GDC Geothermal Development Company

Geothermal, Green Energy for Kenya

# GEOTHERMAL RESOURCE CENTRE

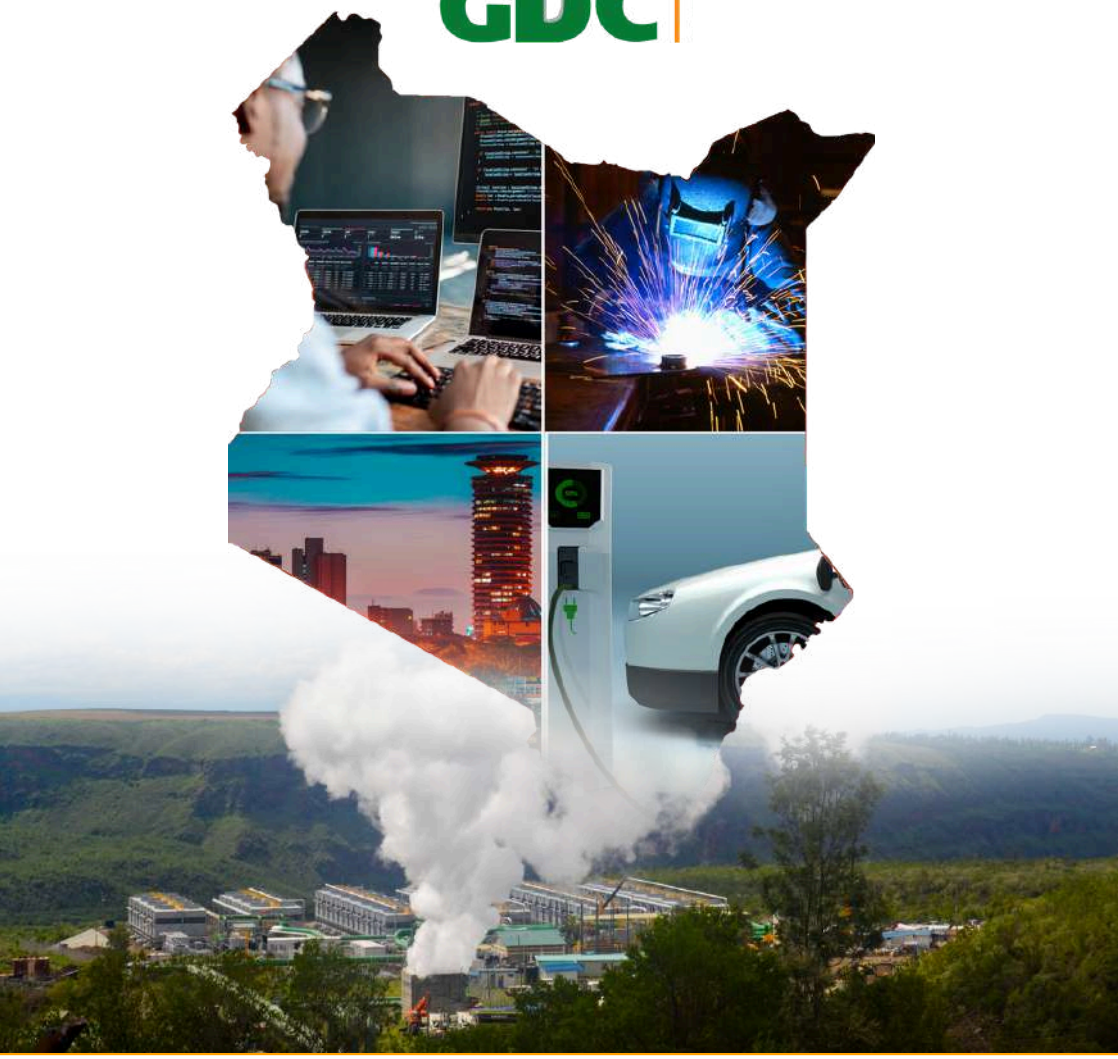





**Connecting Knowledge, Expertise and Solutions for Geothermal Development**

# Kenya runs on *Geothermal* thanks to

GDC



At the heart of Kenya's energy transformation, GDC is unlocking geothermal resources to deliver reliable, clean power that drives progress and powers the nation forward.

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## Message from GDC MD & CEO

Geothermal energy presents a strategic opportunity to strengthen energy security, support sustainable economic development and advance the transition to clean energy across Kenya and the wider African region.

The Geothermal Development Company (GDC), through its Geothermal Resource Centre (GRC), brings together the technical expertise, practical experience and institutional capability required to support the development of geothermal resources across the full project value chain.

