

Geothermal Services

Driving Strategic Geothermal Resource Assessment, Exploration, and Development

Geothermal energy is emerging as a viable resource in the transition to a more sustainable energy future. Recognizing this potential, ThinkOnward offers domain expertise and tools to unlock geothermal resource potential globally and regionally, tailoring each project to specific client needs. By providing top-tier domain expertise, cutting-edge methodologies, and advanced data analysis, we help energy companies capitalize on geothermal energy's potential, guiding them from exploratory phases to informed decision-making.

Comprehensive resource assessment

We evaluate both global and regional geothermal resources, focusing on energy potential for low and high enthalpy systems.

Innovative methodologies

Your projects are managed using a cloud-based virtual workstation custom-configured with industry-leading tools, enabling the highest level of security, speed, and collaboration.

Customized mapping & modeling

Leveraging play-based exploration techniques, we can create detailed play element and attractiveness maps, integrating key industry software and tools for in-depth analyses.

Data-driven insights

Get insights to make decisions with confidence. Move faster with bid round decisions and tap into local basin expertise. Let fresh expert eyes reevaluate existing assets to find innovative ways to optimize value.

Data gathering



Gather and prepare seismic and well log data

Define area of interest



Select and define area of interest

Basin modeling



Assess basin composition including pressure and temperature gradient

Structure mapping



Determine lithology based on well log data

Reservoir modeling



Ensure system integrity and mitigate risks

Final rock and fluid properties



Establish porosity, permeability, water saturation, pressure, and temperature

ThinkOnward combines decades of subsurface expertise with agile project delivery, providing the innovative approaches needed to assess and develop geothermal resources. We manage large datasets, offer tailored solutions, and apply lessons learned from exploring for hydrocarbons to new energy frontiers. Combined with our global community of top tier subsurface experts and data scientists, our fresh perspectives and multidisciplinary skill sets complement our clients' internal teams, ensuring that clients make well-informed, impactful decisions on geothermal energy.

Our approach

- **Flexible project scope:** From quick viability assessments to in-depth analyses
- **Interdisciplinary expertise:** Combining geology, geophysics, and energy systems knowledge
- **Customized deliverables:** Tailored reports, maps, and data products to meet specific project needs
- **Forward-thinking perspective:** Open-minded approach, thinking beyond established assumptions and processes

Why choose ThinkOnward for your geothermal projects?

- **Specialized talent:** Access to a community of experienced and highly vetted geoscientists with deep industry knowledge
- **Rapid deployment:** Quick project initiation to meet timeline requirements
- **Fresh perspectives:** External viewpoints to complement internal resources
- **Diverse applications:** From global assessments to targeted regional studies
- **Dedicated service:** Our experts provide end-to-end project management, ensuring every project is tailored precisely to customer specifications.

Geothermal resource assessment examples

These use cases highlight two significant projects demonstrating ThinkOnward's capacity to drive subsurface outcomes, showcasing our strategic value in navigating the complex landscape of geothermal energy development.

Global Geothermal Resource Evaluation

Objective:

Understand the scale of global geothermal potential by assessing both "in place" and "recoverable" resources, providing a critical foundation for future decision-making that addresses technological and economic challenges. The client also looked to ThinkOnward and our community to provide critical experience beyond their in-house methodologies for developing a resource assessment.

Impact:

This project laid the foundation for strategic geothermal energy approaches, potentially influencing the company's direction towards this underutilized energy resource.

Key features:

- 4-week initial viability assessment
- Focus on both conventional and emerging technologies (e.g., AGS and EGS)
- Aim to create energy profiles for focus countries and population clusters

Tools, technologies, and data:

- GIS software, basin modeling software, regional geothermal data, and commercial consultant inputs

Deliverables:

- Recommended methodology for global geothermal resource assessment
- Workflow and data requirements for resource assessment
- Geothermal energy profiles and energy potential estimates for key countries
- Mapping deliverables highlighting data coverage and pilot areas

Regional Geothermal Resource Evaluation

Objective:

Complete a regional evaluation identifying promising geothermal resources with potential grid integration, focusing on experienced professionals with strong subsurface knowledge. The client sought highly-experienced, open-minded professionals with a strong grasp of geologic first principles and subsurface knowledge.

Impact:

Potential commercial opportunities and comprehensive understanding of regional geothermal power potential.

Key features:

- 12-week project duration
- Play-based exploration mapping techniques
- Focus on enhanced and advanced geothermal systems

Tools, technologies, and data:

- GIS software, public datasets, national geothermal data, etc.

Deliverables:

- Play element mapping and ranking
- Common risk segment map
- Geological models for high-ranking play segments
- In-place and recoverable geothermal energy resource estimates
- Comprehensive ArcGIS-based reports

Key Takeaways

- **Diverse scope:** Global and regional geothermal potential evaluation
- **Innovative methodologies:** Employing play-based exploration techniques
- **Data integration:** Comprehensive analysis using proprietary and public datasets
- **Commercial potential:** Strategic business and investment insights
- **Interdisciplinary approach:** Combining geological expertise with advanced mapping and modeling techniques

Are you ready to innovate, scale, and execute projects faster?

Discuss your needs with ThinkOnward today.



Contact us at:

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