



Geothermal Design Challenge Collegiate Student Competition

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Agenda

- 1** Introduction
- 2** About the Challenge
- 3** Participant Expectations
- 4** Using HeroX/How to Register Your Team
- 5** Rules Overview
- 6** Educational Resources
- 7** Closing Q&A

Housekeeping

- This webinar is being recorded and will be made available later
- There will be a Q&A session at the end of the presentation
 - To submit a question, type it into the “Question” tab within the GoToWebinar interface
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Geothermal Design Challenge

Collegiate Student Competition
Fall 2020 - Infographic



2020 GEOTHERMAL DESIGN CHALLENGE

1

**REGISTER
YOUR
COLLEGIATE
TEAM.**

REGISTER BY
NOVEMBER 5TH

2

**DEVELOP A
CONCEPT.**

3

**SUBMIT YOUR
INFOGRAPHIC.**

U.S. Department of Energy



Competition Authority and Administration

The Geothermal Design Challenge is organized by the U.S. Department of Energy (DOE), the National Renewable Energy Laboratory (NREL), and Idaho National Laboratory (INL). NREL is operated by the Alliance for Sustainable Energy, LLC, and INL is operated by Battelle Energy Alliance.

Funding is provided by the DOE Office of Energy Efficiency and Renewable Energy [Geothermal Technologies Office](#). The views expressed herein do not necessarily represent the views of DOE or the U.S. Government.



Photo credit: Gil Williams, Geothermal Resources Council Annual Photo Contest

About the Challenge

- Helping to prepare students for the renewable energy workforce
- Creating forward-thinking designs to highlight the benefits of geothermal energy to bring market awareness to the technology
- Engaging students across engineering, geosciences, design, marketing, communications, and other disciplines
- Reimagining how we tell the “Geothermal Story”



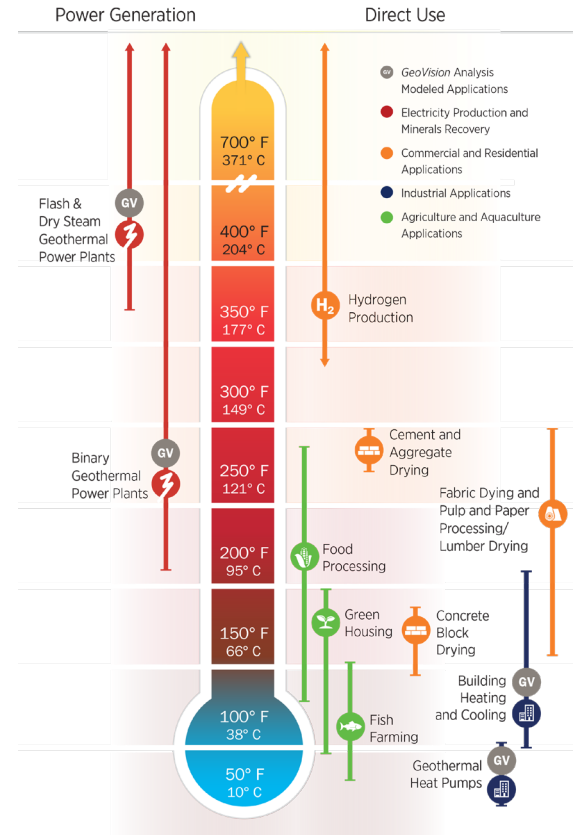
Who You Are: Eligibility

- A team composed of 2–3 enrolled students
- Enrolled student
 - Accredited U.S.-based collegiate institution
 - Taking at least 1 class and pursuing a degree
- Any level college student
- Multidisciplinary teams highly encouraged
 - Engineering
 - Business or finance
 - Communications
 - Geosciences
 - Design
 - Marketing
- Faculty advisor and/or mentor
 - Recommended (not required).



What You'll Do

- Design a powerful, high-quality infographic that explains an aspect of geothermal energy production, backed by technical data
- Create a communications and outreach strategy detailing the message of your infographic and a plan for dissemination
- Two Infographic Challenge categories (choose one):
 1. Print: fixed art suitable for printing, such as a poster or flyer
 2. Digital: suitable for web-based formatting and may include animation.



