

Scoping Doc Harare Zimbabwe

Sun Earth Energy Ltd as preliminary project managers - John C Burke director as author.

Public Health Based Initiative – Based on Waste Collection, Sewage Systems and indirectly Water Supply

BASED ON THE PRINCIPLES STATED IN THE IWA [INTERNATIONAL WATER ASSOCIATION] WASTEWATER REPORT 2018

Re-engineering of Harare Sewage Works, Sewage delivery infrastructures and refuse collection, to mitigate against pollution of water wells and the re-emergence of Cholera and Typhoid¹.

- We need the [moral and strategic] support of DFID and the UK Embassy to 'lead' this solution.
- We need urgently an initial feasibility study undertaken and to be funded [Circa \$500,000 – funds held in our escrow in UK – until technical and cost studies completed].
- We need viability studies and cost studies – [included above] circa 5-9 months.
- Humanitarian Funding Partners in the Far East will grant ultra long-term funding solutions via monthly stage payments to internationally recognised Civil Engineering Contractors/Project Managers – [to be approved by DFID] – contract payments made outside of Zimbabwe or RBZ systems to avoid corruption.
- Fund application [above] subject to initial feasibility studies initiated within 3-6 months.
- Fund Approximations: [circa \$2.3bn and/or subject to surveys above] 80 year term at 0.75% interest – with 5 years development repayment holiday and 2 year interest holiday. Insured against

default of repayment – to avoid onerous forfeit conditions being applied.

- New Sewage facility built in the environs of the current non-operational facility.
- New Sewage distribution spine network and feeder network.
- New refuse collection methodologies.
- Integration of waste collection and sewage works into the same location[s].
- Technical process [“Cambi System”] to maximise methane production from blended organic refuse and sewage sludge [even use material from current non-functioning sewage works].
- Small Combined Heat and Power [CHP²] at sewage works for on-site power, process heat/steam etc.
- Surplus methane piped to CBD [or local business district?] for CHP³ with cooling [Chilled Water Distribution]
- Chilled Water Air Conditioning systems will reduce the demand on the electrical power generation capacity in Harare. Additional Power generation from the bio-methane will also help stabilise power supply situations in Harare as well.
- Options to extend the scheme to Bulawayo and other cities.

¹ There is a direct link with sewage issues and Typhoid/Cholera [Correlational Analysis of Sewage Disposal Methods and Incidence Rates of Typhoid Fever and Cholera in Port Harcourt Metropolis, Nigeria](#) click this link to see the full study.

² <http://chp4.city/index.php/2-uncategorised/1-tri-generation-chp>

³ ditto

