

HYDROPOWER DEVELOPMENT FOR LESOTHO LHWP PHASE II FEASIBILITY STUDIES

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COINCIDENCE OF NEEDS

- RSA – water scarcity - growing water demand - industry and household needs
- Lesotho – abundant highland waters - economic development through external revenue & reduce energy imports



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LHWP – PHASE I



LESOTHO ENERGY POLICY



- Develop sustainable electricity generation resources
- Develop robust energy framework
 - regulation of IPPs
 - renewable energy resources
 - competitive market operations
- Improve energy security (reduce imports)

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LESOTHO GENERATION LANDSCAPE



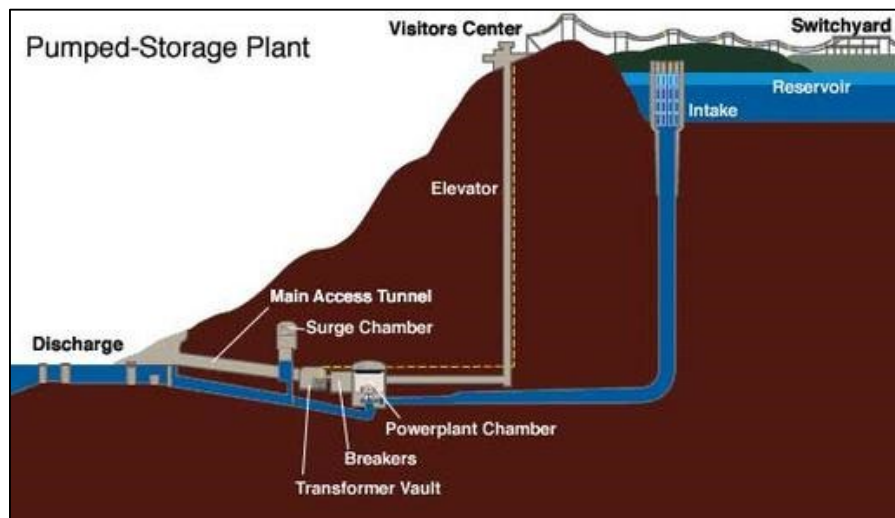
- National maximum demand = 150 MW (2018)
- Installed generation capacity = 72 MW 'Muela Power Station (LHDA)
- Shortfall imports from South Africa and Mozambique
- Potential sustainable options:
 - Solar 20 MW – (Private investor)
 - Wind (Department of Energy)
 - **Hydropower**
(LHWP II further feasibility studies)



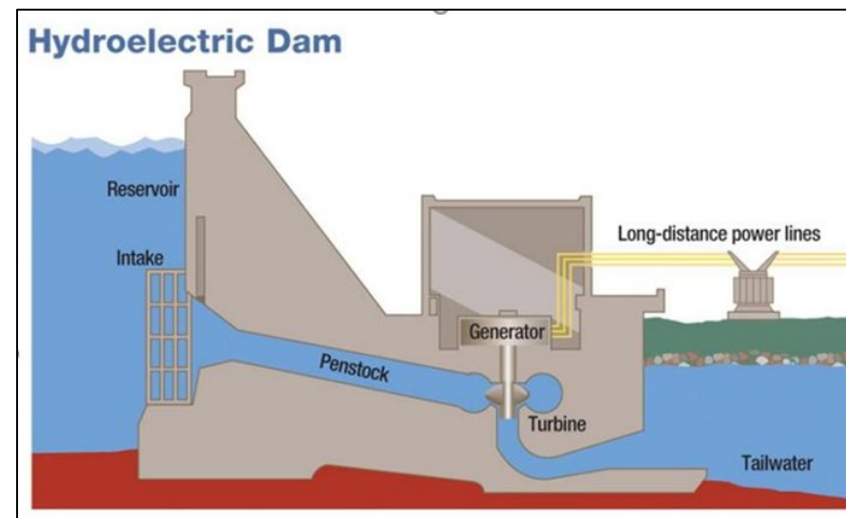
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LHWP II Further Feasibility Studies



- **Kobong Pumped Storage:**
 - 1200 MW technically feasible
 - Bulk power for export – 1000 MW
 - Balance for Lesotho consumption
 - Project deferred - unfavourable market study results



- **Conventional Hydropower**
 - LHWP installations – utilisation of Environmental Flow Releases
 - Greenfields
 - Energy independence
 - Screening of potential sites



