

ELECTRICAL YEAR-END REPORT – Ken Goodenough

We have engaged with the municipality to determine key areas of concern and where our functional expertise could be offered. It is critically important to establish whether the capacity of the existing infrastructure would accommodate the town's future growth forecast. The feasibility and application of alternative energy sources was also investigated.

Electrical Infrastructure

The original Electrical Infrastructure Master Plan commissioned by Bitou Municipality in 2017, was updated in June 2021 and showed that the current loads are within installed capacity, with load forecast for 20 years predicted to be 30MVA. Given the recent and expected expansion in the town's population, the planned updated Master Plan due in December 2022, will be reviewed to ensure electrical infrastructure meets projected future demand requirements.

Possible Alternative Electrical Supply

With the failure of ESKOM to provide continuous power supply and the likelihood of load shedding persisting in the future, it is critically important that alternative power supplies be considered for the town. The committee investigated a number of alternative sources, eg, wind, wave, tidal and solar. Most of these alternative solutions are still in the experimental phase and not readily commercially available. The conversion of waste into power is also being investigated, together with the waste removal solution. The most practical and economical solution is considered to be solar PV. Currently there is approximately 1.3 MVA of solar PV installed, mainly as rooftop solar PV installations, in private homes and commercial enterprises. Bitou has in place a system to apply for Small Scale Embedded Generation (SSEG) approval, with the value of any excess power produced to be reimbursed on a scale to the consumer. This will be attained through the use of smart meters which should be implemented in December 2022.

The anticipated 2022 Master Plan due in December plans for a 5 MVA solar PV installation. If this proves feasible to implement, it should ensure improved supply of electricity. The combination of large-scale solar PV combined with battery storage is not practical for Bitou on a stand-alone basis. It is being considered by Cape Town and George municipalities at present. We will pursue the opportunity with George municipality to ascertain whether a shared opportunity exists. Detailed studies are required to ensure that any expansion of SSEG does not negatively impact the stability of the grid.

The ongoing load shedding has dramatically increased the cost of running the water pumping stations. These additional costs could have been reduced with the large-scale PV and appropriate storage systems and thus merits the motivation for the implementation of such a system.

A potential solution for the sewerage works is the provision of floating PV panels on the maturation dams to provide power for the sewerage works. Pilot plants are already operational in Cape Town and being considered for George. This initiative will be pursued with the Bitou Council.

Ratepayers Association has offered to help with the implementation of the Electricity Master Plan.