The Geothermal Resource Centre provides an integrated portfolio of consultancy, technical advisory, capacity-building, research and innovation services covering geology, geophysics, geochemistry, environmental studies, geothermal drilling and well services, geothermal resource management, direct utilization, business development and project advisory.

This integrated approach enables clients to access multidisciplinary expertise at different stages of geothermal development—from early resource assessment and project planning through development, utilisation and long-term resource management.

GDC is committed to sharing it's growing geothermal knowledge and experience while building partnerships that accelerate geothermal development in Africa and beyond. Through the GRC, we seek to work with governments, utilities, investors, development partners, research institutions and private-sector organisations to deliver practical, fit-for-purpose solutions that create lasting value.

I invite our partners and clients to explore the services presented in this prospectus and engage the Geothermal Resource Centre in advancing geothermal opportunities from resource to sustainable utilisation.



**Mr. Stephen Busieney**
GDC MD & CEO



## Partnering for Geothermal Excellence

Geothermal development requires the right knowledge, capabilities, technology and experience to move an idea from assessment to implementation.

The Geothermal Resource Centre brings these capabilities together under one platform. Drawing from GDC's extensive experience in geothermal exploration, drilling, resource assessment and utilisation, the Centre provides a practical environment where industry, academia, investors and other stakeholders can access specialised expertise, training, equipment and technical services.

Our objective is to make the knowledge and capabilities developed through GDC's work more accessible to the wider geothermal sector. Through specialised consultancy, professional training, equipment and facility services, and knowledge exchange, the Centre offers practical solutions that respond to the evolving needs of geothermal development.

This is an opportunity to leverage what GDC has built over the years and create greater value for the region.



**Dr. George Muia**

General Manager,
Business Development,
Strategy & Planning



The **Geothermal Resource Centre (GRC)** is the Geothermal Development Company's training facility founded as a response to an existing regional skills gap in the geothermal energy subsector within the East African Rift Region.

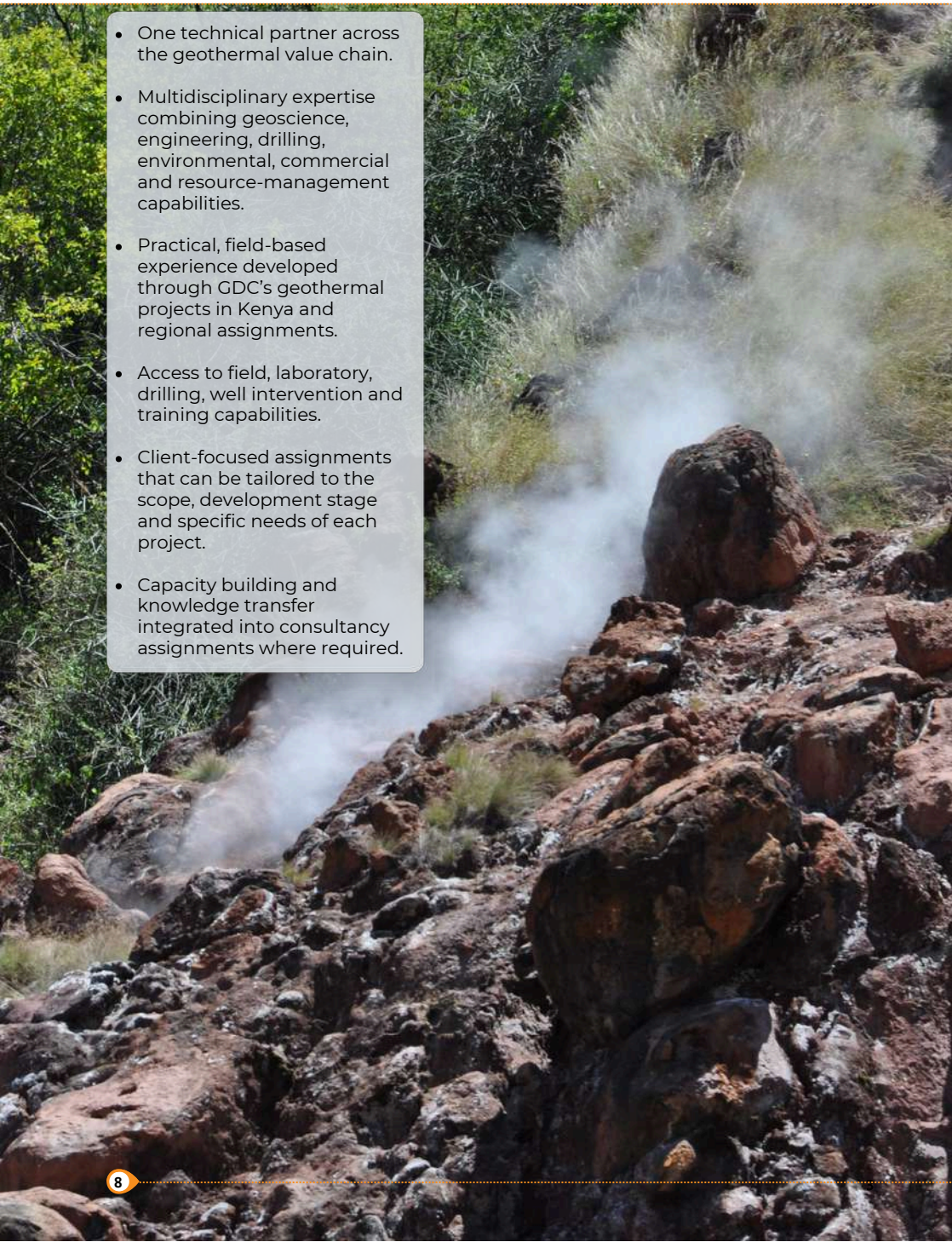
The Centre offers comprehensive, peer-reviewed short course programs in all aspects of geothermal energy development. Emphasis is placed on modern techniques of surface explora tion, drilling, resource assessment and project management.