How and What You Win

- Design a high-quality infographic that explains an aspect of geothermal energy production, backed by robust technical data. Create a communications and outreach strategy detailing the infographic and a plan to disseminate to the public.
- Win a trophy and national recognition!



How to Compete: Geothermal Design Challenge Fall 2020 Rules



U.S. Department of Energy Geothermal Design Challenge

Collegiate Student Competition

Rules

Fall 2020

Infographic

Release date: October 12, 2020

Summary Timeline

- November 5 – Register your team!
- November 11 – Concept submission due
- November 19 – Compliance feedback provided for all concept submissions
- December 10 – Submit final entry
- January 6 – Winners announced!



How to Register a Team (by Nov. 5)

1. Go to the Challenge page at www.herox.com/GeothermalChallengeFall2020
2. Choose “Solve this Challenge.” This indicates your interest in competing; it is not a commitment (yet)
 - a. Sign in or create a HeroX account if you don’t already have one
 - b. Agree to the Terms of Use
 - c. Confirm your email address
 - d. Accept the Challenge-Specific Agreement
 - e. Indicate “Would you like to compete as a team?”
 - i. Yes, I want to create my own team (with email addresses of invited team members)
 - ii. Yes, I want to join a team
 - iii. No, I want to compete individually (can create or join other teams later)
 - f. Form a team with one Team Captain.

How to Register a Team (by Nov. 5)

3. By the registration deadline, one person from each team must click “Begin Entry” and then submit a Register entry on HeroX to complete registration. This step is when you identify your collegiate institution(s) and expected team makeup. There is no cost to submit a Register entry.
4. Registration entries received by the deadline are deemed participating teams. All teams who successfully complete a Register entry and meet eligibility are accepted.
5. Multiple teams from a single school may submit a Register entry.
6. Only one person from each team may submit a Register entry. Other members join the registered team via HeroX. Once you have registered a team, you can invite additional members using HeroX.

How to Register a Team (continued)



Create Submission

Save & Preview

Title *

Give your submission a catchy title that describes the idea and gets people interested.

Characters left: 50

Short description

Provide a brief description of your idea. Be clear and concise.

Characters left: 140

Image

Upload image

Tip: An Image boosts your message by illustrating your solution. For best results, ensure your image contains the following items: an actor(ess) (person), artifact (tool they're holding), action (what they're doing), and atmosphere (setting where they are). Ensure your image is at least 650 pixels wide by 366 pixels tall for clarity.

Team Registration

Hello competitor! Submit this form to Register your team to participate. Complete a separate "Register" submission for each team that will participate from your collegiate institution. In the "Title" field above, please provide a name for your team. The "Short description" and "Image" fields are optional.

Name of Collegiate Institution(s) *

The name of the institution(s) represented by the students on the team.

Characters left: 5000

Disciplines or degree programs of expected student team members *

Normal text ▼ **B** *I* U ⋮

Teams are encouraged to be multidisciplinary, although this is not required.

Characters left: 5000

Your Role on this Team *

Preferred Email Address for Official Competition Communications *

Characters left: 3000

< Cancel

Save & Preview



Please note: This is a draft of your entry and is only visible to you. You may return to edit this draft at any time from the main challenge page. Once you have finished and are ready to submit your final entry, click the "submit final entry" button to submit it for judging.



Preview

Edit

Submit final entry

Progress Concept Submission (Nov. 12)

- A complete submission for the progress concept is a mock-up of the infographic, with a preliminary list of supporting data sources.
- Competition organizers will review these using the evaluation statements listed in Table 1 of the rules.
- Teams advance if the reviewers agree (on average) with the evaluation statements more than they disagree with the statements.
- Teams are not competing against each other to become finalists.
- Feedback regarding compliance will be provided to all teams who submit a progress concept.

