

RSM CONSULTATION WORKSHOP

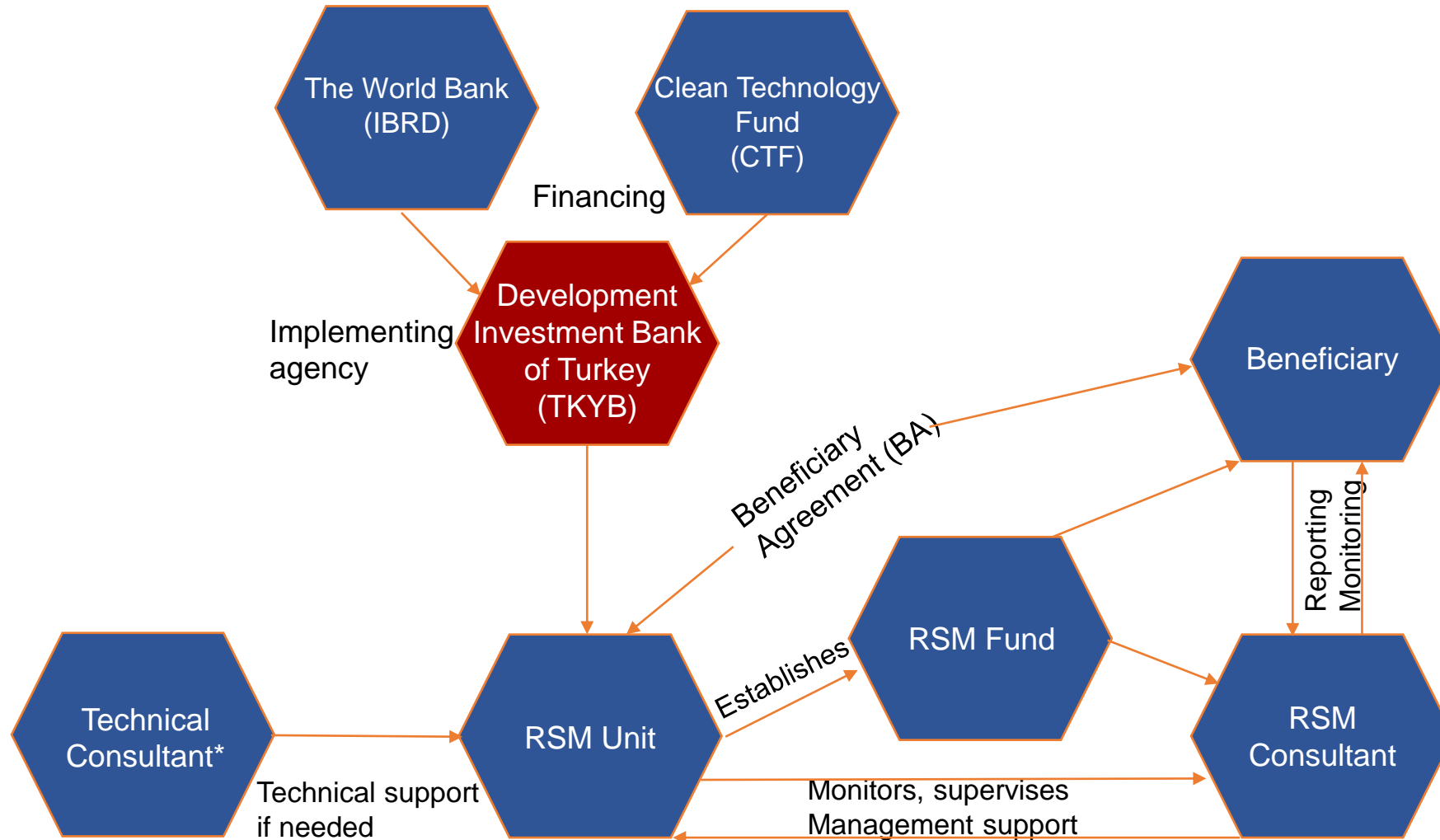
DEVELOPMENT AND INVESTMENT BANK OF TURKEY- ENGINEERING DEPARTMENT

WORLD BANK GEOTHERMAL DEVELOPMENT PROJECT- RISK SHARING MECHANISM

GEOHERMAL RISK SHARING MECHANISM

- Turkey Geothermal Development Project was signed between the World Bank and Development and Investment Bank of Turkey (TKYB) on October, 30 2016. This Project has two components; one is a credit facility for private sector geothermal energy investments, the other is the Risk Sharing Mechanism (RSM) for resource validation in geothermal energy sector.
- The RSM has been capitalized with a contingent grant from the Clean Technology Fund (CTF) by World Bank to the Government of Turkey. TKYB is responsible for implementing the Project. The program consists of a mechanism through which the developer's exploratory drilling cost will be covered in a pre-defined percentage of actual acceptable well cost (i.e. Eligible drilling expenditures) incurred by the license holder in the case of an unsuccessful well.
- The goal is to be achieved by reducing the financial risk of exploration drilling projects in greenfield areas. In this context, an exploration drilling project is defined as the drilling of one or more wells in a given geothermal reservoir in order to validate the viability of power production, and/or direct use application, at that site.

