





NEWSLETTER


November 2020


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Chief Executive Officer
Darrell Boyd

MESSAGE FROM CEO, DARRELL BOYD

Welcome to the November 2020 Edition of our Monthly Newsletter.

You've not heard from me for a while, with Sigurgeir, Emmanuel and Aynalem, our CTO, CFO and E&S Lead respectively, providing the usual introductions in recent months. They did a great job and raised the bar so I'm feeling the extra pressure. We thought we'd rotate the honour, although I suspect this was done mainly to stop me banging on about Liverpool winning the English Premier League Title.

Corona of course is still with us, however with all the safety protocols we have in place, this is the 'new normal' and it is business as usual for TMGO and especially KenGen & Mannvit-Verkis in relation to our geothermal exploration drilling campaign making progress safely, prudently and responsibly. We recognize that some of our stakeholders have internal rules in place that prevent travel to Ethiopia. Similarly, some of you who are based here in Ethiopia have internal restrictions preventing visiting us at Tulu Moyo. I'd just like to reiterate that those of you who can travel, our doors are always open and we're very happy to facilitate and host visits from any of you at any time. Security to, around and in Tulu Moyo area remains calm and strong with all our planned and needed activities progressing without concern.

We finished Geothermal Well GA-1 recently and KenGen have completed the Rig Move to now commence Well GA-2. We're already down >50m as I write this with our large diameter top section. Once Well GA-2 is completed in the coming weeks, we'll then move the Rig to Wellpad GB, about 1km to the west, and will start to test Wells GA-1 & GA-2 to prove what kind of sustainable output they will give us. It's been our pleasure to host on Rig / in Camp for the past month two representatives from Ethiopian Energy Authority, the National Regulator for the electricity sector here, to witness all our drilling activities.

We've been making progress in collaboration with all our customer organizations to achieve effectiveness. Lender due diligence has also been making progress to support TMGO financing but more importantly, to support Ethiopia in this new model of doing business here and attracting investment to deliver major infrastructure projects. It's been very pleasing to see such progress in these very important workstreams and it remains our hope that our joint and collaborative success will help further promote investment here.

This will be our last monthly newsletter before most of you enjoy Christmas and New Year. Not us here in Ethiopia, as it will be 7 th -Jan-21 before we celebrate Christmas and of course, New Year was celebrated back on 11 th -Sep-20. So, we wish everyone all the very best for your Christmas and New Year. We hope you are all able to safely spend quality time with your loved ones and to fully enjoy the festive period.

SITE UPDATE

CIVIL WORK UPDATES

Powerplant area

Access road to the future powerplant construction site has progressed very well and is expected to be finalized in the first week of December. This is part of the effort done for readiness for the EPC bidders site visit scheduled in January 2021.



Pad GB

Pad GB works have continued during the month of November: sub-base and base coarse laying, compaction, conductor pipe installation. In few more weeks, the pad will be ready for drilling another geothermal well.



WATER SUPPLY WORKS

We are delighted to announce that our groundwater well 3 is now productive and providing water to support our geothermal drilling. Water is going out at a flow rate of around 14-15 liters per second which will be a great support to the drilling activity.



We expect the same outcome for well 4 by middle of December. In regard to well 4, all casing installations are now complete. This will be followed by gravel packing and then well development can begin. The entire team is following up closely in putting everything to-

gether (generator set and pump coming from Italy; riser pipes from Nairobi; electrical cables from India; additional accessories from Ethiopia). These activities are conducted by incorporating all lesson learnt from well 3 experience.



Water pipeline works connecting well 4 to the overall water system connecting to the rig site is now complete. So as soon as water well 4 start producing water, all necessary infrastructure is ready for the water to reach the rig site.



TMGO has also directly engaged a Grade 1 General water wells drilling company, ECC Energy PLC, for delivering well 5. They have drilled over 30 deep water wells

in Ethiopia. Their depth ranges between 450m to 850 m and drilling diameters ranges from 10 inches to 26 inches with Direct Mud Rotary, Reverse Mud Rotary and Down The Hole (DTH) systems. ECC has now completed mobilization and will be drilling well 5 throughout the month of December and first half of January.



