Template Expression of Interest (EoI) for the Second Round Geothermal Exploration Risk Sharing Mechanism (RSM)

**Total length of the EoI should not exceed 15 pages (excluding Annexes)**

# Introduction

This template is intended to assist the applicant in preparing an effective Expression of Interest (EoI) for the second round of the RSM. An effectively prepared EoI will serve to increase the applicant’s chances of being shortlisted which will lead to an invitation to submit a full proposal of the applicant’s project for entry into the RSM program. The likelihood of being shortlisted will be highest once three key issues are effectively demonstrated which include:

1. A high potential of finding a geothermal resource based on submitted information (see Section 1)
2. The feasibility of the drilling plan when considered in the context of the proposed geothermal energy use, and the applicant’s strength in financing the drilling plan and in following up on their project (see Section 2)
3. The likelihood that environmental and social issues will be properly implemented and effectively managed from the beginning of the project (see Section 3).

# Information for Proposed Project

General description of the project (Name, Location of Project, Project Sponsor)

# Geothermal – technical

**Data with technical data on the proposed project:**

|  |  |  |
| --- | --- | --- |
| Indicator | Unit | Value |
| Gross capacity per well | MWe or MWth |  |
| Gross conversion efficiency (for power plants only) | % |  |
| Expected average flow rate per well | kg/s |  |
| Estimated reservoir temperature | °C |  |
| Estimated depth of the well (True Vertical Depth-TVD) | m (from surface) |  |
| Diameter of the well at target depth | “ (inch) |  |
| Well type (vertical/directional) | - |  |
| Wellhead location of the wells under RSM | N E coordinates (ED50-UTM-6° coordinate system) |  |
| Expected/predicted CO2 emissions | g CO2/kWh |  |
|  |  |  |

## Conceptual model

Please provide a brief description of the local conceptual model that characterizes the geothermal prospect, preferably supported with an illustration. The conceptual model shall outline the following, if available:

* Regional map showing the concession and surface manifestations
* Structural settings
* Expected stratigraphy
* Expected reservoir rocks and caprock if applicable
* Predicted size and thickness of reservoir (boundaries)
* Conceptual flow dynamics (recharge, up-flow, outflow)
* Well targets

## Drilling plan and well design

Please provide a brief description of the drilling plan, preferably including:

* Depth of wells
* Directional or vertical
* Predicted stratigraphic and structural conditions
* Expected Temperature and Pressure conditions
* Information on offset well data (if available)
* Expected drilling diameters and casing program
* Potential for encountering kicks/gas kicks
* Estimated drilling time
* Water supply available for drilling
* Wastewater handling / storage / disposal
* Drilling mud handling / storage / disposal

## Brief Company Profile and Its References

Please provide a brief overview of the company and key references of similar/relevant work done before.

* Business Name:
* Business Address and Contact Information:
* General Business Activities (i.e. core business):
* Company Strategy:
* Financial information (last 3 years):
* Relevant Project References:

## Information on development and drilling within nearby concessions (if available)

Please provide information on development of nearby concessions, with focus on drilling and well yield. This should include, but not be limited to:

* Stage of development (i.e. exploration, exploration drilling, production etc.)
* Yield of wells (temperature and flowrates)
* Temperature and pressure conditions of reservoirs

# Business Plan

## Structure of the Beneficiary (Consortium or Joint Venture)

Please provide a brief description of the parties that will be involved in the drilling project. Also, please complete the TKYB form to be added as an Annex to the EoI.

## Brief feasibility study

**Estimates of financial data:**

|  |  |  |
| --- | --- | --- |
| Indicator | Unit | Value |
| Total gross installed capacity aimed at | MWe or MWth |  |
| Own consumption | MWe or MWth |  |
| Annual duration of maximum power or heat | hour per year |  |
| Number of wells under RSM | # |  |
| Number of production wells | # |  |
| Number of reinjection wells | # |  |
| Average sales price year 1-10 | USD/MWh |  |
| Average sales price year 11-25 | USD/MWh |  |
| Estimated Drilling cost per well | USD |  |
| Total capital cost of power plant or direct use facility | USD |  |
| Total annual operating costs | USD per year |  |
| Expected IRR | % |  |
| Expected NPV (at 8% discount factor) | USD |  |
|  |  |  |

# Safeguards

**Environment and social data:**

|  |  |  |
| --- | --- | --- |
| Indicator | Unit | Value |
| Project classification under Turkish EIA Regulation (I or II) | - |  |
| Project classification under World Bank Environment and Social Framework (Category A, Category B, Category C) |  |  |
| Distance to nearest protected area/sensitive habitats | km |  |
| Distance to nearest area of cultural heritage and its sensitivity | km |  |
| Distance to nearest settlement | km |  |
| Distance to nearest water body | km |  |
| Distance to nearest agricultural area | km |  |
| Amount of estimated expropriation / land acquisition from private landowners (including lands to be rented) | m2 |  |
| Estimated number of project-affected people (PAP) | # |  |
| Estimated number of project-affected settlements | # |  |
|  |  |  |

## “EIA not required” or “EIA positive” decision if available

Please indicate the status of the EIA application related to the drilling project, the intended location, and attach decision and the report, if available.

