

# NEWSLETTER

FEBRUARY 2020



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**TMGO**

TULU MOYE GEOTHERMAL

**Site Updates**

**Civil Works**

Basic components for the water supply works was the main focus of the civil work done this month. Items such as water-collection ponds, mud pits, 16.1 km pipe laying and substructure work for pioneer tankers along with pump hoses have now been completed. Moreover, water well-drilling for well three has also been progressing albeit with recurring challenges; the achieved depth is 500 meters. With water well two finalized and installation of submersible pipes under way, the main focus of the first week of March is going to be connecting water well two and three to an intermediate tanker to the pipeline. Lastly, to the water collection pond. All the while, water trucking options have been activated and so far 500 cubic meters of water have been filled in the mud tank and mud pit.



**Roads**

Road construction has been on-going while the road is not being used for heavy transportation. However, final construction remains such as culverts installation and laying the final layer on the road.



**Well Pad**

Work has been progressing fast for well pad GB situated West of well pad GA. Access to well pad GB has now been completed.



**Ground Water Drilling**

Water well number two located at Hitossa Woreda and Sheki Kebele, was finalized in January by installing the well-head. The well is now ready for pump installation and to be connected to the water supply system.



**Ground Water Drilling CONT.**

Water well number three has reached a depth of 560 meters. Well development and pump test will be one of the activities that will take place in early March. Drilling rig for water well number four has been built and drilling has commenced as of the last week of February.

**Geothermal Works**

KenGen, the drilling contractor has completed rigging at the project site and is currently making the rig ready for Spud as of the March 2<sup>nd</sup>, 2020. It is expected that drilling of the first exploration well in Tulu Moyo project site will take place on the 4<sup>th</sup> March, 2020. The timely arrival of the drill bits purchased by TMGO on behalf of KenGen in the accelerated procurement approach has played a great role in making the "ready to spud date" a reality.



**Jos. Hansen & Soehne (Ethiopia) Mobilization at TMGO Site**

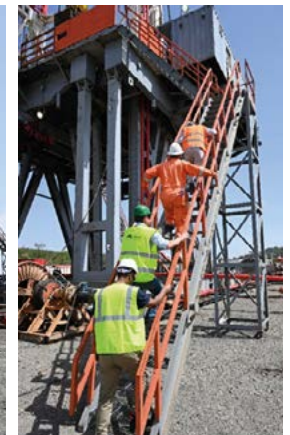


JOS. HANSEN & SOEHNE (ETHIOPIA) Ltd, has been appointed as the water supply contractor for KenGen. They will be in charge of the water supply works through the drilling process and they are already situated at the TMGO site. They will also supply the booster pumps that will be installed at the intermediate tanker and the submersible pumps that will be installed at well two.

**USTDA & USAID Visits TMGO Project Site**



This month, Mrs. Katrien Hinderdael, Country Manager (USTDA), Mr. Samson Atsbha Energy Specialist and Program Manager (USAID Ethiopia), paid a visit to TMGO Project site in Iteya, Ethiopia. In August 28<sup>th</sup> 2018, USTDA granted TMGO USD 1.2Million to coordinate a feasibility study supporting development of the first 50MW. USTDA fosters energy diversification and improves access to affordable and reliable electricity in Ethiopia. TMGO's CEO, Mr. Darrell Boyd stated in an interview that "USTDA's support is key in enabling TMGO to progress technical, environmental, legal, and financial workstreams for the project's success."



## Direct Procurement on Behalf of KenGen, Geothermal Drilling Contractor



As an on-going collaboration effort with KenGen, TMGO's geothermal drilling contractor, TMGO have been undertaking direct procurements on behalf of its drilling contractor and KenGen. This is also done partly due to KenGen's lengthy statutory procurement process and duration in order to achieve the required project mobilization timeline. Requests have been made by KenGen for accelerated procurement of drilling material for drilling of the first three wells at Tulu Moyo. These include procurement of drill bits for the drilling of first well, liquid drilling detergent, drilling chemicals and cement additives. KenGen provided contact details for suppliers of the materials, technical specifications and the quantities of materials to be procured. In addition, KenGen requested for the procurement of the electro-mechanical component of the water supply system. This procurement is for the provision of supply, installation, testing and commissioning of the electro-mechanical component of the water supply system for drilling of geothermal wells in Tulu Moyo. KenGen has instructed TMGO to enter into contract with Jos Hansen & Soehne East Africa and Jos Hansen & Soehne Ethiopia, as a joint venture, both of which are KenGen's choosing.



