



Individual Contribution

Name: Mohamed Alkhyeli

Team name: Group 21

Project topic: Renewable Energy: Earth's Role in Sustainable Power Generation

What information have you contributed to your team's research about the job, problem, and connection to GLG 201? Explain how you approached finding this information, and your role in the contribution including whether you worked independently on this research or worked together with another team member (*1-2 paragraph summary*).

For our group project on renewable energy, I focused on how the Earth itself makes renewable power possible. I dug into topics like how underground heat fuels geothermal plants, how shifting tectonic plates create places for that heat to gather, and how minerals, like rare earth elements, end up in the materials used for wind turbines and solar panels. I tied all of this back to what we covered in GLG 201, including how the Earth's heat moves, how rocks are recycled, and why resources aren't found everywhere.

I started my research on my own, using academic articles, class notes, and online databases to find trustworthy information. After that, I shared what I found with the team so we could include it in our slides and discussion. My main job was to explain the geological background and make sure our project showed how Earth's processes are just as important as the technology behind renewable energy.

What reference(s) did you contribute to the team's research? Include citation and a few sentences evaluation of how reliable you consider this source to be for the information above and why. You should have at least one **unique citation** not shared with another team member. I should be able to quickly use the citation to find the work myself.

*For examples of citations for many types of sources, see
https://www.chicagomanualofstyle.org/tools_citationguide/citation-guide-1.html*

Citation 1(Chicago style):

U.S. Energy Information Administration. “Geothermal explained.” *Energy Explained*. Accessed September 25, 2025: <https://www.eia.gov/energyexplained/geothermal/Evaluation>:

I consider this source reliable and appropriate for our project because it is published by the U.S. Energy Information Administration (EIA), a reputable federal agency known for collecting and verifying energy data. The “Geothermal explained” page provides clear explanations of how geothermal energy is generated, where it comes from, and how it is used in power plants and heating systems. For our purposes, it helps bridge the gap between the geological processes we study, such as heat flow and tectonics, and the technology of renewable energy. Since it is maintained by a government agency, the content is reviewed and updated, which increases its trustworthiness.

Citation 2 (Chicago style):

Lund, John W., Derek H. Freeston, and Tonya L. Boyd. “Direct Utilization of Geothermal Energy 2020 Worldwide Review.” *Geothermics* 90 (May 2021): <https://doi.org/10.1016/j.geothermics.2020.101915>
<https://ui.adsabs.harvard.edu/abs/2021Geoth..9001915L/abstract>

Evaluation:

This article is a peer-reviewed journal piece that reviews how geothermal energy is used around the world, including for heating, electricity, and industry. Since it appears in *Geothermics*, a top journal in this field, I see it as a very credible source. It helped show the range and scale of geothermal use globally, which added to our team's discussion about how different regions use Earth's natural heat.

How have you contributed or plan to contribute to the writing, visuals, or delivery of the presentation or management/leadership of your team? What progress have you made so far? (1-2 paragraphs describing role, or paste examples of text or images).

So far, I have contributed mainly to the writing and research integration for our project. After researching Earth's role in renewable energy, I drafted text for the slides explaining the geological background of geothermal power and the importance of mineral resources in building renewable energy infrastructure. My goal is to ensure our presentation not only covers the technology but also highlights the geoscience foundations we have studied in GLG 201.

I also plan to help deliver the presentation by speaking during the sections on geothermal energy and Earth resources. This allows me to present the material I researched and ensure it is explained clearly to the class. To support the visuals, I suggested including diagrams of geothermal systems and maps of resource distribution. I will work with Brixton and Kyle to make sure these graphics align with the written content.

