



**EXPRESSION OF INTEREST (EOI) FOR CONSULTING SERVICES FOR UNDERTAKING
OPTIMIZATION STUDY OF THE GREATER OLKARIA GEOTHERMAL FIELDS.**

(TENDER REF: KGN-GDD-094-2022)

(Open International)

1. Background.

Kenya Electricity Generating Company PLC (KenGen) is a public liability company, registered under the Companies Act of the Laws of Kenya. KenGen was incorporated in 1954 with its core business being the development, management, and operation of power generation plants. The Company is the leading electric power producer in Kenya accounting for close to 60% of the total electric power supplied to the National Grid and is listed on the Nairobi Stock Exchange. It is owned 70% by the Government of Kenya and 30 % by the public as private shareholders. Currently, the Company has a total installed capacity of 1,905MW comprising Hydropower 825.6MW, Geothermal 799MW, Thermal 254MW, and Wind 25.5 MW.

KenGen's power generation expansion strategy focuses on clean technology and close to 90% of the energy generated is from renewable sources; geothermal, wind, and hydro. KenGen's strategy is to increase its generation capacity through renewable energy sources while optimizing the use of existing resources in Geothermal and Hydro.

Currently, KenGen generates electricity from geothermal resources located at Olkaria and Eburru Geothermal areas in Naivasha with each installed capacity of 796.7 MW and 2.3 MW respectively. KenGen intends to increase generation from geothermal resources to address the increasing power supply-demand imbalance in the country while reducing the carbon emissions associated with conventional power generation. KenGen has obtained the geothermal resource exploitation license for Olkaria geothermal field covering an area 204km². KenGen wishes to engage the services of a qualified and experienced consulting firm for undertaking Optimization Study focused on the Greater Olkaria Geothermal fields to ensure cost-effective, quality, and sustainable utilization of the resources.

2. Objectives.

To achieve this target, the company wishes to engage the services of reputable consulting firms to carry out detailed optimization study and reservoir numerical modeling to cover the 204 km² Greater Olkaria geothermal field, the study will incorporate new exploration and utilization data that has become available since the last study.

Overall, the objectives of the study are:

- Collate and process all the existing information and data for the entire field
- Create a structured repository for all datasets
- Assess the data and advise KenGen on the additional data needed
- Analyze the data and develop reservoir model covering the entire field
- Carry out numerical simulation of the response of the reservoir with respect to present production and future developments. The reservoir simulation code should

incorporate well bore flow simulation.

- Upgrade and configure KenGen's parallel computing cluster used in numerical modeling.
- Identify the development strategy that matches best to the reservoir response for long term exploitation of the field.
- Advise KenGen on the most optimum development for the field with respect to
 - i. Optimum output (MW), Plant sizes, Process cycle and Locations
 - ii. Development stages
 - iii. Reservoir monitoring and Reinjection strategy for the whole field
- Prepare economic and financial analysis of proposed and recommended development options.

3. Scope of Services

The company intends to engage consulting firms to carry out detailed optimization study and reservoir numerical modeling to cover the 204 km² Greater Olkaria geothermal field with the scope detailed below.

- 1) Assess the existing available data from the entire field and advice on the additional data required to carry out successful optimization study.
- 2) Set up a central repository for all the available exploration and resource utilization datasets.
- 3) Assess the reservoir potential covering the 204km² greater Olkaria geothermal field and determine additional power production that can be added beyond the 1200 Mwe.
- 4) Upgrade KenGen's numerical modelling platform.
- 5) Perform numerical simulation of the wider reservoir to predict its response to present and future production and advice on the most optimum development strategy for the field including recommendations of hot and cold injection strategy.
- 6) Recommend the optimum additional development for the field, the location, and sizes of the plants to be installed and the development sequence.
- 7) Recommend appropriate management and monitoring strategy for the field including any additional studies required.
- 8) The optimal resources utilization scheme for sustainable development.
- 9) EIA Project Report.
- 10) Feasibility Report.