GEOHERMAL RISK SHARING MECHANISM



*Third-party professional

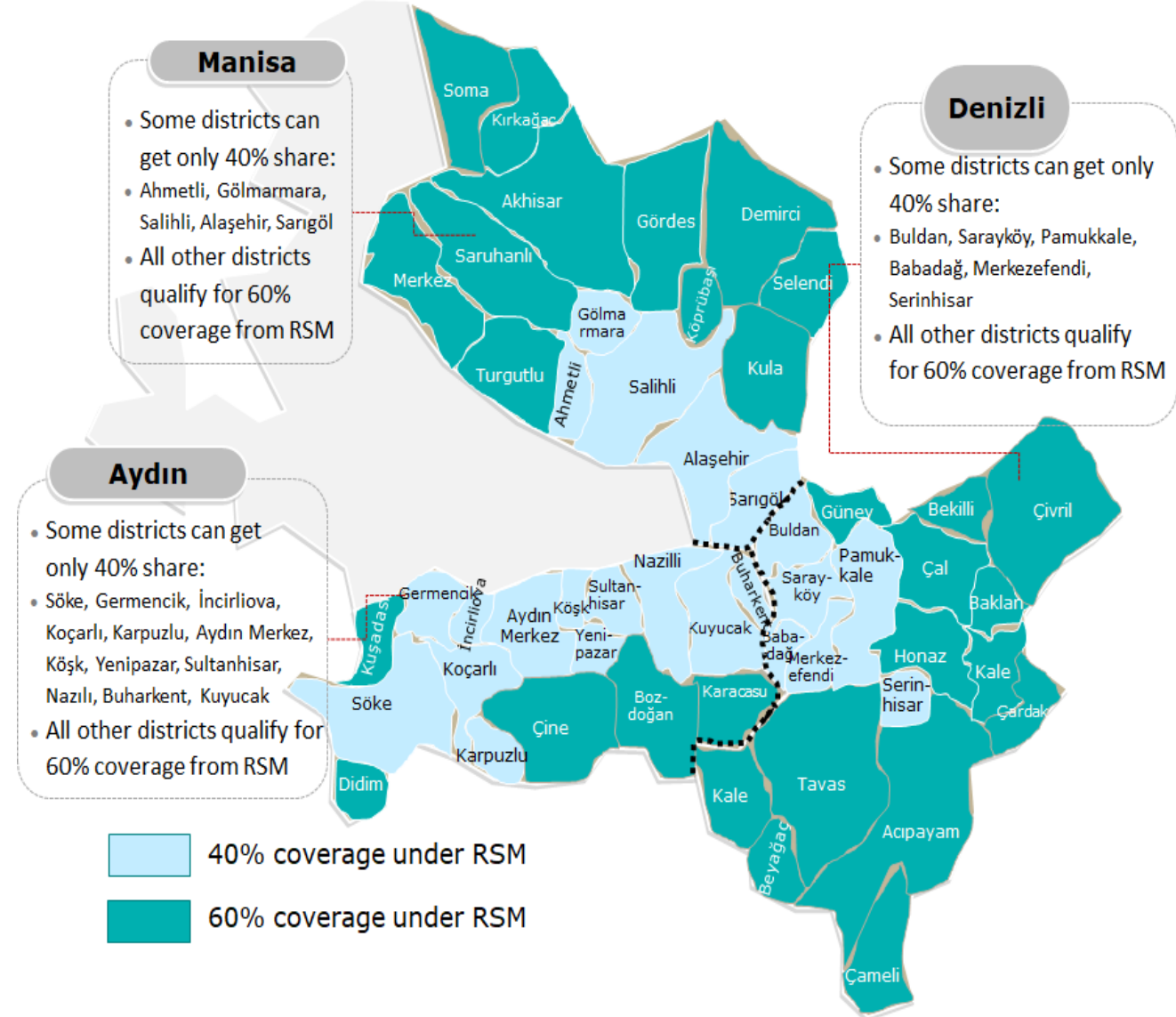


RSM PARTIAL COVERAGE REGIONS

RSM Partial Coverage Rate

The Partial Coverage Rate is the percentage of actual acceptable well cost (i.e. eligible drilling expenditures) incurred by the license holder in the case of an unsuccessful well.

- Applications made from some certain districts in Aydın, Manisa and Denizli provinces can benefit from RPM by 40%
- Applications made from all other districts in Aydın, Manisa and Denizli provinces can benefit from RPM by 60%
- 60% coverage is also applicable elsewhere in Turkey



COMPARISON BETWEEN THE FIRST AND SECOND ROUND OF RSM

| Main Issues/ Period | Original- 1st Round | Revised- 2nd Round | Resolve of the Bottleneck |
|---|---|---|--|
| Application Period of Developers | There was no shortlisting during the Expression of Interest (Eol) round. The proposals were submitted by any developers interested in the RSM program | Develop Request for Expressions of Interest (Eol) in order to prepare a shortlist of interested developers for the second RSM round | <ol style="list-style-type: none"> 1. Well prepared applications of more competent developers 2. Avoid delays caused as a result of dealing with less qualified applications |
| Hold a Consultation Workshop | No Consultation workshop was organized in RSM round 1 | Prior to the launch of the call for Eol, a 1-day Consultation Workshop will be held. This will provide feedback on the interest in RSM round 2, to tailor the process to applicant's needs to the extent possible. | <ol style="list-style-type: none"> 1. Obtain feedback from applicants early on to tailor the RSM. 2. Avoid delays caused as a result of less qualified applications |
| Hold Application Workshops | Except for a one-day application workshop prior to opening the application period, no additional support was provided to the developer to prepare the required application documents | <p>A two-day application workshop will be held. One day will focus on the technical and financial application requirements, while the second day will focus strictly on E&S requirements.</p> <p>Due to shortlisting after Eol submission, developers will be trained first and if needed follow up meetings will be held when they are preparing their application files, to assure that the information gathered in the applications are more comprehensive.</p> | <ol style="list-style-type: none"> 1. Support to be provided to developers 2. Provide understanding of the RSM program requirements to developers, especially E&S issues 3. Provides for an easier evaluation process and possibly more reliable evaluation results |

