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The Role and Value Added of the Risk Sharing Mechanism (RSM) Program in Türkiye's Geothermal Energy Sector

Kızılkaya Yıldız. S[1]*, Saltuk. M.F.[1],Kıvanç Ateş. A.H.[1] , Can. A. S.[1] Lee,A.D.[2]
Development and Investment Bank of Türkiye [1], World Bank[2]
Hilal.KivancAtes@kalkinma.com.tr

INTRODUCTION

- Performance-based financial framework designed to mitigate the geological and financial risks of geothermal exploration in Türkiye (World Bank, 2015).
- Funded by the World Bank and the Clean Technology Fund (CTF), and implemented by the Development and Investment Bank of Türkiye (TKYB).
- As it is seen in Figure 1, The mechanism reimburses 40–60% of eligible drilling expenditures (up to USD 4 million per project) when tests reveal unviable resources according to predefined success criteria, thereby reducing subsurface uncertainty and fulfilling its de-risking function even in non-productive outcomes (World Bank & TKYB, 2025).

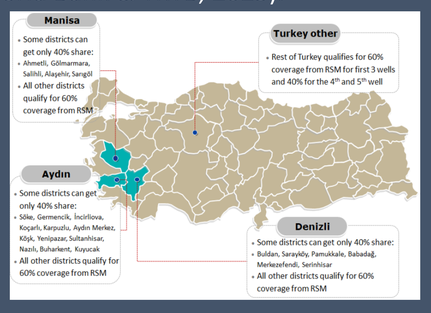


Figure 1. RSM Partial Coverage Regions

METHODS

- Application: Licensed developers submit an Expression of Interest (EoI); qualified applicants proceed to the full application stage as it is seen in Figure 2.
- Evaluation: TKYB and an independent consortium (AFRY, MRC, ÍSOR, Verkís) assess technical, financial, and environmental aspects (AFRY et al., 2022).
- Contracting & Support: Agreements define reimbursement (40–60% for first three wells, 40% for next two) and a 5–10% success fee upon commercial discovery
- Implementation: TKYB oversees progress via reports, inspections, and third-party reviews to ensure transparency and investor confidence .

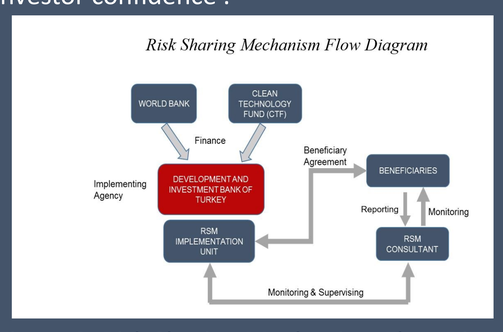


Figure 2. Risk Sharing Mechanism Flow Diagram

RESULTS

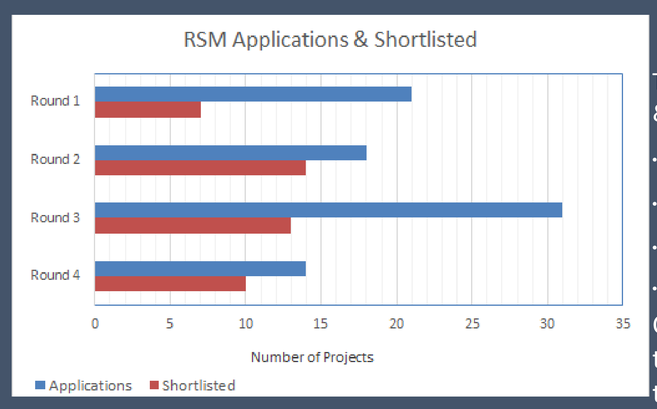


Figure 3. RSM Applications and Shortlisted Amount

The Risk Sharing Mechanism (RSM) has advanced through four funding rounds since 2016, facilitating geothermal development throughout Türkiye (RPM Türkiye & TKYB, 2023) .RSM Applications &Shortlists and CTF Funding for Projects is given in Figure 3 and Figure 4.

- Round 1 (2019–2022): 21 submissions, 7 shortlisted; 3 wells drilled→ approximately USD 5 million refunded
- Round 2 (2022–2023): 18 submissions, 14 shortlisted; 3 wells drilled→ approximately USD 8,6 million refunded
- Round 3 (2023): 31 submission, 13 shortlisted
- Round 4 (2024–25): 14 submissions, 10 shortlisted; 1 well drilling is ongoing at the time of November 2025.