4. Documentation Requirements and Eligibility Criteria

a. Provide the requirements below;

- Name of firm
- Postal address
- Physical address
- Telephone number
- Email Address
- Contact person

The interested firms should provide the following specific information as well as any other relevant information;-

b. Certified copies of company registration certificates/documents to prove legal status in the country of domicile; in addition, where the bidder is a consortium, a signed consortium agreement which must specify the role of each party in the consortium.

(Not more than one consortium agreement of the same firm for this EOI will be allowed)

- c. Attach at least three commendation letters from utilities for carrying out similar services.
- d. The bidder must provide two (2) latest annual audited reports by a reputable firm.
- e. Description of management/organization structure, list of key staff relevant to the assignment with minimum academic qualification of a degree in geoscience, engineering, economics or equivalent and an individual professional experience of the key staff of at least three years in geothermal resource modelling, assessment, management and power operation, environmental assessment. Their curriculum vitae (CV) including academic, and professional experience must be attached in the bidding document.
- f. Information regarding current litigation (if any) involving the consulting firm certified by a reputable law firm.
- g. Valid tax compliance or equivalent statutory document for international bidders.
- h. The firm should have Five (5) years' experience in geothermal resource modelling, assessment, power project planning and development, environmental assessment. Provide reference letters detailing specific assignments.

5. Clarifications

The interested parties may request for clarifications on this Expression of Interest up to seven (7) days before the EOI submission date. Any request for clarification must be sent in writing by paper mail, facsimile, or electronic mail to:

General Manager-Supply Chain,
Kenya Electricity Generating Company PLC,
9th Floor, KenGen Pension Plaza II,
Kolobot Road, Parklands,
P.O. Box 47936, 00100, NAIROBI.
Tel: +254 2 3202000;
Fax: +254 2 248848

Email: tenders@kengen.co.ke; CC: Ponyango1@kengen.co.ke;

6. Clarifications

Submission of the prequalification documents made in English must be received in a plain sealed envelope clearly marked on the outer envelope “**CONFIDENTIAL - KGN-GDD-094-2022 - EXPRESSION OF INTEREST (EOI) FOR CONSULTING SERVICES FOR UNDERTAKING OPTIMIZATION STUDY OF THE GREATER OLKARIA GEOTHERMAL FIELDS**” on or before **22nd November 2022 at 1000hrs** and addressed to:

General Manager-Supply Chain,
Kenya Electricity Generating Company PLC,
9th Floor, KenGen Pension Plaza II,
Kolobot Road, Parklands,
P.O. Box 47936-00100
Nairobi, Kenya

The tender documents (EOI) should be dropped at the tender box located on Ground Floor at KenGen, RBS building. Bids that cannot fit in the tender box should be submitted to the General Manager - Supply Chain Office located on the 9th Floor, KenGen Pension Plaza II before the submission deadline.

Bidders should submit **one (1) original and two (2) copies** of the EOI on or before **22nd November 2022 at 1000hrs**. The EOI will be opened on the same day in public at **1030 hours**, (Kenyan time) at KenGen Pension Plaza II, 6th Floor in the presence of bidders' representatives who choose to attend at Tender Opening Room, 6th Floor, RBS.

The Expression of Interest can also be viewed and downloaded from the KenGen website www.kengen.co.ke.

Bidders are advised to be checking the website from time to time up to five (5) days before submission date for any uploaded information through clarification/and addendum.

KenGen reserves the right to accept or reject any or all applications without the obligation to assign any reason for the decision. Only individuals pre-qualified under this procedure will issued with the Request for Proposal (RFP) and be invited to submit their technical and financial proposal.

KenGen reserves the right to verify submitted information and documents through a due diligence.

KenGen adheres to high standards of integrity in its business operations.

Report any unethical behavior immediately to any of the provided anonymous hotline service.

- 1) Call Toll Free: 0800722626;
- 2) Free-Fax: 00800 007788;
- 3) Email: kengen@tip-offs.com
- 4) Website: www.tip-offs.com

GENERAL MANAGER, SUPPLY CHAIN