GDC operates within active geothermal fields such as Menengai, Suswa, and Baringo-Silali, offering a rare opportunity for trainees to gain real-time exposure to geothermal exploration, drilling, reservoir management, direct utilisation and power development processes. Its training integrates classroom instruction, simulation-based learning, and field immersion.

Licensed by the **National Industrial Training Authority (NITA)** and accredited by the **Technical and Vocational Education and Training (TVET)** Authority, GRC has over a decade of experience in delivering specialized training in geothermal energy development.

The programs are continually evaluated to be in line with industry demands. In implementing these programs, the Centre leverages on strong partnerships and linkages developed with various industry players.

## Our Value Proposition



- One technical partner across the geothermal value chain.
- Multidisciplinary expertise combining geoscience, engineering, drilling, environmental, commercial and resource-management capabilities.
- Practical, field-based experience developed through GDC's geothermal projects in Kenya and regional assignments.
- Access to field, laboratory, drilling, well intervention and training capabilities.
- Client-focused assignments that can be tailored to the scope, development stage and specific needs of each project.
- Capacity building and knowledge transfer integrated into consultancy assignments where required.

The Geothermal Development Company (GDC) is a 100% Government of Kenya-owned company under the Ministry of Energy. GDC was established in 2008 following the unbundling of the energy sector and is mandated to accelerate the development of geothermal resources in Kenya.

GDC is committed to de-risking and developing geothermal resources, promoting direct uses, supporting private-sector entry, early power generation, consultancy and capacity building. It also records a diverse pool of professional expertise and extensive geothermal project experience.

## MISSION

To contribute to lowering the cost of energy in Kenya by fast-tracking the development of geothermal resources

## VISION

The Leading Geothermal Resource Developer

## VALUES

Integrity
Professionalism
Teamwork
Innovativeness
Excellence

## MANDATE

- Geothermal resource assessment in prospective areas.
- Development and management of proven steam fields.
- Supporting private-sector entry into geothermal development and selling steam to power producers.
- Early power generation through wellhead generating units.
- Supporting Government in fund mobilisation.
- Promoting direct uses of geothermal resources.
- Developing human capacity for geothermal development.



## Why Choose GDC

- **Capacity Development:** Build a highly skilled workforce in geothermal exploration, drilling engineering, reservoir management, and surface facilities
- **Competency-Based Training**: Delivers industry-driven curricula aligned with NITA and TVET standards.
- **Practical Skills Enhancement:** Provides hands-on training through drilling simulators, laboratory work, and field excursions.
- **Research and Innovation Support**: Promotes applied research and knowledge transfer in geothermal technologies.
- **Regional Leadership**: GDC is positioned as a center of excellence for geothermal training in Africa.
- **Training Experience**: Over 10 years of continuous training delivery in geothermal and drilling operations.
- **Accredited Programs**: Successful implementation of Certificate (NITA) and Diploma (TVET) courses.
- **Hands-On Learning Impact**: Trainees demonstrate improved operational competence due to simulation and field exposure
- **Industry Relevance**: Courses are regularly updated to reflect evolving geothermal technologies and industry practices.




