# REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – FIRMS SELECTION-Quality and Cost Based Selection (QCBS))

# Armenia Geothermal Exploratory Drilling Project Grant No.: P152039

### Assignment Title: *Well logging and well testing for slim wells* Reference No. : *GEDP-CS-1/2015*

This Request for Expression of Interests follows the General Procurement Notice for this Project that appeared in *UN Development Business* on March 12, 2015.

The Republic of Armenia has received a SREP Grant from the Climate Investment Funds Scalingup Renewable Energy Program in Low Income Countries (SREP) (administered by the International Bank for Reconstruction and Development (IBRD) toward the cost of the Geothermal Exploratory Drilling Project, and intends to apply part of the proceeds for consulting services. The Project is implemented by the Armenia Renewable Resources and Energy Efficiency Fund (Client).

### Background

The objective of the Geothermal Exploration Drilling Project (GEDP) is to confirm the potential of geothermal energy in the Karkar (Armenia) region. The Karkar geothermal area is situated in southern Armenia, at 3000 meters elevation, close to the border with Nagorno-Karabakh. A drilling contractor will be contracted to carry out the drilling under the supervision of the Client, which be supported by a Technical Supervision Consultant.

The GEDP will be carried out in two phases. Phase I will include drilling of one or two slim wells (with liner diameter of  $3\frac{1}{2}$  inches) to a depth of 1,200-1,500 meters at the Karkar geothermal site in order to confirm the nature of the low resistivity layer located at 500-1,000 meters and to measure the temperature just below it. The temperature at the target depth is not known but two possibilities are envisioned; a high enthalpy geothermal conditions, (>250°C) or intermediate to low enthalpy conditions less than 100 °C. The decision on whether to drill the second slim well will be made after drilling the first one and will depend on whether or not the information obtained from the first well is conclusive regarding the nature of the geothermal resource.

#### Scope of work

The services under this contract ("the Services") will include logging during drilling, execution of completion tests and discharge tests once the wells have been completed. The design of the discharge tests will depend on the nature of the geothermal resource. The Consultant will thus have to have the human and technical capacity to carry out discharge test of a flashing well or flow test of a liquid dominated well depending on the outcome of the drilling. The consultant will need to provide all logging tools and equipment as well as equipment for completion and discharge/flow testing, with the exception of water pumps for injection tests at the end of drilling, which will be provided by the drilling consultant.

# <u>Timeframe</u>

Services will be provided approximately during 4 months, starting from the beginning of June 2016 and completing in late September 2016.

The **Armenia Renewable Resources and Energy Efficiency Fund** now invites eligible consulting firms ("Consultants") to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are:

- General Experience in well logging and well testing of drilling projects in the last 10 years (max 50 points)
- Specific Experience in well logging (including PTS and CBL logging) in geothermal drilling projects and in discharge testing of high and low enthalpy wells in the last 10 years (max 50 points)

The attention of interested Consultants is drawn to paragraph 1.9 of the World Bank's *Guidelines:* Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011, Revised July 2014. ("Consultant Guidelines"), setting forth the World Bank's policy on conflict of interest.

Consultants may associate with other firms in the form of a joint venture or a sub-consultancy to enhance their qualifications.

A Consultant will be selected in accordance with the Quality and Cost-Based Selection (QCBS) method set out in the Consultant Guidelines.

Further information can be obtained at the address below during office hours from 9:00-18:00 local time.

Expressions of interest must be delivered in a written form or via email to the address below by March 30, 2016, 18:00 (local time).

Armenia Renewable Resources and Energy Efficiency Fund Address: Proshyan str. 1st Lane, House 32 Attention: Tamara Babayan -Director City Zip code: Yerevan, 0019, Country: Republic of Armenia Phone #: 37410 – 588011 Fax #: 37410 – 588011 E-mail: <u>g.zara@r2e2.am</u>; <u>info@r2e2.am</u>; <u>artgrigoryan@yahoo.com</u> Web site: <u>www.r2e2.am</u>