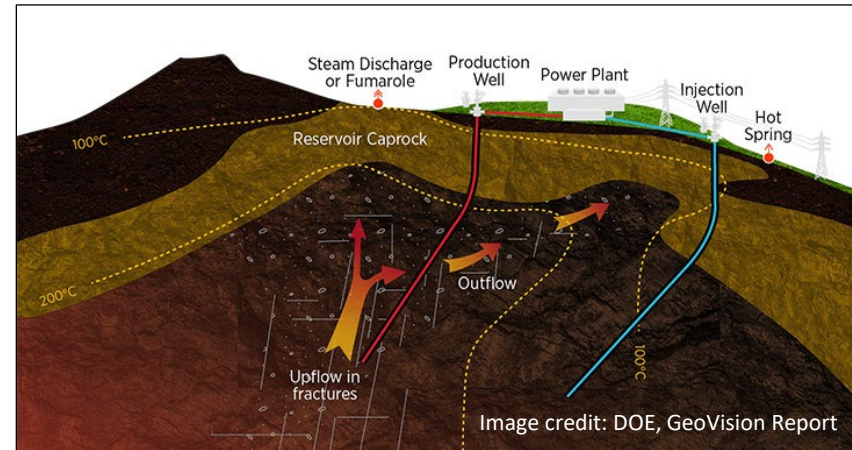
Table 1. Progress Concept Content and Evaluation Statements

Content	Evaluation Statements
1. Infographic	
A mock-up of the proposed infographic concept [PDF, PPTX, JPG, TIFF, or PNG].	<ul style="list-style-type: none">• Geothermal energy and its utilization is the primary theme.• Infographic concept is coherent.• Infographic concept is technically accurate.• Infographic concept is suitable for all audiences.
2. Sources	
An annotated list of data sources or references, including URL hyperlink addresses [PDF].	<ul style="list-style-type: none">• Data sources or references are cited.

Final Deliverable Package (Dec. 10)

What to Submit:

1. Executive Summary, including:
 - a. Context for the infographic and strategy
 - b. Analysis of the infographic
2. Infographic file or link
3. Communications or outreach strategy
4. Data Appendix



Judging



A qualified panel of 3 to 5 multidisciplinary judges, comprising subject matter experts from the geothermal energy industry, score final entry submissions according to the extent to which the content and formatting requirements were met and their agreement with the judging statements listed in Table 2.

Judges evaluate the Final Deliverable Package sections using a scale from 1 to 6 for agreement or disagreement with the evaluation statements, as shown in Table 3.

