



**NYANZA
PROFESSIONAL
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BUSINESS
CAUCUS**

Unlocking Potential, Transforming the Region

POLICY & ADVOCACY DOCUMENT

*Why the Proposed Nuclear Power Plant in Siaya
County is problematic*

2026

1. Executive Summary

Kenya is evaluating nuclear energy as a potential electricity source. While nuclear power promises large-scale energy production, the proposal to construct a nuclear plant in Siaya County near Lake Victoria poses unacceptable ecological, social, economic, and public health risks.

This document highlights why the project should not proceed, emphasizing:

- Environmental dangers to Lake Victoria and surrounding ecosystems
- Public health threats from radiation and waste
- Economic and livelihood risks for fishing, agriculture, and tourism
- Financial burden and opportunity cost compared with renewable energy alternatives

We advocate **redirecting energy investment toward renewables** (solar, wind, geothermal) that are safer, faster to deploy, and more cost-effective, while supporting Kenya's climate and development goals.



2. *Key Dangers of Nuclear Power in Siaya*

2.1 Environmental & Ecological Threats

Lake Victoria Contamination



- Risk of radioactive leakage into Africa's largest freshwater lake, a **primary source of drinking water, irrigation, and fisheries for millions.**
- Contamination would **bioaccumulate in fish and crops**, rendering them unsafe for consumption and export.
- Transboundary implications affect **Uganda, Tanzania, and the broader Nile Basin.**

2. *Key Dangers of Nuclear Power in Siaya*

2.1 Environmental & Ecological Threats cont...



Thermal Pollution

- Nuclear cooling processes discharge water heated by 10–15°C.
- Can kill fish larvae, destroy breeding grounds, and reduce oxygen levels.
- Lake Victoria produces ~800,000 metric tonnes of fish annually; even minor thermal changes could collapse the local fishing industry.

Biodiversity Loss

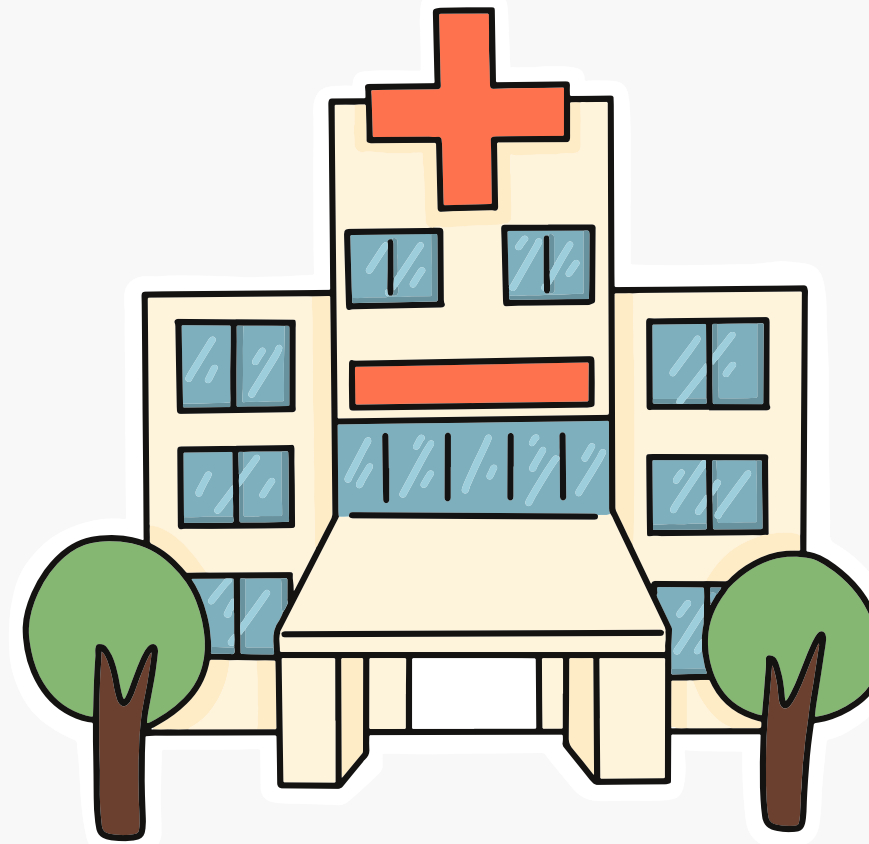
- Threatens aquatic ecosystems and terrestrial habitats.
- Potentially irreversible damage to already fragile and stressed ecosystems.

2.2 Public Health & Safety Risks



Exposure to radiation can **increase cancer rates, birth defects**, and long-term genetic impacts.

Safety exclusion zones could **displace communities** in densely populated areas.



Spent nuclear fuel remains hazardous for **thousands of years**, requiring management across generations.

Emergency evacuation would be **highly complex** in the Lake Victoria Basin region.