GEOTHERMAL DRILLING

Completion of drilling exploration well GA-1

On the 5th of November 2020 at 10.05 the master valve on exploration well GA-1 was closed, marking the end of the drilling of the well. The crew at site celebrated this milestone with a well completion event where the whole crew helped closing the master valve and the Drilling Supervisor handed over the well completion certificate to KenGen Site supervisor.



The Well was spudded on the 7th of March 2020. Final depth of the this first exploration well in Tulu Moyo is about 1340 m and is drilled vertical. The drilling had many challenges and it also provided some very interesting information about the geothermal reservoir and how to adjust and modify next exploration wells to better explore and harness the geothermal reservoir.

RIG MOVE

As soon as the Drilling Supervisor had handed over the well completion certificate works started on moving the rig to the next geothermal exploration well. Next well, called GA-2, is located on the same well pad as exploration well GA-1. Various works had to be done while moving the rig, such as rig down, site preparation and some improvements and eventually rig up at GA-2.

By the end of the month of November rig move was completed and the rig was ready to spud.

SPOUDDING OF EXPLORATION WELL GA-2

At the end of this November, spudding of exploration well GA-2 took place. The plan for GA-2 is to be drilled directionally from the well pad to south-west reaching the geothermal reservoir under Tulu Moyo. Lesson learnt from GA-1 was applied to update the drilling program for GA-2. According to the drilling plan, drilling is assumed to take around two months.



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Seismic monitor installation

Seismic monitors installation has continued in various locations in the TM Geothermal concession area. First readings are expected in the first week of December 2020. A team of experts from Addis Ababa University led by Prof Atalay Ayele is at the forefront of the installation of the monitors, continuous acquisition, and interpretation of the data along with TMGO Technical Team.



Geotechnical Survey works for the power plant

Topography Survey

The detailed topographic surveying of our powerplant designated area activity report has been submitted to TMGO. The surveying works allowed to establish primary control points, and tying it to the National Grid System; install permanent secondary control points or benchmarks at a maximum of 200 m intervals; carry out detailed topographic survey at 5 to 10m interval

and with a bandwidth varying 150 meters, to the left and right of the center line of the road. This report will be combined with the efforts made for the geotechnical survey described below.



Geotechnical Survey

Radice Engineering PLC is successfully conducted soil boring, field testing and carrying out sufficient insitu testing and sampling after mobilizing two geotechnical rigs on site following accessibility work conducted by SAP Engineering. The samples are currently going through laboratory testing to determine the properties of the subsoil. This will allow to acquire geotechnical parameters required for foundation analysis for the power plant components and carrying out engineering analyses for foundation design and proposing foundation alternatives for the power plant components as additional inputs for EPC bidders. A comprehensive report of the study is expected to be delivered before the end of the year and will be shared as an additional input for the EPC bidders.

REQUEST FOR PROPOSAL FOR THE POWER PLANT IN TULU MOYE

TMGO submitted request for proposal to seven qualified International EPC contractors for the resource gathering system, 50 MW net power plant and connecting grid works in Tulu Moyo at the end of November 2020. The EPC contractor will take care of all engineering, procurement, and construction for the project.

The seven qualified EPC contractors were selected through a pre-qualification process earlier this year. TMGO expects to issue notice to proceed to the selected EPC contractor before the mid of 2021.

Preparation of the documents has been a great collaboration between TMGO and our group of Owner's Engineers; Power Engineer and Mannvit-Verkis, and other international advisors; Trinity International LLP and Delphos International



Tulu Moyo Geothermal Project Phase 1
Eastern Rift Valley, Ethiopia

Request for Proposal

Engineer-Procure-Construct Services
50 MW Net Output Geothermal Power Project

Overview
List of Tender Documents

November 2020



STAFF TRAINING

Since its establishment, TMGO has had strong commitment to training its own team and build in country talent. This month our Chief Commercial Officer, our Project Controls Lead, our Deputy Chief Financial Officer, and our Deputy Technical Officer have successfully completed a series of online courses (28 effective hours) covering both Project Finance and Project Financial Modelling. The course was structured in 8 sessions: project finance theory and practice; descriptions of all project finance parties and their roles; elaboration of the stages in a project finance deal; the different source of funding; a detailed analysis of project finance documentation and risks involved; and finally three sessions on financial modelling and building a project finance model.