Call

## Our Service Pillars

| Pillar | Core Services | Client Need |
|---|---|---|
| Geoscience | Geology, Geophysics, Geochemistry, resource assessment, conceptual modeling and well siting | Understand, confirm and characterise the resource |
| Drilling & Wells | Drilling, directional drilling, cementing, fishing, well intervention, logging and testing | Access, evaluate and maintain the geothermal reservoir |
| Environment & Social | Environmental studies, audits, ESHS occupational, safety and health risk assessment and audit training and social management support | Enable responsible and compliant project development |
| Resource Management | Reservoir assessment, monitoring and management | Optimise sustainable resource utilization |
| Direct Utilisation | Geothermal heat applications and utilisation advisory | Convert geothermal heat into productive end uses |
| Business Development | Project advisory, commercial assessments and development support | Move projects from resource potential to investable opportunities |
| Capacity Building | Short courses, specialised training, OJT, research and tailor-made programmes | Build technical and institutional capability |



GRC services can be deployed at individual stages or combined into an integrated assignment. The service architecture follows the practical progression of a geothermal project:

- **Prospect Identification & Screening**
- **Environmental & Social Assessment**
- **Geology & Surface Studies**
- **Geophysics & Geochemistry**
- **Resource Conceptualisation & Assessment**
- **Well Siting**
- **Drilling**
- **Well Logging, Testing & Evaluation**
- **Reservoir Management & Sustainability**
- **Power Generation**
- **Direct Utilisation**
- **Monitoring, Optimisation & Continued Development**
- **Business Development & Project Advisory Services**

This integrated approach allows clients to access multidisciplinary expertise without treating each technical workstream as an isolated activity.




trimble

GRC services can be deployed at individual stages or combined into an integrated assignment. The service architecture follows the practical progression of a geothermal project:

## Indicative Services

- Geological reconnaissance and surface exploration.
- Geological and lithological mapping, including hydrothermal alteration mapping.
- Structural geological mapping and interpretation of faults, fractures and permeability controls.
- Geological and mineralogical analysis using X-ray Diffraction (XRD), X-ray Fluorescence (XRF) and petrographic microscopes for rock and mineral characterisation.
- Integration of geological data to geothermal conceptual model development and refinement.
- Geological support for prospect evaluation, resource assessment, ranking and well targeting.
- Geological support during drilling, well-site operations and interpretation of encountered formations.



## Survey, Remote Sensing and GIS Consultancy

GRC, through the Survey and GIS Section, provides surveying, remote sensing and GIS services to support geothermal exploration, geohazard monitoring, infrastructure development and spatial data analysis.

### Surveying

- Geothermal fluid sampling and geochemical investigations.
- Engineering surveying
- Topographical Mapping
- Differential GPS-based geohazard monitoring
- Levelling Surveying

### Remote sensing

Remote sensing data analysis and its application in geothermal exploration, geohazard monitoring, environmental applications among others

### Remote sensing

Data collection and development of spatial data collection tools, spatial data analysis, data modelling and integration, geospatial database development and deployment



GRC provides geophysical survey and interpretation services supporting geothermal prospect identification, reservoir characterisation and well siting. The source prospectus records geophysical surveys, MT/TEM work, equipment hire and ground-electrode surveys among GDC's regional experience.

## Indicative Services

- Geophysical reconnaissance, survey design, planning, and implementation for geothermal exploration.
- Acquisition, processing, quality control, and interpretation of geophysical data, including resistivity, magnetotelluric (MT), gravity, magnetic, seismic, and microseismic surveys.
- Geophysical data modelling, inversion, and interpretation to delineate geothermal structures, hydrothermal systems, and potential resource zones.
- Structural interpretation and identification of discontinuities, faults, fractures, and potential permeability controls using geophysical data.
- Geophysical inputs to geothermal conceptual model development and refinement
- Integration and interpretation of geophysical data with geological and geochemical information
- Support to prospect evaluation, resource assessment, ranking, and well targeting.
- Geophysical monitoring and interpretation to support reservoir management, reinjection assessment, and evaluation of geothermal system response



## Geochemistry Consultancy

GRC provides geothermal geochemistry services to support fluid characterisation, resource assessment, reservoir interpretation and development decisions.

