explicitly prioritize off-grid solutions.[65] The MoEWR should formalize this by adopting friendly licensing, setting supportive tariffs, and further integrating decentralized grids into national planning. Technical standards, land use agreements, and community engagement processes require codification, and ESP capacity enhanced via training and financing. This will serve to address the government's goals through a bottom-up approach on a national level.

Conclusion

Somalia's energy future rests not on the absence of resources, but on political will, institutional reform, and intelligent investment. The country faces daunting barriers, ranging from terrorism to regulatory fragmentation, but it also displays tremendous energy potential in solar, wind, and strategic mineral development. To harness this, the government must fully implement regulatory frameworks, formalize mineral sectors, and mobilize foreign and domestic capital through mechanisms such as a sovereign wealth fund and blended finance. Prioritizing decentralized renewable systems will accelerate access and build resilience from the bottom up. Somalia has the opportunity to align its governance structures with its resource advantages, and in so doing, it stands not only to energize its future, but to bring stability to a war-torn economy desperate for growth.

[63] International Renewable Energy Agency (IRENA), "Energy Transition Assessment: Somalia," 28.
[64] Aynte, et al., "Powering Ahead: The United Nations and Somalia's Renewable Energy Opportunity," 20.
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