COMPARISON BETWEEN THE FIRST AND SECOND ROUNDS OF RSM

| Main Issues/ Period | Original- 1st Round | Revised- 2nd Round | Resolve of the Bottleneck |
|--|---|--|--|
| RSM Coverage | RSM coverage included drilling related costs | RSM coverage included drilling related costs and surface exploration costs (just for 60% coverage regions) and also air-lifting and pump testing costs if they are needed during flow test | More coverage is expected to increase interest in the program, particularly for areas outside Gediz and B. Menderes Grabens |
| RSM Success Fee | If the wells within the scope of the RSM are successful, a 10% success fee that is calculated on acceptable well cost will be received. For the 4th and 5th wells under RPM, the success fee is calculated as 25% of the acceptable well costs. | If the wells within the scope of the RSM are successful, a 5% success fee that is calculated on acceptable well cost will be received. For the 4th and 5th wells under RPM, the success fee is calculated as 10% of the acceptable well costs. | Expected to increase interest in the program |
| E&S Aspects of Application | There was an evaluation of the E&S aspects of the proposed project during the application processes, but no points were giving related to how applicants dealt with E&S issues | E&S activities such as securing the EIA document, holding public consultation meeting should be done as early as possible. Applications readily having done these will be scored higher in evaluation process. | <ol style="list-style-type: none"> 1. Provides for an easier evaluation process and possibly more reliable evaluation results 2. Avoid delays caused by E&S issues |
| Business Plan template for all applicants | There was no template or standardized Business Plan criteria that was to be used in preparing a proposal in the first application round | Key financial parameters such as, IRR, discount rate, loan term and percentage, equity can be identified at the beginning of the application process | <ol style="list-style-type: none"> 1. Provide standardized business plan for all applicants 2. Easy to compare and evaluate of all applicants' business plans |