This training played a key role in enhancing understanding of the role of project finance and the commercial requirements of all interested parties to the project. It allowed to take a step back and understand in more detail the essence and particularity of the project we are in, looking at it in the Ethiopian context given that project finance is relatively very new. The interactions with people from all over the world through breakout rooms, case study reviews and practical activities (building a financial model) has been of great

added-value and allowed to better appreciate the Tulu Moyo project.



STAFF TRAINING

Mekasha Debele and Legesse Kassa were trained in Steam System Management from January 16 to February 7th of 2020 at Olakaria, Kenya. The training was offered by KenGen, a Kenyan Energy company, who is proudly our drilling contractor.

Both Mekasha and Legese are currently based at our Project site.

This is as part of TMGO's commitment to build the capacity of own staff and its stakeholders to bring more technological skills to Ethiopia.

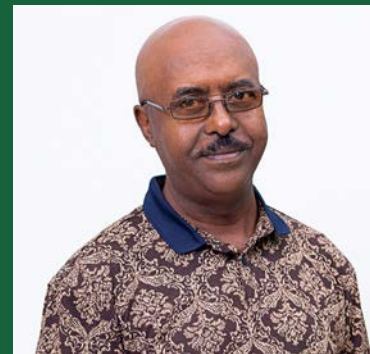


TMGO MILESTONE BOARD

Our milestone board has been placed on our walls eagerly waiting for the bottom two events to become a reality: effectiveness and Steam are expected to be the greatest milestones achieved soon.



MEET OUR TEAM



Mekasha Debele
Steam Systems Specialist

Mekasha Debele is our Steam system Specialist based at project site. He has more than 30 years of experience in working with steam related works during his past experiences with the Ethiopian Shipping and Logistics Services Enterprise. As the Steam Systems Specialist of TMGO, Mekasha will supervise technical aspect of the steam systems at the site in addition to the overall technical maintenance and follow up.

SERENDIPITOUS

I am sure that I have bored most of you with tales of me living and working in Ethiopia from Sep-97 to Sep-98 - Constructing Ethiopia's first and only other geothermal power plant. When I first moved here, I was all alone and as a priority had the task of registering a Tanzania based company here, setting up our office, recruiting staff and mobilizing all expat personnel, plant, tools and equipment in to country. The staff recruitment was actually one of the easiest aspects, with Ethiopia having such a wealth of young, ambitious and talented people. One such team member I recruited was my driver, Zakarias Mengistu - A smart young man in his very early twenties.

So you can all have a laugh, here is a picture of my Ethiopia Driving License from way back then. If he was given the opportunity, Zakarias would no doubt tell you a story that I should have had this taken off me for a driving incident with a donkey, which occurred when I arrived back in country from a business trip and he met me at the airport but I insisted on driving to the office.



When we completed the project and demobilized from country, it was very sad to have to let go all the Team. Zakarias did though go on to bigger and better things, working for a number of international organizations here in Ethiopia and eventually setting up his own successful and thriving business in the tourism sector. Sadly, this



has recently been badly hit by the corona pandemic of course, however when my current TMGO Team driver Kodessa recently had to undergo some pretty serious surgery with a long convalescing period, 23 years on from when we first worked together, it was an opportunity to team up again with Zakarias for him to provide TMGO with a bit of freelance support whilst his business was in the current slowdown - Here he is with a few more grey hairs now. No doubt pain fully recalling that donkey incident all those years ago, he never lets me drive any more even if I ask him nicely. Definitely, older and wiser.

“SEEING IS BELIEVING” -COMMUNITY VISITS ALUTO GEOTHERMAL

TMGO organized a visit to operating Geothermal power plant in Aluto, Oromia for local community around TMGO Project area. Community Elders, Abba Gadas (Oromo Traditional leaders) kebele leaders, youth and women representatives from Tero Moye and Anole kebele (villages) visited the power plant, Government owned 7MW, to see practically what geothermal power plant looks like and how it operates. The main purpose of the visit is to raise

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awareness of the local community about geothermal energy and strengthen public engagement with the project. "Seeing is believing" said one of the visitors when he expresses his satisfaction of his experience.



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