- 53 sites - Site selection criteria:
 - Engineering
 - Hydrology
 - Access
 - Installed capacity
 - Site geology
 - Power transmission requirements
 - Environmental and Social aspects
 - Project Economy
 - Type of generation i.e. peaking, base-load, mid-merit etc.
 - Energy generation capability

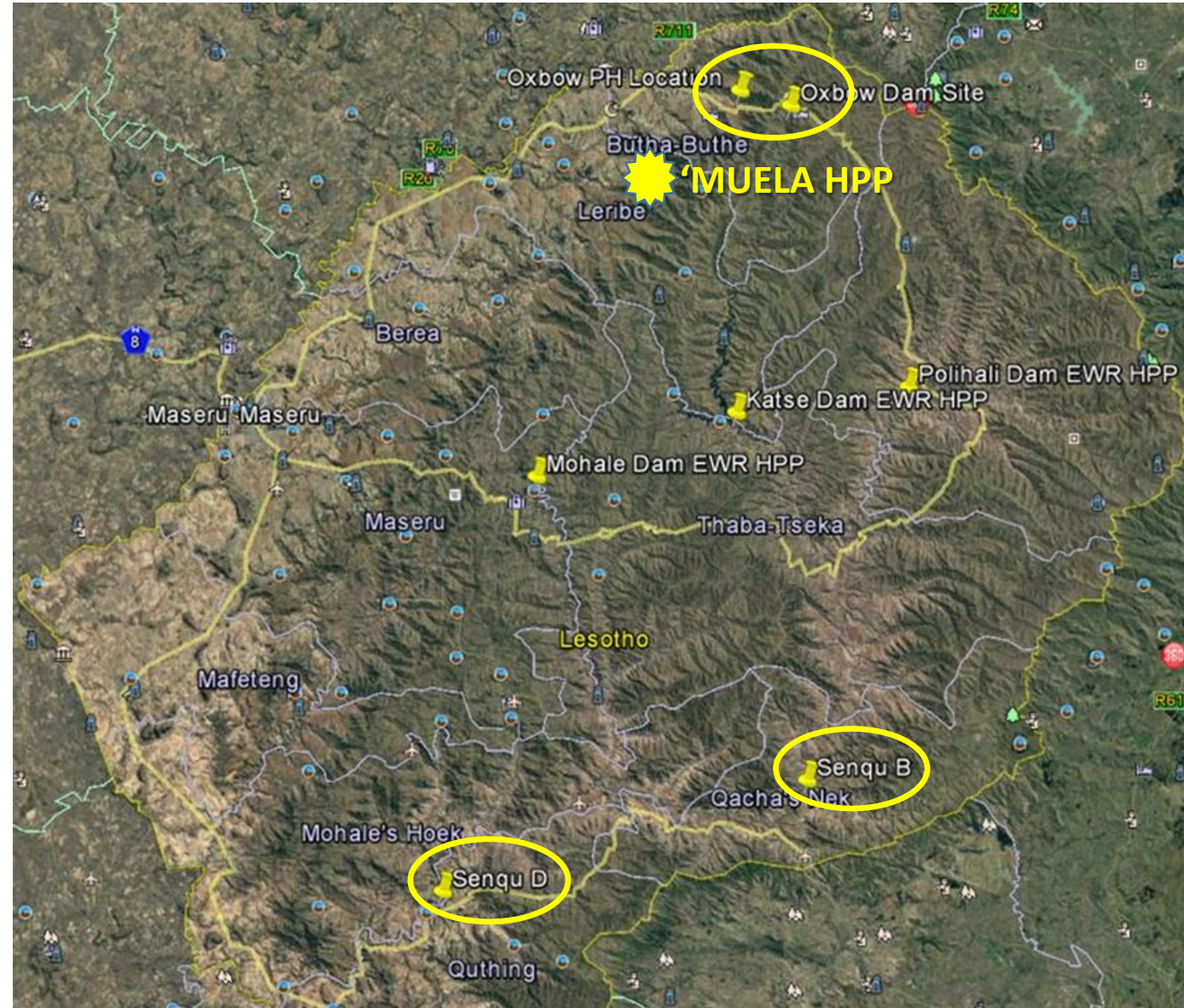
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SCREENING STUDY

