UNFCCC COP31 SIDE EVENT - Blue Zone
14/11 2026 13:15-14:45. Room 6, Katip Çelebi

100% Renewables with focus on local solutions, end poverty, women/gender responsive, youth education

Just Transition & 100% Renewables in Kenya, Presenting New Findings

Nobert Ochieng Nyandire

Suswatch Kenya

Part of Proceedings: inforse.org/cop31.php

About Sustainable Environmental Development Watch (Suswatch Kenya)

- A member Organization formed in 2002 as part of the Global Sustainability Network.
- Registered Officially in 2011
- Composed of CSO's engaged in varied thematic issues contributing towards Sustainable Development Agenda
- Operating in East Africa and international level, influencing policy formulations on climate change, Renewable Energy etc and Capacity building of community groups on the above.



- Member and national coordinator of International Network for Sustainable Energy - INFORSE

Kenya’s Energy Sector Highlights

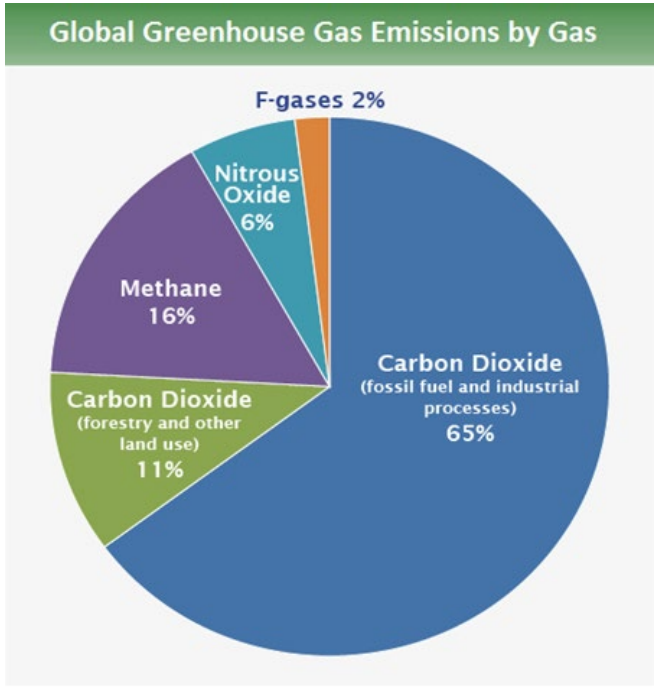
Background

- Kenya’s electricity generation mix is made up of over 80% Renewable Energy (Geothermal, Hydro, Wind and Solar)
- Kenya initially aimed to achieve a 100 % renewable energy transition by 2022 but failed.
- Kenya's renewable energy extraction is still low due to poor policies implementation.
- Introduction of incentives increased the solar home systems in rural homes. (Kenya Off-Grid Solar Access Project)
- Geothermal in Kenya leads in the energy matrix by about 40 %.
- Solar, hydro and wind energies influenced by seasons.

Kenya's Pathway to 100% Renewables

- Energy is the lifeblood of all societies. But its production from fossil fuels produces carbon dioxide emissions that are released into the atmosphere on a grand scale.

- Energy sector accounts for more than 70% of total global greenhouse gas emissions, which are driving climate change worldwide. Reducing Carbon Dioxide emissions from the energy sector has a direct and positive impact on climate protection.



Cont..

- Provision of clean and sustainable energy is essential for the realization of Kenya's Vision 2030 is considered as one of the infrastructure enablers of the socio-economic pillar of the Vision.
- To meet the growing energy needs of its citizens, the Kenyan government actively pursues new technologies to expand and upgrade the networks as well as promote the transition to a renewable based energy system.



