



Powering water supply in South Africa: small hydro opportunities on existing infrastructure



eThekweni managers celebrate the REEEP funding announcement outside their offices in Durban with Entura's Africa Manager. From L to R: Speedy Moodliar, Dhevan Govender, Christoff le Grange, and Rob Dyer.



An example of a containerised mini-hydro; the technology that could be used for potential sites identified during the study.

Background

The city council of eThekweni (Durban) has already brought two mini hydro schemes on its existing infrastructure to the tender stage, but the municipality is unable to fund the development of other mini-hydro opportunities.

eThekweni would like to identify other opportunities in the water supply and treatment system, and develop them to a point where they can understand the relative viability of the options and then work toward developing them to feasibility, either alone or with investment partners.

This would also create a framework and process that could be shared with other municipal councils, including rural areas of northern Kwa Zulu Natal, which are supported by eThekweni, and where water and power are limited. Standard approaches and designs could also promote wider implementation, reduce greenhouse gas emissions, and provide an example for roll-out to other regional water managers.

Project purpose

To identify tangible and profitable opportunities for installing mini hydro (e.g. 100kW to 1MW) on the existing water supply infrastructure in Durban, as a model for other cities in South Africa.



Main activities and outputs

- Assess mini-hydro potential on existing water infrastructure assets taking into consideration load centres, power generation potential, sustainability issues, network issues, technical and construction issues, and cost-benefit analyses
- Identify priority sites where containerised mini-hydro technology can best be deployed
- Provide training package for eThekwini staff and its partners on small hydro power development including risks and commercial aspects
- Create a roadmap process that could be used by other municipalities

Expected impacts

- Better exploitation of hydro resources in existing infrastructure
- Investment attraction to support eThekwini in projects with total generation capacity of approximately 2MW
- Establishment of clear process for implementing new mini hydro installations on existing water supply infrastructure
- Better exploitation of the hydro resources, including uptake of projects that may not be obvious
- Contribution to national RE targets
- Improved implementation capacity in city and partner organisation(s)
- Model established for replication in other regional water systems

Project Information

Location:

South Africa

Duration:

2013–2014

Sector:

Renewable energy

Thematic focus:

Business

Total project budget:

€ 246,500

REEEP grant:

€ 148,000

REEEP donor:

Norway and Switzerland

Co-funding:

€ 98,500 from Entura Hydro Tasmania,
eThekwini Water and Sanitation

Implementing partner:

Entura Hydro Tasmania