Table 3. Scoring Scale

1	2	3	4	5	6
Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree

Table 2. Final Entry Content and Judging Statements

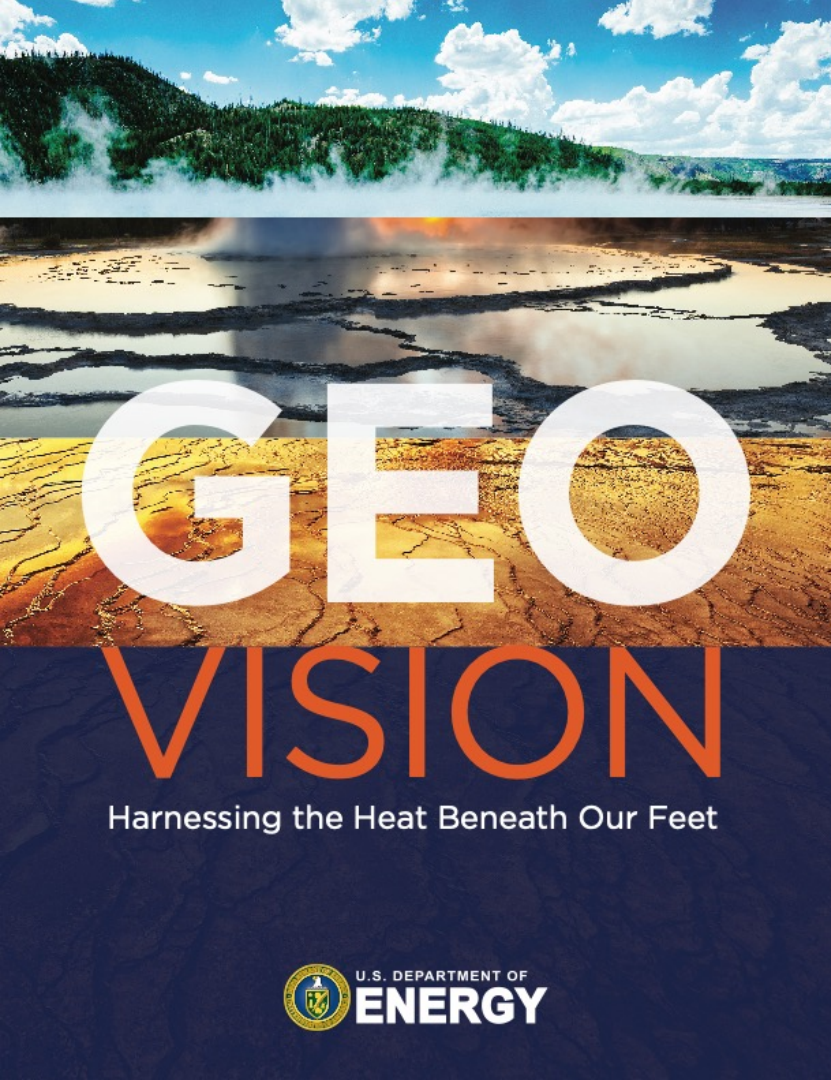
Content	Judging Statements for Evaluation
1. Executive Summary [PDF, maximum 6 pages in length]	
2. Infographic file or link [PDF, PPTX, JPG, TIFF, PNG, or URL]	
A geothermal energy infographic with executive summary.	<ul style="list-style-type: none"> • The infographic is innovative with a unique and compelling theme. • The infographic is creative with visual hierarchy, clarity, and use of color. • The infographic feasibly translates original and/or varied data sets into relevant visual information. • Proposed messaging is relevant and of high quality (e.g., increases public interest or assists decision makers).
3. Outreach	
A communications and outreach strategy summarizing the infographic messaging with a plan to disseminate the infographic to the public for maximum impact [PDF, maximum 10 pages in length].	<ul style="list-style-type: none"> • The communications strategy for dissemination is clear and feasible. • The outreach strategy has the potential for impact with a broad audience. • The communication approach and methodology conveys clarity and depth.
4. Data Appendix	
An annotated list of data sources or references, including URL hyperlink addresses [PDF, maximum 10 pages in length].	<ul style="list-style-type: none"> • Data sources or references are appropriately cited.

Judges Scoring Process

1. Judges review Final Entry submitted by each team.
2. Each statement listed in the “Judging Statements for Evaluation” receives a preliminary score between 1, “strongly disagree,” and 6, “strongly agree” (on the scoring scale shown in Table 3), based on the subjective determination of each judge.
3. The statements have equal weight, so it is critical that teams successfully complete each component of the Final Entry.
4. The score from an individual judge is the summed total of the scores for all the evaluation statements. All judge scores are then averaged for a preliminary score for each submission. The maximum score a team can receive is 48.
5. The preliminary scores for all teams yield a preliminary ranking of teams.
6. The judging panel convenes to review preliminary scores, discuss and agree upon final scores, and determine the winners of the competition.
7. First-, second-, and third-place winners are identified and announced. Individual scores for each team are not released. No ranking is completed beyond third place. The judges’ review feedback is provided to each team individually.

Educational Resources





GeoVision: Harnessing the Heat Beneath Our Feet

This report summarizes, analyzes, and discusses the many opportunities that geothermal energy offers for both electric and non-electric uses.

The report also highlights the outcomes the United States could realize from increased geothermal deployment and outlines a range of activities necessary to reach this deployment.

