

Good Practices in the Energy, Industry and Mining Sectors

- Promotion of alternative energy sources such as rocket stoves, biomass briquettes to improve efficiency in the use of natural trees as firewood particularly in tobacco curing. This will prevent depletion of natural stocks of firewood due to population pressure.
- Diversifying the location of hydropower and electricity sources into other rivers. Potential hydropower sites identified at Lower Fufu on South Rukuru and Manolo on Songwe among others could be utilized sustainably in accompaniment of afforestation and comprehensive conservation programmes.
- Generation of electricity from coal using cleaner production technologies.
- Expanding the exploitation of solar and wind renewable energies.
- Develop the capacity of MBS in implementation and enforcement of internationally recognized standards.
- Government coordinate and collaborate with private institutions such as the Malawi Confederation of Chambers of Commerce and Industry (MCCCI), Consumer Association of Malawi (CAMA), Centre for Environmental Policy and Advocacy (CEPA) in improving services in the sector.

Opportunities Existing in Energy, Industry and Mining Sectors

- Stimulus in the energy, industry and mining sub-sectors, will promote socioeconomic development.
- Successful implementation of the Greenbelt Initiative Programme (GBIP) intending to irrigate more than one million hectares of land across the country. The GBIP will be highly dependent on the availability of electricity and petroleum products to operate motorized pumps for irrigation.
- Use of clean and efficient biomass conversion technologies such as production of bio-fuels from biomass principally from agriculture and forestry e.g. ethanol by Press Cane and Ethco.

Recommendations

1) Harmonize institutional, policy, and regulatory frameworks to present a more even playing field for investors particularly in the sector.
2) Develop a very detailed database on all existing, abandoned and artisanal and small scale mines and industries to promote the management of environmental impacts. Develop institutional capacities in various aspects of energy, industry and mining sector including enforcement of environmental, health, and safety standards.
3) Intensify the pursuit of the sustainable energy alternative programmes.
4) Intensify Environmental Impact Assessments in all key projects in the sector.

References

Mean Jawale and Nkhachira Coal, Department of Mines, Lilongwe.

Figure 5: Solar geysers at Chancellor College

Introduction

Current Trends in Energy, Industry and Mining in Malawi

The Malawi energy sector comprises electricity, biomass (fuel wood), petroleum products, coal and other renewable energy forms. Table 1 shows how Malawi energy needs are derived. Biomass accounts for 88.5% of the total energy demand. This will result in over exploitation of forests and natural resources which are dwindling (Yaron et al., 2010). The other sources of energy are hydrocarbon fuels, electricity and to a small extent other renewable sources of energy such as wind and solar energy. Electricity is hydro-power generated mostly from Shire River. Although electricity generation from solar and wind have been initiated, their contribution to aggregate supply is insignificant. The country’s total installed capacity of electricity is estimated at 284 MW falling short of its peak demand put at 344 MW. Inadequate and discontinued electricity supply and generation has led to further environmental degradation resulting from forests and natural resources use for energy.

Malawi is heavily dependent on imported petroleum products mainly used in the transport sector accounting to 89.99% of the total consumption of hydrocarbons (figure 1). However, Malawi’s petroleum is mainly blended with ethanol whose current production is estimated at 18 million liters per annum.

Energy, Industry and Mining

Pathway to Malawi’s Socio–Economic Development

Executive Summary

Energy, Industry and Mining is one of the priorities in the Malawi Growth and Development Strategy (MGDS 2011 – 2016) signifying the key role the sectors have and play in the sustainable development of the country. The Malawi State of Environment and Outlook Report (MSEO) highlights in detail the trends, challenges, opportunities and policy framework in the sector. Exploring the opportunities and mitigating the challenges is quite instrument for sustainable development of Malawi.
Challenges Limiting Energy Productivity in Malawi
The country’s energy sources are apparently under pressure from
- Rapidly growing population
- Increasing demand from a diversifying and growing industrial sector, particularly the mining industry
- Degraded environment
- Fewer alternative energy options.
- Extreme weather events such as droughts and floods.

For instance, in the electricity sub sector alone, the demand is projected to increase to 740MW by 2015 and 1374 MW by 2020 due to growth in urbanization, industrialisation and increased prospects in the mining sector.

Electricity generation has been challenged by

- Degraded environment
- Air pollution
- Land use change
- And in recent years water weeds such as water hyacinth. According to Yaron et al. (2010) the annual cost of mitigating the effects of soil erosion and water weeds by ESCOM is estimated at USD10 million.

Challenges Limiting Mining Sub-sector Performance in Malawi
- Inadequate geological data acquisition and mineral exploration has failed to unveil the full extent of Malawi’s mineralization.
- Un-harmonized institutional, policy, and regulatory frameworks
- Inadequate definition of fairly and wisely managed resource rent sharing
- Weak capacities in establishing and enforcement of environmental, health, and safety standards.
- Unregulated artisanal and small scale mining activities which are environmentally and socially harmful.

Challenges Limiting Industry Sub-sector Performance in Malawi
- Current standards of some products in Malawi are not internationally recognized as a result of the Malawi Bureau of Standards (MBS) not being internationally accredited.
- Un-harmonized investment policies.