

Direct use of Geothermal energy

A new green industrial revolution

By

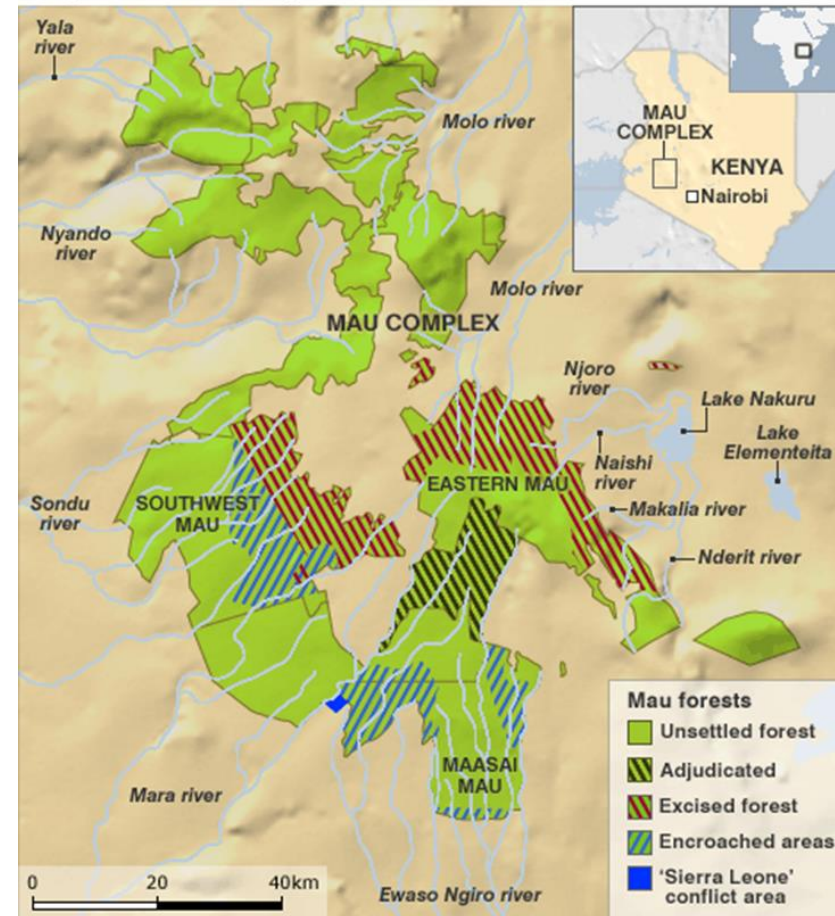
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Kenya*

Energy Challenges in Kenya

- Capricious cost of fossil fuels
- High cost of electricity
- Reliability of Electricity Supply
- Availability of wood fuel for steam