## Environmental and social documentation and permits

Please fill the table below to indicate the environmental and social situation of the project and the likelihood of obtaining all relevant permits.

| **E&S Subject** | **Description** | **Relevant documentation** | **Is it applicable?**  **(Yes/No)** | **If it is applicable, is it available?**  **(Yes/No)** | **If it is not available please define expected date for obtaining relevant permit, license, opinion letter, etc. from relevant authority.** |
| --- | --- | --- | --- | --- | --- |
| Exploration | Exploration license | Valid Exploration License |  |  |  |
| EIA | The projects subjected to selection and elimination process fall into Annex-II of EIA Regulation and must obtain “EIA Not Required” certificate | Project Information File (PIF) |  |  |  |
| “EIA Not Required” certificate |  |  |  |
| The projects fall into Annex II but obtained “EIA Required” decision | EIA Report |  |  |  |
| “EIA Positive” certificate |  |  |  |
| Land use | Private land | Rental / purchase agreement |  |  |  |
| Official letters on expropriation |  |  |  |
| Public interest decision  (if any) |
| Public land | Official letters on land acquisition |  |  |  |
| Treasury land | Official letters on land acquisition |  |  |  |
| Agricultural land | Non-agricultural utilization permit |  |  |  |
| Pastureland | Official opinion letter on change of allocation purpose |  |  |  |
| Forest land | Forest permit |  |  |  |
| Water | Water extraction Permit | Official opinion letter received by DSİ (State Hydraulic Works) |  |  |  |
| Waste | Brine disposal  Drilling mud disposal | Disposal Permit /  official exchange |  |  |  |
| Stakeholders | Stakeholder engagement | Records on additional stakeholder engagements other than those conducted within the scope local regulation |  |  |  |
| Zoning | Zoning permit | Valid Zoning Permit |  |  |  |
| Import | Import license | Valid Import License |  |  |  |
| Other | Other permit requirements listed in PIF or EIA Report | Relevant permits |  |  |  |

# Annexes

## Copy of the exploration license

Please provide a copy of the exploration license

## CVs of key experts

Please provide short CVs (one page for each) of the proposed experts with relevant experience that will be working on the drilling project. As minimum, see the following:

* Team leader
* Drilling engineer
* Reservoir engineer
* Geologist/geochemist
* Environmental and social expert

## 

## Financial statements

Please submit financial statements of the past three years (2017, 2018, 2019), namely balance sheets, profit/loss statements and income statements, by filling the summary templates as given below.

**Profit (-Loss) Statements:**

|  |  |  |  |
| --- | --- | --- | --- |
| **REVENUE/COST ITEMS** | **2017** | **2018** | **2019** |
| Total Turnover (+) |  |  |  |
| Cash O&M Costs (-) |  |  |  |
| Depreciation Costs (-) |  |  |  |
| Interest Costs (-) |  |  |  |
| Other Revenues (-Costs) |  |  |  |
| Profits Before Taxes |  |  |  |
| Corporate Tax (-) |  |  |  |
| Profits After Taxes |  |  |  |

**Balance Sheets:**

|  |  |  |  |
| --- | --- | --- | --- |
| **ASSET/LIABILITY ITEMS** | **31/12/2017** | **31/12/2018** | **31/12/2019** |
| Current Assets |  |  |  |
| Fixed Assets (NET) |  |  |  |
| -          Fixed Assets (GROSS) |  |  |  |
| -          Accumulated Depreciation (-) |  |  |  |
| TOTAL ASSETS |  |  |  |
| Current Liabilities |  |  |  |
| Long-term Liabilities |  |  |  |
| Equities |  |  |  |
| -          Paid-in Capital |  |  |  |
| -          Profit-for-Period |  |  |  |
| -          Accumulated Profits (-Losses) |  |  |  |
| -          Other Equities |  |  |  |
| TOTAL LIABILITIES + EQUITIES |  |  |  |

In addition, please indicate in which way the drilling of the wells is planned to be financed, by providing Detailed Project Financing Sources.

## TKYB form

Please complete the TKYB form (available from the RSM website).