Solar Cooker



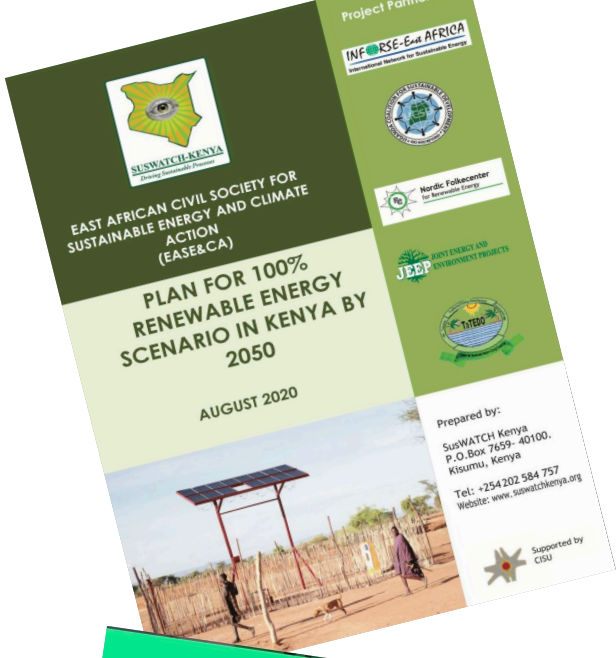
Flexi biogas

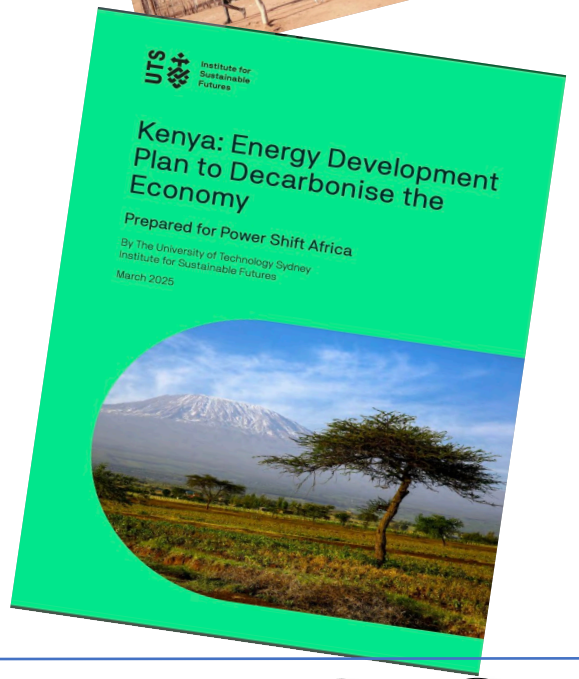
Renewable Energy Existing Capacity, Potential, Energy Use Projections in Kenya

Energy Type	Existing capacity (2019)	Capacity 2030	Capacity 2050
Solar	400 MW PV incl. small +2500 m^2 solar heaters	3,330 MW PV incl. small, 2 mill. m^2 solar heaters	17,330 MW PV incl. small, 2 mill. m^2 solar heaters
Biogas /biomass	30,000 bio digesters for cooking 4.7 mill improved stoves	250,000 bio digesters for cooking, 12.6 mill. improved cookstoves	500,000 bio digesters for cooking, 15.6 mill. improved cookstoves*
Geothermal Energy	801 MW	2,931 MW	5,566 MW
Hydro power	+823 MW	1,123 MW	1,123 MW
Wind power	+350 MW	1,500 MW	9,000 MW

New Findings

- Back in 2020-2023, Sustainable Environmental Development Watch (Suswatch Kenya) and INFORSE developed a 100% Renewable Energy Scenario for Kenya by 2050.
- Building on this, a recent study in 2025 by the **University of Technology Sydney (UTS) Institute for Sustainable Futures in collaboration** with **Power Shift Africa**, Presents a clear, cost-effective pathway for a fully decarbonized Kenyan Economy by 2050.
- Kenya has already set bold targets of 100% Clean electricity by 2030, Net zero emissions by 2050 and 100% clean cooking by 2028.





Recommendations

1. **Massive Renewable Potential:** Solar potential (11,706 GW) and wind (1,635 GW) resources can power Kenya's future needs and enable regional electricity exports.

2. **Electrification is Key:** Transitioning transport, cooking, and industry to electricity could raise demand to 176 TWh/year by 2050, cutting reliance on biomass and fossil fuels.

3. **Efficiency & Equity**

- ✓ The plan includes lifting rural and urban households to OECD-level electrification standards, improving quality of life while managing demand growth through efficient appliances.
- ✓ Solar home systems, mini-grids, and utility-scale PVs will play complementary roles in ensuring universal access.

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4. **Phasing Out Fossil Fuels**
- The K-1.5°C scenario phases out coal early and natural gas by 2050.
- Bioenergy use becomes sustainable and efficient, supplemented by green hydrogen and synthetic fuels for hard-to-abate sectors.

5. Economic Sense
- Total investment required: ~$301 billion (power + heat generation).
- Fuel cost savings by 2050: ~$590 billion, far outweighing the investments.
- Average electricity generation cost remains low: $0.031/kWh by 2050

6. Policy & Implementation
- Stable policy frameworks are crucial to de-risk investments in renewables.
- Strengthened energy efficiency standards and new business models for utilities will accelerate the transition.

Thank you

More information:

NOBERT NYANDIRE

EXECUTIVE DIRECTOR, SUSWATCH KENYA

Email/website: www.suswatchkenya.org

www.Suswatchkenya.org/ease

EASE & CA Project: www.inforse.org/africa/EASE.htm

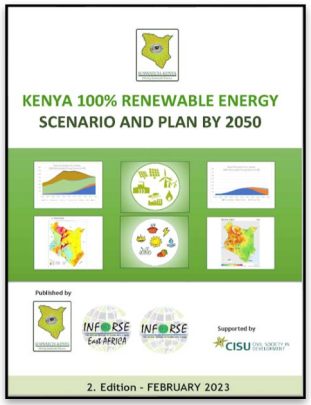
Online Catalogue: www.localsolutions.inforse.org

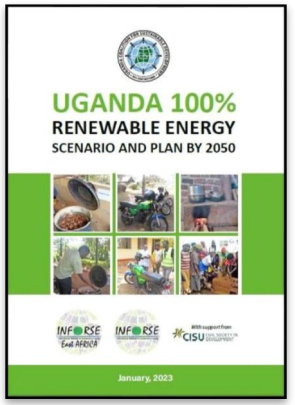
100% Renewables Scenario and Plan in Kenya:

www.suswatchkenya.org/100- renewable-energy-plan-for-kenya-by-2050/

100 % Renewable Scenarios & Plans in Africa - Kenya & Uganda:

https://www.inforse.org/africa/Vision2050.





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