<https://www.energy.gov/eere/geothermal/geovision>



🔍 search GDR data

Search

Direct Use

EGS

FORGE

Hydrothermal

All Submissions

Search this table 🔍

Show 10 entries

Submission Name ⚙	Resources ⚙	Project Number ⚙	Organization ⚙	Id ⚙	Submitted ⚙	Status ⚙
EGS Collab Experiment 2: Core Logs	4	EE0032708	Lawrence Berkeley National La...	1265	10/21/2020	In progress
Chemistry of the thermal water samples of the Camas Prairie area in Idaho, USA	1	FY20 AOP 3.1.3.5	Idaho National Laboratory	1264	10/13/2020	Awaiting release
GeoVision - Barriers Taskforce	5	FY19 AOP 4.6.8.3	National Renewable Energy Lab...	1263	10/13/2020	Awaiting curation
Funding Mechanisms for Federal Geothermal Permitting	2	FY13 AOP 4.1	National Renewable Energy Lab...	1262	10/13/2020	Publicly accessible
Coordinating Permit Offices and the Development of Utility-Scale Geothermal Energy	2	FY13 AOP 4.1	National Renewable Energy Lab...	1261	10/13/2020	Publicly accessible
Geothermal Development and the Use of Categorical Exclusions Under NEPA	4	FY14 AOP 4.2.0.1	National Renewable Energy Lab...	1260	10/13/2020	Publicly accessible
Regulatory and Permitting Information Desktop (RAPID) Toolkit	4	FY14 AOP 4.2.0.1	National Renewable Energy Lab...	1259	10/13/2020	Publicly accessible
Geothermal Permitting and NEPA Timeline Analysis	5	FY14 AOP 4.2.0.1	National Renewable Energy Lab...	1258	10/13/2020	Publicly accessible
Geothermal Project NEPA Database	4	FY14 AOP 4.2.0.1	National Renewable Energy Lab...	1257	10/13/2020	Publicly accessible
Utah FORGE Phase 3 Microgravity Data	1	EE0007080	Utah Geological Survey	1256	10/07/2020	Publicly accessible

Showing 1 to 10 of 916 entries

Previous 1 2 3 4 5 ... 92 Next

Geothermal Data Repository

The GDR is the submission point for all data collected from researchers funded by the DOE Geothermal Technologies Office.

<https://gdr.openei.org/home>

Infographic Tips

- Start with a strategy
- Use credible sources
- Make it suitable for general public audiences
- Original creative work
- Try not to compare geothermal to other renewable energy sources
- May not endorse a particular company or entity

Geothermal Diversity

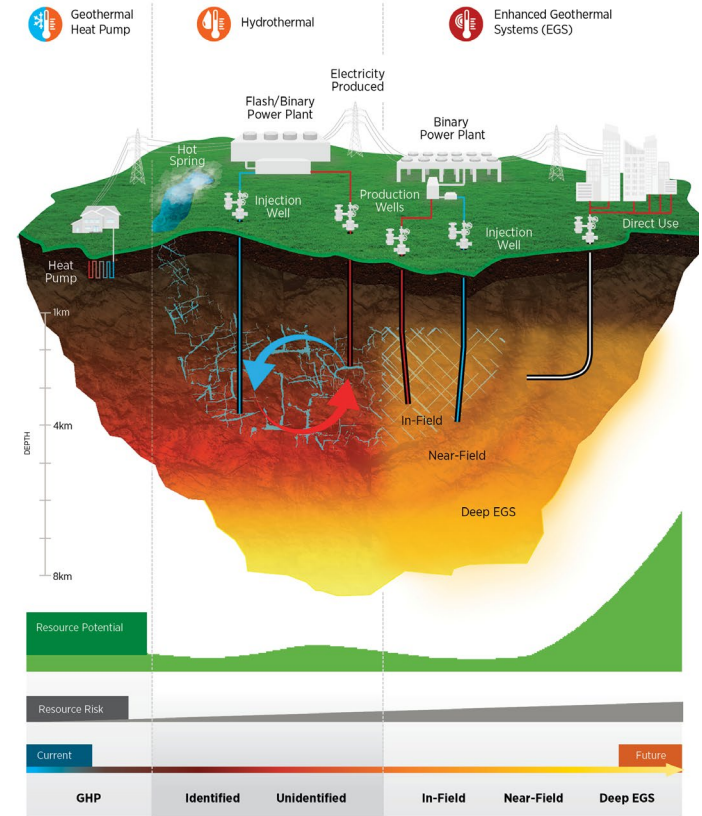


Image credit: DOE, GeoVision Report

Next Steps: Recap



Recruit

Team members,
faculty advisors, and
mentors



Register

Your team on HeroX
by November 5



Read

The Rules to plan
your participation



Learn

Using the resources
provided by the
organizers in the Rules



Design

Your solutions!



Questions?

www.nrel.gov

<https://www.herox.com/GeothermalChallengeFall2020>

Geothermal.Challenge@nrel.gov

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