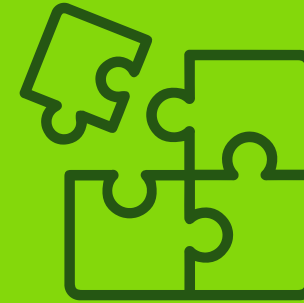


2.3 Economic & Livelihood Risks



Fishing Industry Impact

- Over 85,000 people directly employed; millions indirectly rely on fisheries.
- Any perception of contamination threatens livelihoods, trade, and food security



Agricultural Disruption

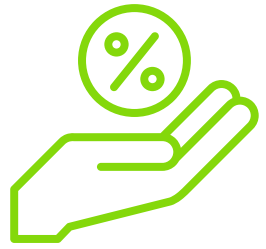
- Land acquisition and soil contamination may render crops unmarketable.
- Threatens staple foods like rice, vegetables, and sugarcane grown using Lake Victoria water



Tourism & Cultural Heritage

- Nuclear projects carry long-term stigma, which can reduce tourism income.
- Local communities, including traditional elders, reject forced projects that compromise land rights.

2.4 FINANCIAL & OPPORTUNITY RISKS



High upfront capital:

KES 500–600 billion (~USD 3.8–4 billion).



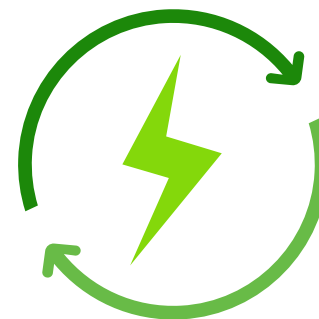
Construction timeline:

10–20 years before any return on investment.



Decommissioning and waste storage:

Extremely costly and technically challenging



Opportunity cost:

Renewable energy is cheaper, faster, and safer. Kenya already generates over 90% of electricity from renewables.

3. *Lessons from Other Projects*



Contaminated drain water at Ghivli

In what is clearly another black mark on India's nuclear-safety record, 3,000 villagers of Ghivli, 1.5 km away from the US-built Tarapur atomic-power plant in Thane, Maharashtra, had a narrow escape when radioactive water leaked out of the waste-immobilisation plant. The villagers felt something was amiss when, towards the end of June, over 20 animals - mainly cattle and dogs - died under mysterious circumstances, prompting the local sarpanch to send a note to the state Health Department. The villagers linked the deaths to the leakage of radioactive waste into the plant's storm-water drain, from where it seeped into the ground and entered a *nullah* used extensively by the villagers.

- **Lamu Coal Plant (Kenya):** Local opposition, environmental advocacy, and strategic litigation successfully stopped construction.
- **Fukushima, Japan:** Treated water releases caused long-term regional contamination and international bans on seafood.
- **Chernobyl, Ukraine:** Local communities suffered permanent health and environmental consequences.

Lessons highlight that once nuclear projects start, reversing or mitigating harm is extremely difficult, especially in low-resource regions.

4. Safer Energy Alternatives



Kenya has **proven, cost-effective renewable resources** that can meet energy demand without endangering Lake Victoria or communities:

Geothermal Energy – Kenya has abundant geothermal resources in the Rift Valley.





Solar Energy - Rapid deployment with minimal environmental footprint

Kenya Leading the Way for African Renewable Energy Usage



Kenya is a leading example in renewable energy production, deriving over 70% of its power from sources such as geothermal, hydro and wind, while the solar energy sector is gaining popularity for both industrial and residential use.

As talks continue during the African Climate Summit, Kenya's example to all other nations in the continent cannot be more important during a time of uncertainty with fossil fuel based energy.