All risks of delivery and installation work remain with KenGen along with costs for supply, delivery, clearing, forwarding and offloading which will be recovered through the contract. The installation work will be supervised by KenGen including administering the contract in its entirety. The total cost for the requested materials and services being procured on KenGen's behalf will stand at \$2,065,732.29 USD. These procurements are already underway.

## TMGO's GRMF Grant Funding Application at Final Review Stage Before Grant Contract Signing



The African Union Commission (AUC), the German Federal Ministry for Economic Cooperation and Development (BMZ) and the EU-Africa Infrastructure Trust Fund (EUITF) via KfW Entwicklungsbank (KfW) established the Geothermal Risk Mitigation Facility (GRMF) to fund geothermal development in Eastern Africa. Furthermore, the UK Department for International Development (DFID) is also a contributor to GRMF.

The program's co-finance surface studies and drilling programs are aimed at developing geothermal energy projects because this is a largely untapped indigenous and renewable energy resource. The GRMF program currently comprises 115 million USD available for funding.

TMGO submitted an application to the Geothermal Risk Mitigation Fund (GRMF) in June 2018 for funding to support plans for three full size exploration wells and associated support infrastructure, such as well pads, roads and water supply. We received the good news late in 2018 that our application had been successful with GRMF offering up to US\$10M in grant support funding for the project. It is acknowledged that GRMF grant funding is the single largest grant award to a geothermal development project and is a great vote of confidence and support to TMGO, project sponsors, investors and geothermal resource in Ethiopia. TMGO have been submitting all requested and required documents as per GRMF's Developer Manual requirements. The application now is at its final review stage before the Grant Contract signing which is planned to take place in March 2020.

## Thermal Drone Mapping by Svarmi ehf.



For geoscience researches and design preparation in Tulu Moyo, TMGO hired Svarmi ehf to do aerial survey of the Tulu Moyo site. Svarmi ehf is an Icelandic company specializing in mapping with drones. Experts from Svarmi visited Tulu Moyo in late February to map out around 13 km<sup>2</sup> area with an RGB (visible light) and thermal mapping techniques.

The picture above is an aerial picture of Tulu Moyo, showing the mountain, well pad GA and GB, the water reservoir area in addition to the laydown area.



## Meridiam Investment Committee Grants TMGO \$17 Million



Meridiam SAS; one of TMGO's sponsors has committed additional equity investments to be deployed in addition to the actual \$26M already committed through Meridiam Infrastructure Africa Funds ("MIAF") to advance the project delivery. These funds will be primarily used to finance the drilling of the first few wells.

## Lender's Financing

TMGO's financing strategy is based on raising senior debt and securing grant, blending facilities and related products in addition to the shareholders' equity secured through the sponsors. As such, TMGO has been engaging with several lenders since the signing of the PPA and IA, a group of lenders led by FMO and the African Development Bank who have shown strong interest in satisfying the debt requirement of the project.

## TMGO Recruitment & Employees



TMGO is glad to announce that it has hired a Communications Officer Mr. Nazif Jemal who joined TMGO in January. Mr. Nazif has an extensive experience in the Journalism and Communications fields for more than 10 years working with different International and Non-Governmental Organisations such as World Vision, BBC Media Action and the Fred Hallows Foundation. Mr. Nazif has developed his skills in Inter-personal communication, media relations, storytelling, audio and video production, interview, change management and event management.

He has also obtained his bachelor's degree in Foreign Languages and Literature (English) in addition to Political Science and International Relations. Later, he finished his Master of Arts degree in Journalism and Communications (Multimedia).