Cumulative outcomes: 84 applications, 44 projects shortlisted, 90 MW potential resources can be explored based on the shortlisted projects, and total amount of reimbursements were reached approximately USD 14 million by the end of 2025. The program has enhanced investor confidence, activated local services, and showcased a replicable model for more geotherm markets.

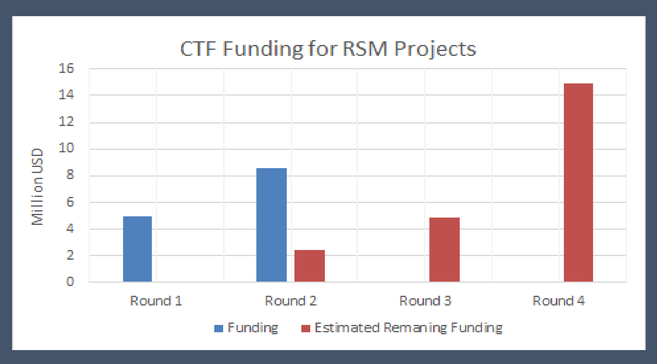


Figure 4. CTF Funding for RSM Projects

Table 1. The table below shows the output of the RSM Program throughout years.

	Round 1	Round 2	Round 3	Round 4	Total
Applications Received	21	18	31	14	84
Projects Shortlisted	7	14	13	10	44
Wells Drilled	3	3	-	1	7
Failed wells reimbursed	3	3	-	-	6
Reimbursement paid (mUSD)	5	8,6	-	-	~14
Estimated Disbursement amount (mUSD)	0	2,4	4,9	14,9	~22

DISCUSSION

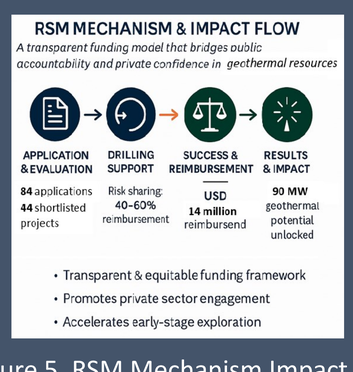


Figure 5. RSM Mechanism Impact Flow



Figure 6. RSM Value Chain and Sectoral Impact

The Risk Sharing Mechanism (RSM) in Türkiye establishes a transparent, performance-based framework that effectively mitigates geothermal exploration risks while fostering private sector engagement (World Bank & TKYB, 2024). As illustrated in Figure 5, the mechanism and impact flow links exploration support directly to measurable outcomes — converting financial risk mitigation into tangible geothermal capacity gains and sustained investor confidence, laying the foundation for broader economic contributions shown in Figure 6.

CONCLUSION



Figure 7. RSM Stakeholder Ecosystem



Figure 8. RSM Outcomes and Contributions

The Risk Sharing Mechanism (RSM) in Türkiye has evolved into a transparent and results-oriented framework that bridges exploration risk with sustainable geothermal development. Shown in Figure 7 and Figure 8; beyond unlocking measurable capacity, it has strengthened institutional capability, enhanced investor confidence, and fostered replicable practices that position Türkiye as a reference model for geothermal risk finance and sustainable energy transition globally, exemplifying how structured governance can convert exploration uncertainty into lasting value.

Acknowledgements

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Special thanks are extended to AFRY, ÍSOR, Verkís and MRC Türkiye for their technical leadership and contributions to geological evaluation, drilling assessment, and independent verification processes. Their multidisciplinary expertise and strong coordination with local partners have ensured the transparency, efficiency, and credibility of the program, creating an evidence-based model that continues to guide geothermal exploration and investment decisions in Türkiye.

REFERENCES

- The World Bank and TKYB: Turkey Geothermal Development Project – Risk Sharing Mechanism Component, Proceedings, World Bank Implementation Workshop, Washington D.C., USA (2025)
- World Bank: Project Appraisal Document – Turkey Geothermal Development Project, Journal, No. 1, (2015), pp. 1–120
- The World Bank and TKYB: Restructuring Paper – Component 1 (RSM) Extension to 2027, Proceedings, International Energy Financing Forum, Paris, France (2024)
- AFRY, MRC Türkiye, ÍSOR, and Verkís: Technical Support to RSM Under TGDP: Scope and Lessons Learned, Proceedings, Workshop on Geothermal Risk Sharing, Stockholm, Sweden (2022)
- RPM Türkiye and TKYB: Third Round Consultation Workshop Report – RSM Implementation Updates, Proceedings, RSM Workshop, Istanbul, Türkiye (2023).