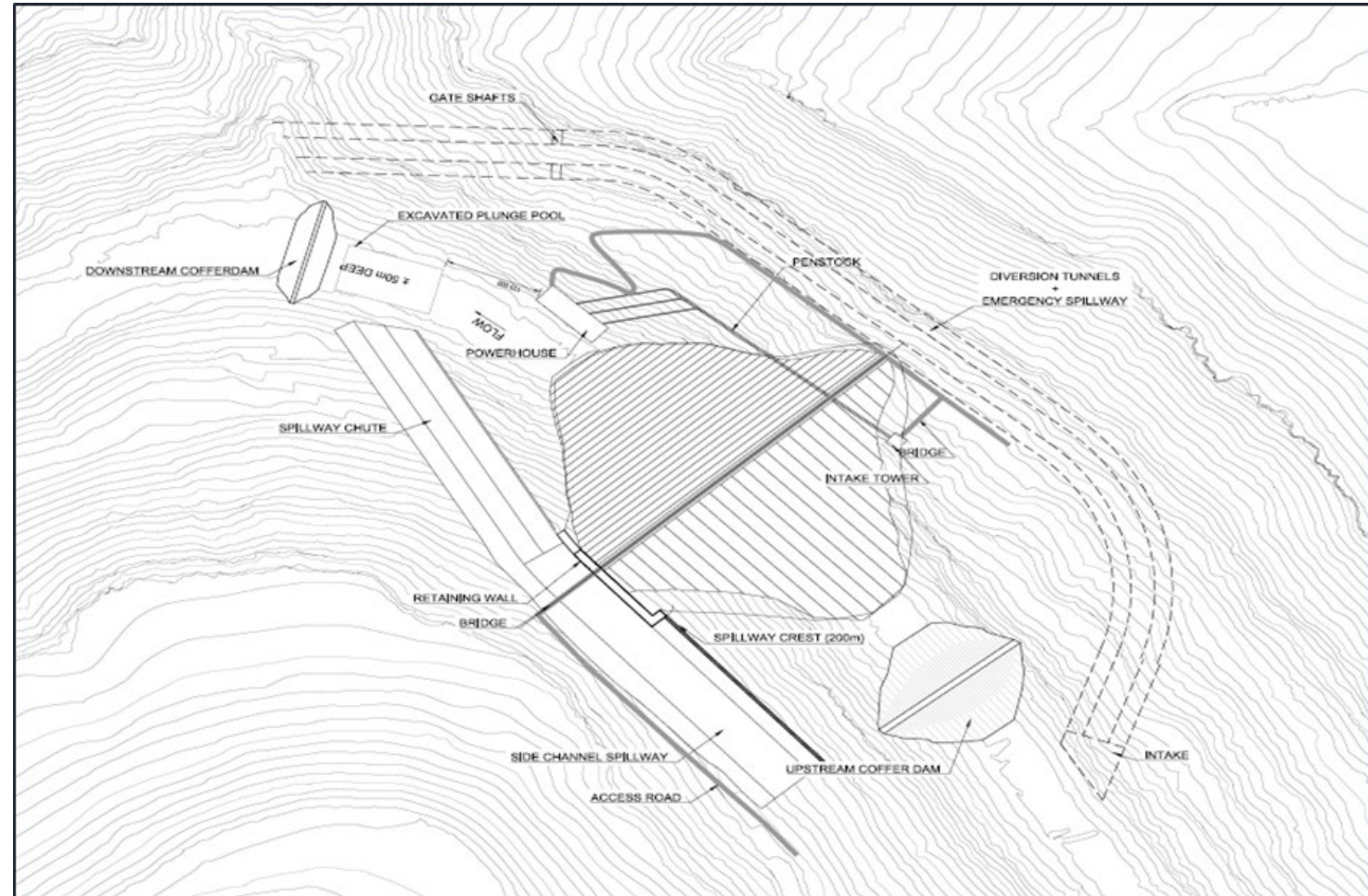
- 3 sites identified
- Geotechnical investigations
- Studies at the final phase

**BANKABLE
FEASIBILITY**



SENQU B SITE

- 82 MW
- 107m CFRD
- Vertical Francis machines
- 7 hours/day peaking
- 129 GWh/Annum



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PROGRESS TO DATE

- ESIA project briefs completed
- Transmission network
- Geotechnical investigations
- Engineering studies advanced
- Legal and regulatory framework in progress
- Project financing requirements/development options analysis ongoing
- Construction completion 2025



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A wide-angle photograph of a snowy mountain range at sunset. The sun is low on the horizon, casting a warm orange and yellow glow across the sky and the snow-covered peaks. The foreground shows a snow-covered slope with some dark, low-lying vegetation. The text "THANK YOU" is overlaid in the center in a bold, yellow, sans-serif font.

THANK YOU