### Indicative Services

- Geothermal fluid sampling and geochemical investigations.
- Laboratory analysis and quality assurance
    - Geochemical data review and interpretation.
    - Water and gas chemistry assessment.
    - Geothermometry and geochemical indicators for resource interpretation.
    - Gas sampling and laboratory analysis support.
    - Geochemical inputs to prospect evaluation, resource assessment, ranking, and well targeting
    - Integration of geochemical data with geological and geophysical information to support geothermal conceptual model development and refinement.
    - Geochemical monitoring and interpretation for reservoir management, reinjection management, and evaluation of reservoir response




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CHROMATOGRAPH
ELUENT

## Environmental & Social Consultancy

GRC supports responsible geothermal development through environmental and social studies and management services. The source prospectus identifies Environmental Impact Assessments and Audits, Strategic Environmental and Social Assessment, Resettlement Action Plan studies and greenhouse-gas accounting among GDC's consultancy capabilities.

### Indicative Services

- Environmental Impact Assessment (EIA/ESIA) support.
- Environmental audits.
- Strategic Environmental and Social Assessment.
- Environmental and social management support.
- Resettlement Action Plan studies.
- Environmental, Social, Health and Safety (ESHS) support.



Geothermal Development Company (GDC) is a leading Kenyan Company in drilling of deep geothermal wells and related services. It has a fleet of **seven (7) rigs** with a capacity of drilling up to a depth of **7000m**. GDC offers a full range of professional geothermal drilling services designed around your needs.



## Geothermal Drilling & Well Services

GDC's drilling capability is a core component of the GRC value proposition. The source prospectus records seven deep drilling rigs, capacity to drill to 7,000 m, extensive drilling personnel and experience in geothermal wells and related services.

### Indicative Services

- Geothermal well drilling.
- Directional drilling and MWD surveys.
- Aerated drilling.
- Cementing services and cement slurry design.
- Fishing services.
- Rig moves and logistics
- Well intervention using coiled tubing.
- Well logging and testing services.
- Well completion and well-control related support.
- Drilling technology capacity building and simulator-based training.




Rig Simulation Training System

## Geothermal Resource Management

GRC provides technical support for the sustainable management of geothermal resources, drawing on GDC's resource-development and reservoir-management experience.

### Indicative Services

- Reservoir characterisation and numerical reservoir simulation.
- Reservoir monitoring and performance assessment.
- Production and reinjection strategy support.
- Well and field performance analysis.
- Resource sustainability assessments.
- Reservoir data integration and interpretation.
- Support for field development planning.
- Technical inputs to resource utilisation and expansion decisions.





## Business Development & Project Advisory Services

GRC provides multidisciplinary advisory support to help clients translate geothermal resources and technical findings into structured development opportunities. Assignments can be tailored to the client's project maturity and commercial objectives.

### Indicative Services

- Geothermal project concept and planning development.
- Support in developing investor and partner documentations.



GRC supports clients seeking to convert geothermal heat into productive direct-use applications. The source prospectus identifies direct utilisation as an external consultancy area and includes Geothermal Direct Use Technology and Geothermal Utilisation within its capacity-building programmes.

## Indicative Services

- Assessment of geothermal direct-use opportunities.
- Screening and evaluation of heat-demand applications.
- Technical assessment of geothermal heat utilisation options.
- Support for geothermal heating, drying and other productive heat applications.
- Concept development for direct-use projects.
- Technical and resource assessment for geothermal heat applications.
- Support to integrate direct use with available geothermal resources.



## Capacity Building, Training & Knowledge Transfer

Capacity building is a core part of GRC's service offering. The source prospectus describes GDC's Centre of Excellence as a response to the regional skills gap and records training in geosciences, drilling, engineering, environment and social management, direct use, reservoir management, project management, GIS and remote sensing.

### Training Areas

- Geothermal technology and geothermal sciences.
- Geothermal geology, geophysics and geochemistry.
- Geothermal drilling technology and rig operations.
- Environment and social management of geothermal projects.
- Geothermal direct-use technology and utilisation.
- Geothermal reservoir management.
- Geothermal project management.
- GIS and remote sensing.
- Specialised, research-based and tailor-made programmes.
- On-the-job training and practical field exposure.



Depending on the project, GRC can structure delivery around a multidisciplinary team combining geoscientists, engineers, environmental and social experts, resource-management professionals and business-development expertise.



Highly specialized simulator with built in class rooms at the Menengai Geothermal Project



State of the art classrooms



Modern geothermal testing equipment in our ultra-modern laboratories



Advanced coiled tubing solutions for geothermal well operations



Experienced professionals advancing geothermal knowledge




Specialised drilling and infrastructure services for geothermal operations

## Our Partners









































# Unlocking Kenya's Geothermal Potential






























GDC Geothermal Development Company

Geothermal, Green Energy for Kenya

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