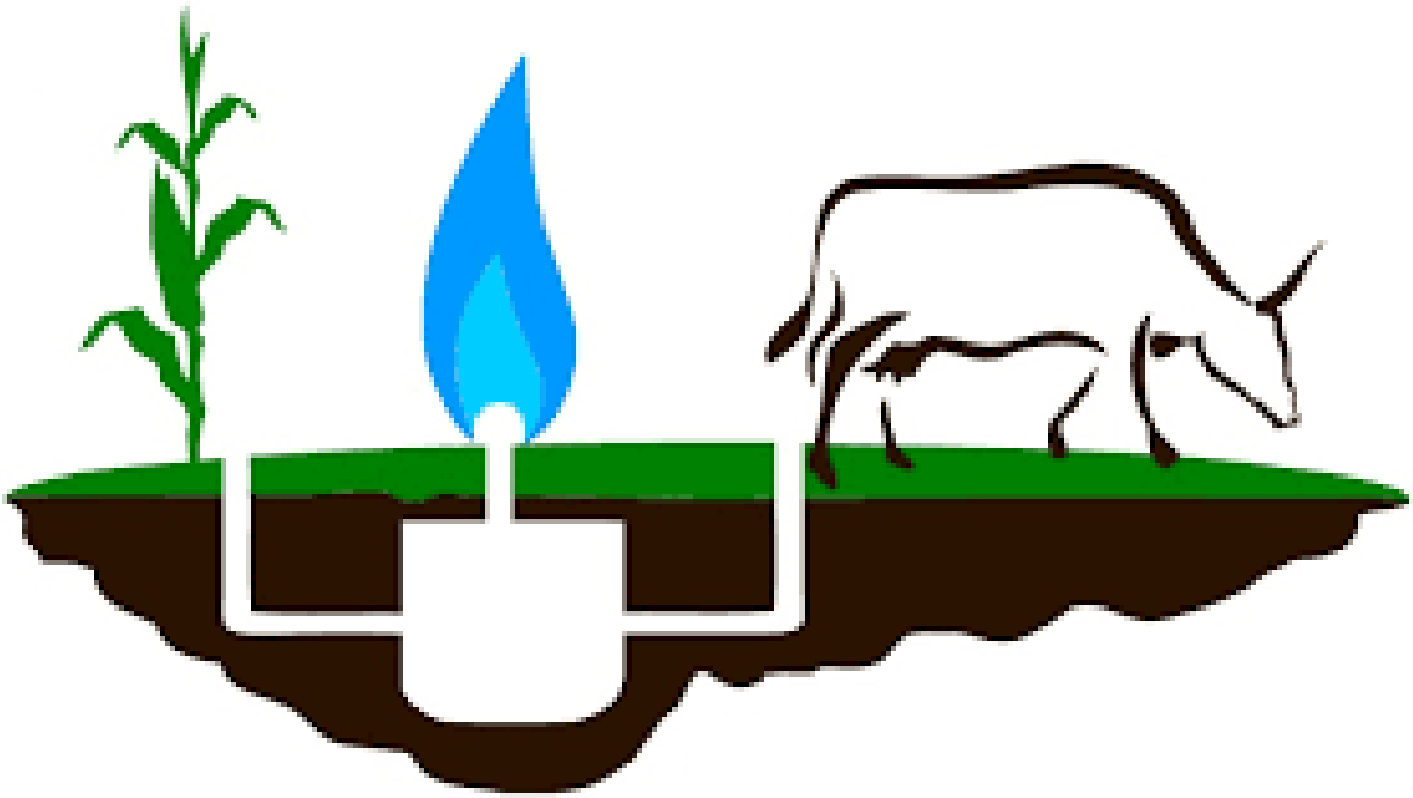
BIOGAS ENERGY STATUS IN KENYA

A PRESENTATION BY SAMUEL MATOKE- DDLP (STATE DEPARTMENT OF LIVESTOCK)



INTRODUCTION

- There is over reliance on biomass energy for cooking and heating particularly in the rural areas of Kenya
- Wood fuel (firewood and charcoal) is the commonly used biomass fuel, thus impacting negatively on the environment and the users
- The Energy Policy, 2004 explicitly pledged to promote domestic and institutional biogas technology, among other renewable energy sources.
- Several promotional efforts by the government, development partners and private stakeholders have been made since the 1980s, but the spread of this technology has remained extremely low

HISTORY OF BIOGAS IN KENYA

- Mr. Tim Hutchinson built the first biogas digester in Kenya in 1957.
- This provided all of the gas and fertiliser that his coffee farm needed.
- He found the effluent (or “sludge”) an excellent fertiliser and that its application to his coffee trees greatly improved productivity.
- In 1958, he started constructing biogas digesters commercially, marketing the effluent as the main product with biogas as a useful by-product.
- Between 1960 and 1986, Hutchinson’s company (called Tunnel Engineering Ltd.) sold more than 130 small biogas units and 30 larger units all over the country.

STATUS OF BIOGAS IN KENYA

- About 22,000 biogas plants have been installed in the country of which 20,000 rely on livestock manure and the rest from crop waste - support mainly from GIZ
- Over 90% these biogas plants are domestic, others are institutional while the rest are in flower farms
- The biogas digesters in learning institutions are majorly for training on biogas technology
- The government through the prison services has constructed 14 biogas plants in various correctional institutions across the country. This has reduced wood fuel consumption by 30%
- Kenya Biogas Programme (funded by Dutch Government) is supporting expansion with Phase II targeting 26,500 biogas plants.
- 3 universities (Moi, Egerton and Nairobi) have signed an agreement with Italian Government of Kenya to developing model dairy farms and Moi University will develop a centre of excellency for biogas production from dairy offshoots
- Kenya Climate Smart Agriculture and Dairy NAMA Project have been developed and will support
- Recent studies show that a high proportion of the biogas digesters operate below capacity, are dormant or in complete disuse after construction

POSSIBLE CAUSES OF BIOGAS SYSTEM FAILURES

- Poor maintenance
- Poor dissemination strategy by promoters
- Poor planning and monitoring by promoters
- Poor construction or design leading to gas pressure problems
- Acceptance problems- recharging seen as dirt by some beneficiaries
- Limited water supply
- Weak technical support

CHALLENGES IN BIOGAS TECHNOLOGY DEVELOPMENT

- High costs of installing the systems
- Inadequate capacity to install high volumes of biogas
- High systems failures
- Inadequate or lack of post installation support – Normally a guarantee of 12 months is provided
- Poor management and maintenance, possibly due to competing land uses with fodder plots
- Inadequate or lack of technology awareness
- Scarce and fragmented promotional activity

POLICY CONTEXT

- The first attempt to prepare a policy paper on energy was made in 1987, to, among other things; mitigate the adverse effects of oil importation on the domestic economy and balance of payments
- New challenges associated with liberalization of the economy in the 1990s, including deteriorating balance of payments, economic stagnation, rising population, rising poverty, electricity rationing and outages, dwindling official development assistance, deforestation and the recently observed phenomenon of climate change called for a new energy sector development strategy based on prudent integrated policies consistent with broader government policies on socio-economic development.

……POLICY CONTEXT

- In keeping with the Government's Economic Recovery Strategy for Employment and Wealth Creation, the Session Paper No. 4 of 2004 on Energy was developed
- The Energy Act 2006 has provisions for promotion of renewable energy, which includes biogas. However, the necessary legal and regulatory framework for biogas still needs to be put in place.
- Kenya climate Smart Agriculture Strategy (KCSAS) 2017 – 2026 recognises use of appropriate technologies like use biogas as a strategy to mitigate green house gas emissions

THANK YOU!