COMPARISON BETWEEN THE FIRST AND SECOND ROUNDS OF RSM

| Main Issues/ Period | Original- 1st Round | Revised- 2nd Round | Resolve of the Bottleneck |
|---|--|---|---|
| Business plan template for direct-use and power-plant developers specifically | There was no template or standardized criteria which the Business Plan was required to use in preparing applications | Develop new template of business plan | <ol style="list-style-type: none"> 1. Provide standardized business plan 2. Support to be provided to direct-use and power-plant developers |
| Specific measures or requirements for direct-use projects | There were no specific measures regarding direct-use projects which had to be met to be eligible for the RSM | <p>The RSM consultant developed specific measures or requirements for direct-use projects:</p> <ul style="list-style-type: none"> - surface exploration costs become part of acceptable well cost (AWC), - additional surface exploration studies to be suggested after shortlisting to improve quality of the application | <ol style="list-style-type: none"> 1. Additional support to be provided to direct-use beneficiaries |
| Use of pump testing for determining well output success criteria | Success Criteria requires pump testing for estimating well output when self-flow is not sufficient. | If self-flow from wells is not sufficient to meet the Success Criteria, well testing shall be carried out. Airlifting will be a prerequisite for estimating the long term well output. If possible, pump tests for long-term output estimation will be preferred | <ol style="list-style-type: none"> 1. Objection of pump testing by Beneficiaries will be solved by airlifting requirement, which is cheaper, but somewhat less conclusive. 2. The conditions of pump testing/airlifting requirement is defined 3. The costs incurred during this testing will be included in AWC |

COMPARISON BETWEEN THE FIRST AND SECOND ROUNDS OF RSM

| Main Issues/ Period | Original- 1st Round | Revised- 2nd Round | Resolve of the Bottleneck |
|--|--|---|---|
| Monitoring of Drilling Activities | There was no schedule prepared or used to monitor programmed drilling activities | Monitoring schedule of the RSM Consultant is determined and this will include both technical and E&S and OHS issues | Providing monitoring feedback and support during the drilling activities by regular site visits |
| E&S and OHS Monitoring | There was no E&S milestone schedule prepared by the short-listed beneficiaries that could be used to monitor required E&S activities | E&S monitoring schedule of the RSM Consultant is determined for short-listed beneficiaries in order to monitor completion of E&S and OHS issues required activities during program implementation | <ol style="list-style-type: none"> Support to be provided by the RSM Consultants on E&S and OHS requirements under Turkish Law and World Bank Safeguard Guidelines Provide support by the RSM Consultant to easily understand and solve the problems related to E&S and OHS issues during implementation period of the projects |
| CO2 Emission | Measured CO2 concentration of the wells within the scope of the RSM must be lower than 583 gr/kWh. RSM program will be terminated if CO2 concentration of the well give higher values. | RSM agreement will be terminated if CO2 emission levels are the value of the year prior to the year when the drilling was completed. For 2nd round projects, 540 gr/kWh which is the CO2 emission factor, published by MENR will be used | The CO2 factor has decreased from round 1 to round 2 |



RSM-IMPLEMENTATION PHASES- 2nd ROUND

Phase-1

- **Preparation Period:** Documentation, process development
- **Consultation Workshop (26.01.2021)**
- **Receiving EOI via web-site (www.rpmjeoturkiye.com)**
- **Evaluation of EOI and prepare a short-list projects**
- **Starting application period of short-listed projects**

Phase-2A

- **Project application period:** Receiving applications
- Technical evaluation of applications
- Environmental and social evaluation of applications
- Scoring
- Potential projects list for the second round
- Informing the applicants on the second round scoring results

Phase-2B

- **Negotiations with potential Beneficiaries**
- Determination of success criteria
- Revised Business Plan and Environmental-Social documents
- Signing Beneficiary Agreement between TKYB and Beneficiaries

Phase-3

- **Start of drilling operation**
- Drilling plans implemented
- Well testing protocols implemented
- Site visits, monitoring and data collection

Phase-4

- **Reporting :** Preparing the Evaluation Report for each phases
- Preparing monthly, quarterly and annual reports



THANK YOU

CONTACT

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