

DIRECT USE OF GEOTHERMAL ENERGY: MENENGA DIRECT USE PILOT PROJECTS IN KENYA

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Green Energy for Kenya

1. DIRECT USE APPLICATIONS IN KENYA



- 50 ha of rose flower is grown in a geothermal heated greenhouse for export



- Plant constructed in the 1920s
- Uses heat from a shallow geothermal well



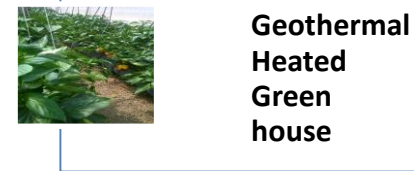
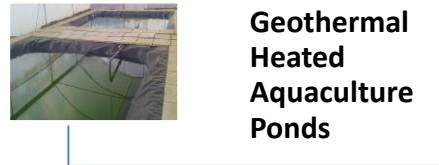
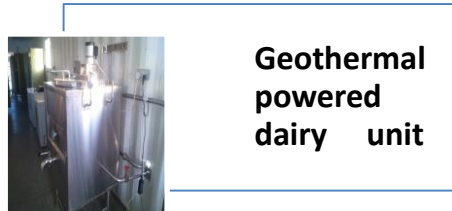
- The Olkaria Geothermal Spa
- Lake Bogoria Spa Hotel geothermal heated swimming pool



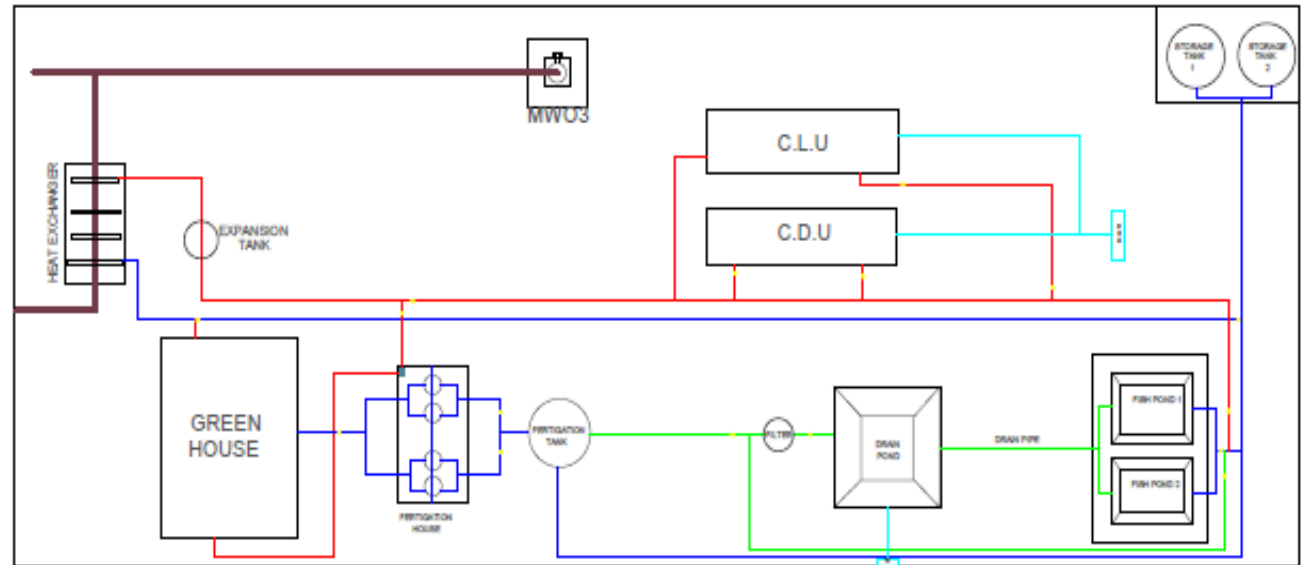
- Local communities condense steam from fumaroles for domestic uses in Suswa

2. THE MENENGAI PILOT PROJECTS IN KENYA

Four demonstration units
have been set up:



DIRECT USE PROJECT AT MWO3



■ HOT WATER

■ MAINS WATER

■ BRINE

■ RECYCLE WATER

■ DRAIN WATER

■ VALVES

3. THE MENENGAI PILOT PROJECTS IN KENYA(Cont'c

GDC's Perspective

- Exploitation of all geothermal resources
- Expansion of the projects
- A plan to have an industrial park around Menengai is in place

Technical Barriers

- The project is at the trial/proof of concept stage.
- Technical personnel with specialty in geothermal applications still being developed.
- This therefore leads to disparity in the results versus the expectations.

Financial and Regulatory Barriers

- Full support from the Government. Licences obtained.
- GDC is fully funded by the Government, hence high dependence on grants and donors.
- Long procedures and bureaucracy
- Environmental and safety standards maintained

Public Sector Involvement

- The projects generate attraction and positive response from the visitors
- Promotions done in trade fairs and exhibitions
- The sale of produce from the projects generated highly positive response due to their high quality
- An industrial park is set to be built around Menengai, GDC will sell energy at subsidized prices. Investors have already expressed interest in developing factories.

4. Conclusion

Kenya has many geothermal prospects, most of which are not yet developed.

The future for Direct Use and GDC is bright

Kenya's installed thermal capacity was 22.4 MWt estimated at 45% increase when compared to the 2010 data (Lund, et al, 2015)



**THANK
YOU**



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