Kenya's Mau forest complex



Energy as a factor in manufacturing

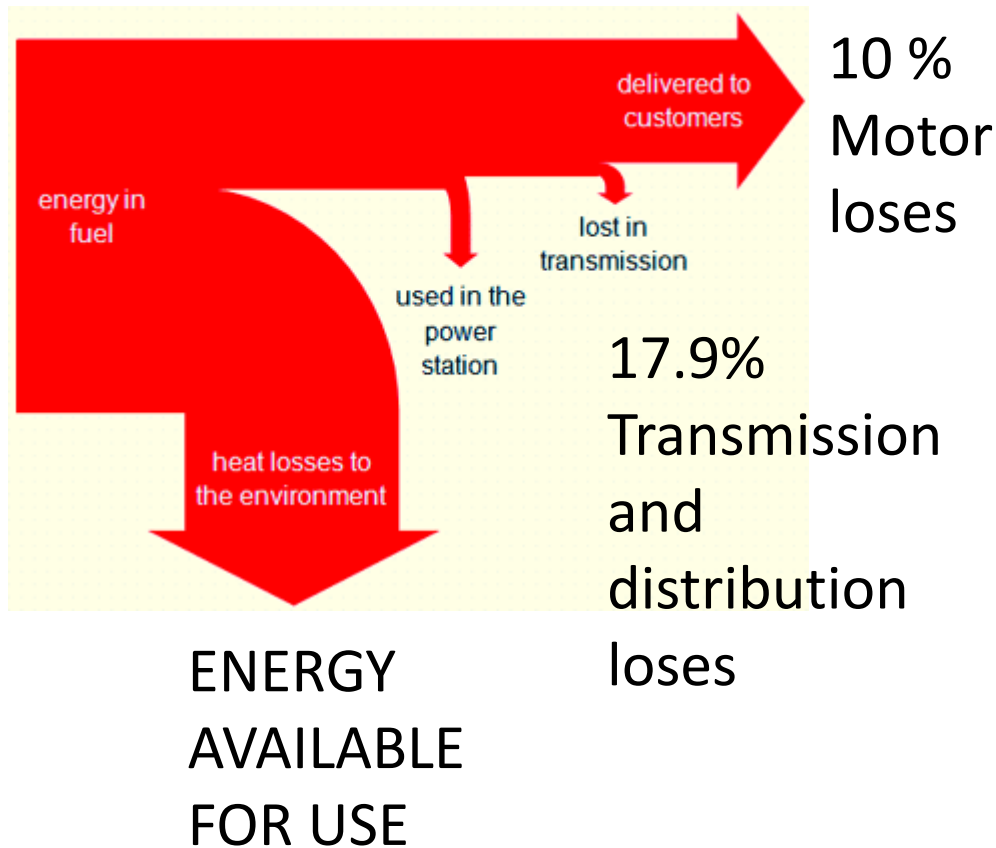
Steam / electricity/ direct heat

- Many Manufacturing processes require steam (thermal) energy and electricity (electrical)
- Geothermal Provides both continuously

EXAMPLES

- Dairy processing
- Tea Processing
- Food Processing
- Data storage
- Paper processing

Current Situation



GEOTHERMAL FOR MANUFACTURING

Geothermal Industrial Parks

- INCREASE AVAILABILITY OF ELECTRICAL ENERGY BY UP TO 20% By CUTTING DISTRIBUTION LOSSES
- CONCENTRATE INDUSTRIES AROUND THE GEOTHERMAL RESOURCE
- INCREASE ENERGY TO PRODUCTION RATIO BY USING STEAM TURBINES INSTEAD OF MOTORS



Advantages

- LOWER COST OF STEAM RELATIVE TO OTHER FUEL SOURCES
- COMBINED HEAT AND POWER SOLUTION
- MULTIPLE ENERGY SOURCES- ELECTRICITY, STEAM, HOT WATER, COLD WATER
- STEAM CANNOT BE EXPORTED

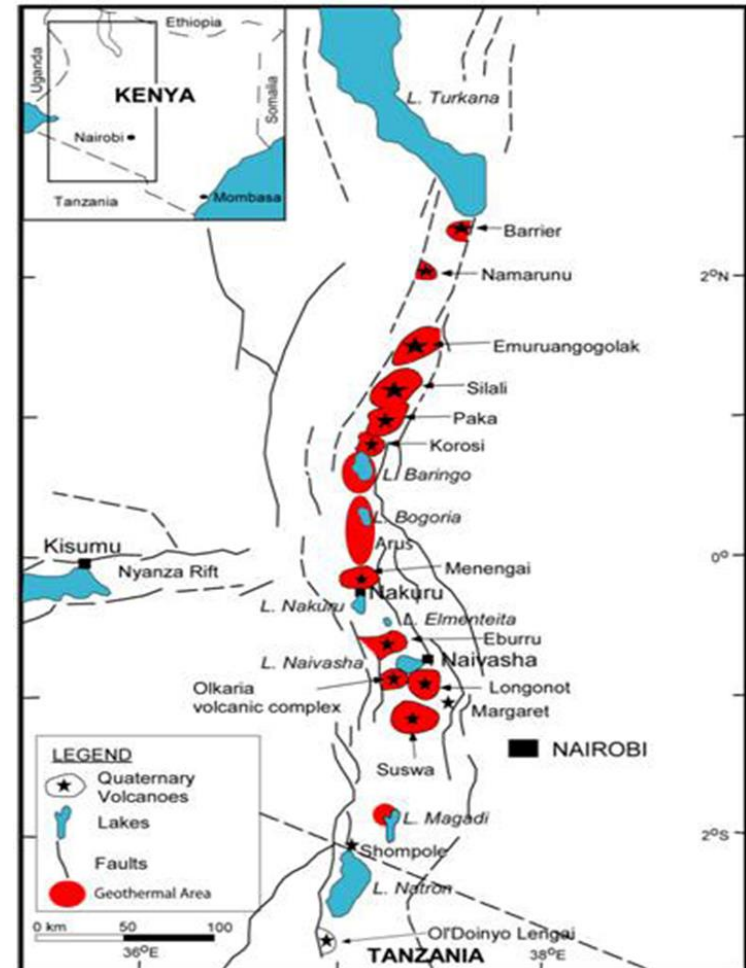


Challenges

- INFRASTRUCTURE IN REMOTE LOCATIONS
- TECHNOLOGIES
- TECHNICAL SKILLS CONSTRAINTS
- SOCIAL DYNAMICS AROUND RELOCATION
- LAND COMPENSATION
- ENVIRONMENTAL CONSIDERATIONS IN SOME AREAS

PROPOSAL

- DEDICATE ALL GEOTHERMAL STEAM FOR MANUFACTURING- ON GRID AND OFF GRID
- CREATE GEOTHERMAL INDUSTRIAL PARKS AT ALL SITES WITH KNOWN STEAM
- MONETIZE ON LOW POTENTIAL WELLS THROUGH DIRECT USE
- BUILD INFRASTRUCTURE AND PLAN FOR FUTURE CITIES AROUND GEOTHERMAL RESOURCES



Thank You!