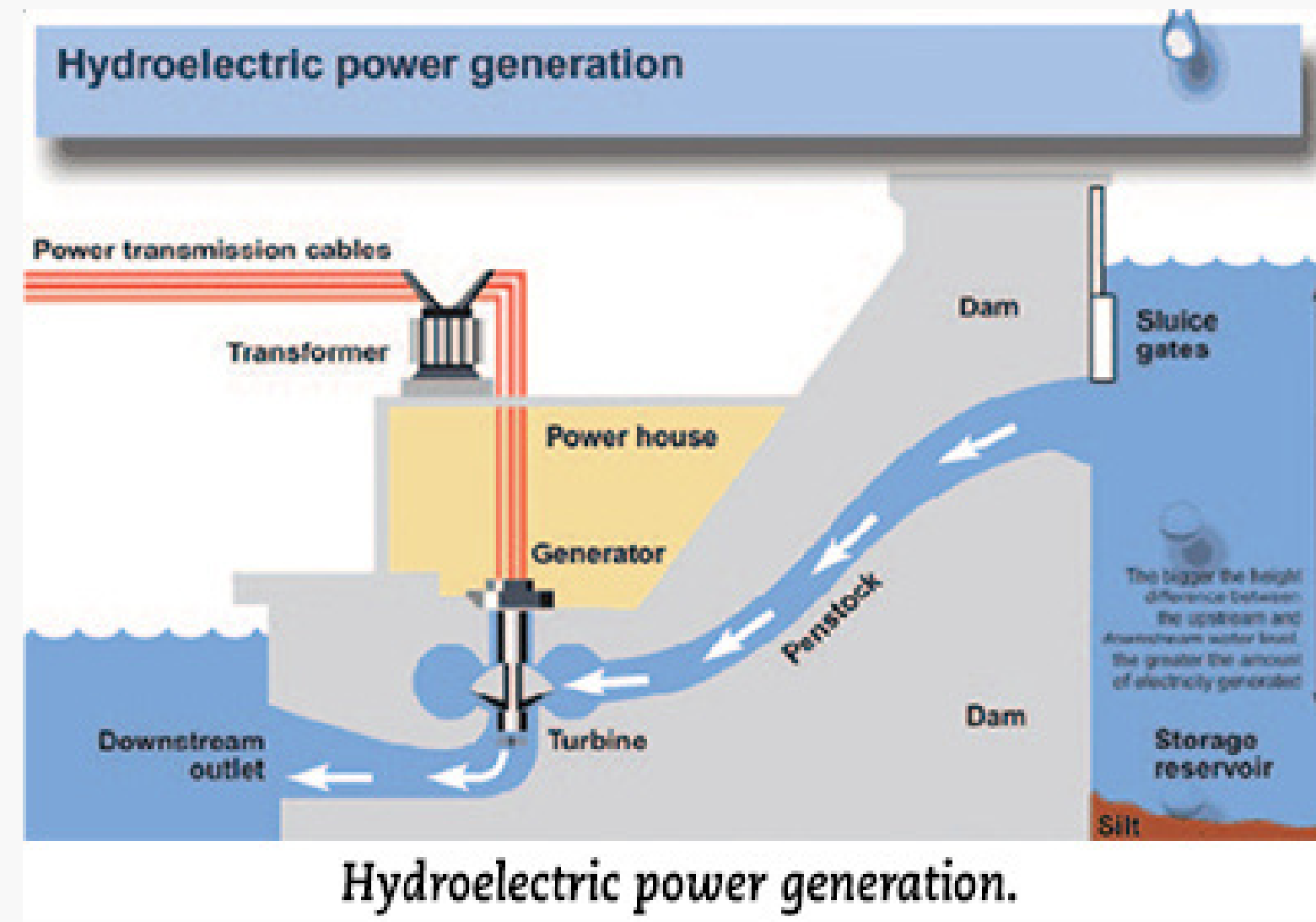


Wind Energy – Already successful in Turkana; scalable with low risk.





Hydropower & Small-Scale Hydro - Supports energy access without toxic waste.



Investing in these alternatives **supports economic growth, climate resilience, and local livelihoods**, without imposing intergenerational environmental risks.



5. *Policy & Advocacy Recommendations*

5.1 Immediate Actions

- **Reject construction of the nuclear plant** in Siaya due to unacceptable risks.
- Conduct **independent, transparent environmental and social audits** for all nuclear proposals.
- Ensure full **public consultation** with Siaya communities, Lake Victoria stakeholders, and regional partners.

5.2 Long-Term Energy Strategy

- Prioritize **renewable energy** expansion over nuclear.
- Strengthen **energy planning at county and national levels** to align with environmental, social, and financial sustainability.
- Develop **contingency and disaster response frameworks** for high-risk energy projects.

5.3 Legal & Governance Measures

- Utilize constitutional rights: **Articles 42, 69, and 70** (clean environment, natural resource protection, enforceable environmental rights).
- Ensure NEMA and related institutions are **fully independent and adequately resourced** to enforce environmental standards.
- Encourage **regional collaboration** with Uganda and Tanzania to prevent transboundary ecological harm.

6. *Core Advocacy Messages*



- **Lake Victoria is not expendable.** Nuclear construction threatens millions of livelihoods and the region's ecological balance.
- **Nuclear risks are long-term and intergenerational.** Communities cannot “avoid” contamination.
- **Renewables are safer, cheaper, and faster.** They provide energy security without ecological devastation.
- **Public participation is a right, not a formality.** Communities must have veto power over projects that threaten their livelihoods.
- **Financial and technical capacity is limited.** Kenya cannot realistically manage nuclear risks in Siaya without extreme consequences.



7. Conclusion

The proposed nuclear power plant in Siaya County is a **high-risk, high-cost, and environmentally unsustainable project.**

Evidence from other nuclear and coal projects demonstrates **irreversible social, ecological, and economic consequences.**

Kenya's energy future can and should rely on safer, **renewable alternatives that support development while protecting Lake Victoria**, local communities, and future generations.

POLICY POSITION: HALT THE NUCLEAR PROJECT IN SIAYA AND REDIRECT INVESTMENTS TOWARD RENEWABLE ENERGY SOLUTIONS THAT ARE SAFE, SUSTAINABLE, AND SOCIALLY JUST.



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Thank you