The team has also hired Ms. Oromia Jula as TMGO's freelance officer who is a recent graduate from Ashland University in Computer Art and Graphic Programming. She will be helping us for restructuring and development of TMGO's website. Ms. Abaynesh Misganaw is our new office hospitality head who has been working with Wow Cleaning Services to support our staff members and guests with day to day hospitality and cleaning services.

## 'TMGO Employee Spotlight: Meet Mrs. Yamrot Grumneh'

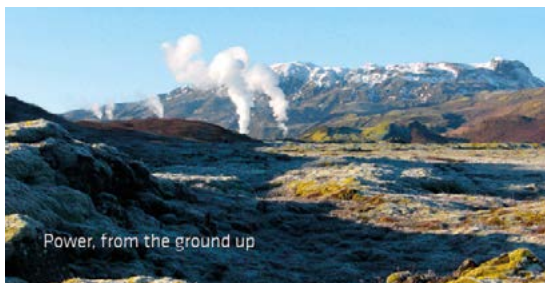


Mrs. Yamrot Grumneh; TMGO's Project Scheduler is an ambitious civil engineer with over 10 years of experience in the construction industry. She has been working in different projects at different levels in the four corners of Ethiopia. She has managed to work as a quantity surveyor, project coordinator, site engineer, assistant project manager, construction manager among many others jobs. Mrs. Grumneh has also been involved in constructing health centers, refugee camp biometric centers, multiple story buildings, hotels and an international cement factory. Yamrot is assigned to the position of Project Scheduler where her key role is to organize, implement and maintain scheduling management system supporting identified projects and their plans (civil works preparing for geothermal drilling, steam gathering system and geothermal powerplant), in close coordination with the Chief Technical Officer (CTO) and Deputy Chief Technical Officer (DCTO).





Reykjavik Geothermal was founded in 2008 by a team of former senior executives of the largest geothermal power plant in Iceland. Prior to the formation of RG, members of the team were involved in the development of the Hellisheiði power plant, one of the largest geothermal CHP power plants in the world with a combined energy output of 436 MW. The team had also been involved in development of projects in Indonesia, China, countries East Africa and Central America. As early as 2008 RG made contact with Ethiopian officials and in 2009 first meetings were held in Addis Ababa. Following the successful meetings in Ethiopia, RG established in 2010 a branch office in partnership with an esteemed Ethiopian businessman for the development of the Corbetti, Tulu Moye and Abaya projects. The first office was set up in the Bole area in Addis and the first employees Ato Wakgari Gunjo, Ato Markos Melaku and Ato Mohammed Mecha were hired. In 2011, RG started the first surface exploration in Corbetti and during the years 2011-2012 conducted surface exploration in the Corbetti caldera.



After very encouraging exploration of the Corbetti Caldera in 2012 where the results far exceeded expectations, RG experts initiated the first PPA discussions. These discussions led to the 2013 signing of the Heads of Terms of a PPA (HoTPPA) with EEPPCo for 1000 MW for the Corbetti and Tulu Moye geothermal sites. Boldened by the good progress in Corbetti, RG in partnership with additional investors established the Corbetti Geothermal PLC in 2014. During the same year construction work started in Corbetti as well as preparation work started for the first exploration in the

Tulu Moye geothermal site partially funded by GRMF. Concurrently, the PPA negotiations continued with the newly established EEP which resulted in Corbetti Geothermal signing the first PPA with EEP on July 27<sup>th</sup> 2015 during President Barack Obama's visit to Ethiopia. After the signing, RG and Corbetti continued negotiations to complete the conditions Presidents had discussed and the Implementation Agreement.

Furthermore the continuation of the surface exploration of the Tulu Moye site which over the next 2 years kept the whole team extremely busy. Lastly, in 2017 TMGO was established with Meridiam as an additional investor and on December 17<sup>th</sup> 2017, the second PPA and the IA were signed for the 2 x 520 MW between EEP along with Corbetti Geothermal PLC and Tulu Moye Geothermal Operations PLC.

RG remains very grateful for the commitment and patience of all stakeholders in realizing and finalizing this historic agreement and is looking forward after over 10 years in Ethiopia to finally see the first drilling of a private geothermal developer take place in Ethiopia. RG would like to use this opportunity to congratulate all TMGO staff in reaching this significant milestone. ■



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