U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Geothermal Technologies Program

The Geothermal Technologies Program (GTP) develops innovative geothermal energy technologies to find, access, and use the Nation's geothermal resources. Through research, development, and demonstration efforts GTP is working to provide the United States with an abundant, clean, renewable baseload energy source. GTP works in partnership with industry, academia, and DOE's national laboratories to establish geothermal energy as an economically competitive contributor to the U.S. energy supply.

National Renewable Energy Laboratory

As a U.S. Department of Energy national laboratory, NREL develops renewable energy and energy efficiency technologies and practices, advances related science and engineering, and transfers knowledge and innovations to address the nation's energy and environmental goals.

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Photo on cover: The Newcastle geothermal resource is located in the Escalate Valley, Colorado.
Photo by Molly Miller, NREL/PIX 13995

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National Geothermal Student Competition

The National Geothermal Student Competition (NGSC) is a first-of-its kind intercollegiate contest that challenges students to advance their understanding of geothermal energy's potential as a significant contributor to the nation's energy portfolio in the coming decades.

The NGSC, which is funded by the U.S. Department of Energy's Geothermal Technology Program and managed by the National Renewable Energy Laboratory (NREL), provides students with opportunities to gain important industry knowledge, skills, and experience, and to prepare them to play a significant role in the future of geothermal energy. The development of geothermal energy is more important than ever because it has a small environmental footprint, the ability to produce energy consistently around the clock, and emits little or no greenhouse gases.

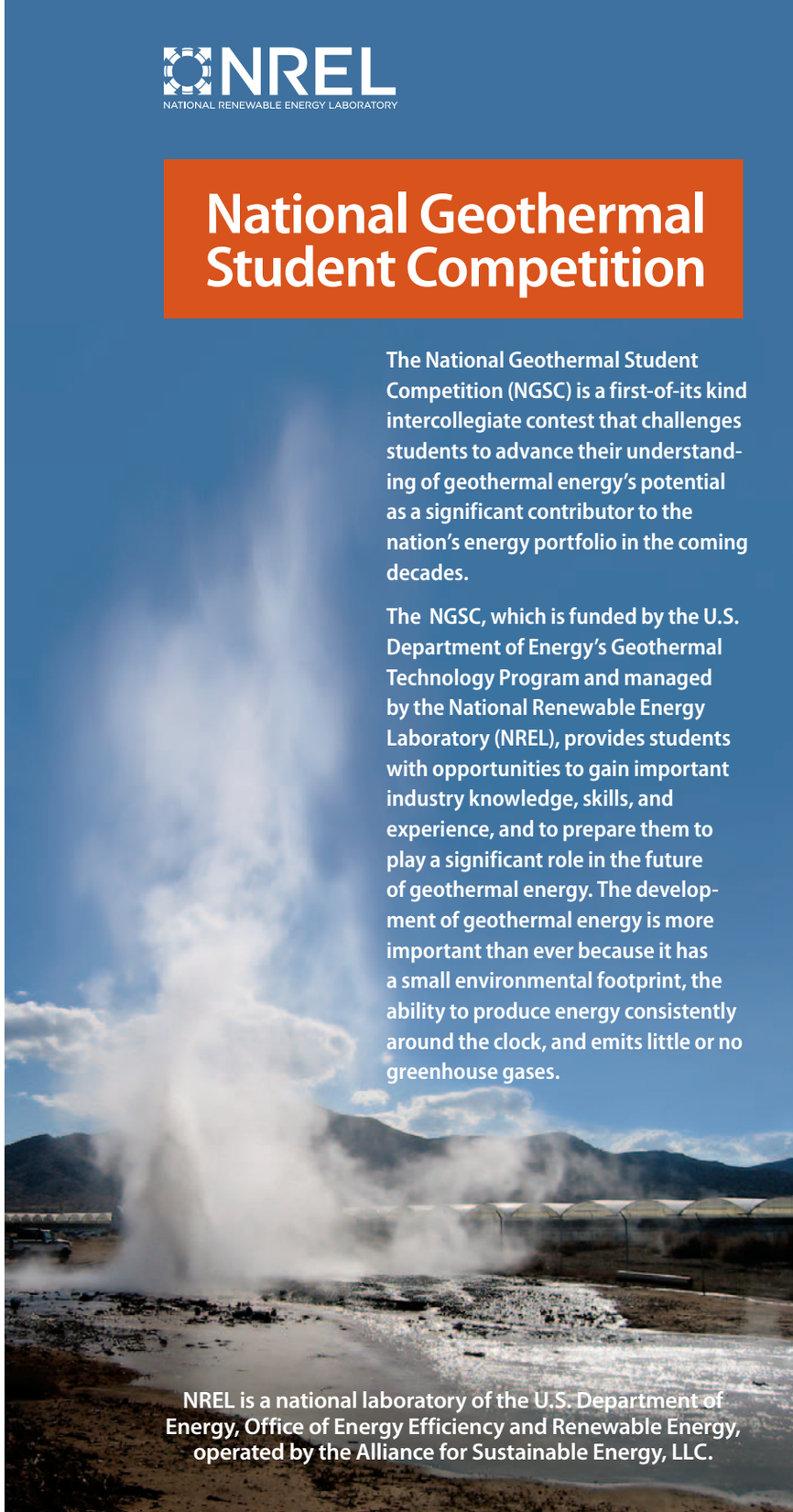

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Illustration by Raymond David, NREL

The Competition

In the NGSC, student teams conduct a comprehensive assessment of the geothermal energy potential of the Rio Grande Rift geologic province in southeastern Colorado and northeastern New Mexico. This is a high potential, but as of yet relatively undeveloped, geothermal region in the United States. Each collegiate team then produces a number of deliverables to assess a suite of geologic, engineering, environmental, land use, and policy and cultural issues that are crucial to future geothermal development in the Rio Grande Rift region and other prospective geothermal regions of the United States.

All U.S. colleges, universities, and other post-secondary educational institutions expressing interest in taking part in the competition participated in a competitive bidding process, which resulted in the selection of 11 university teams.

Final Forum Team Participants

Colorado School of Mines

Banks Beasley
Elisabeth Easley
Rachel Woolf
Mitchell Bennett
Laura Garchar

Oregon Institute of Technology

Reginald Boyle
James Evans
Joseph Miranda
Casey Coulson
Jonathan Hall

The Pennsylvania State University

Derek Elsworth (Faculty Advisor)
Divya Chandra
Derek Hall
Andrew Weiner
Caleb Conrad
Nicholas Montebello

San Diego State University

Karl Bloor (San Diego State University)
Jason Chang (University of California, Berkeley)
Daniel Feucht (University of California, Berkeley)
Christian Hardwick (University of Utah)
Ben Phrampus (Baylor University
Emily Tursack (Brown University)

Stanford University

Matt Ganser
Pablo Garcia Del Real

Texas A&M University

Dr. George Moridis (Faculty Advisor)
Mojtaba Ardali
Olufemi Olorode
Tioluwanimi Odunowo
Daegil Yang

University of California, Davis

Lesley Barnes
Carolyn Cantwell
Rita Martin
Maya Wildgoose
Scott Bennett
Andrew Fowler
Peter Schiffman

University of Idaho

Jerry Fairley (Faculty Advisor)
Travis Kelsay (Student Project Lead)
Jessica Osterloh

University of North Dakota

Will Gosnold (Faculty Advisor)
Kirtipal Barse
Anna Crowell
Samir Dahal
Mark McDonald
Preston Wahl
Bailey Bubach
James Crowell
Robert Klenner
Angelle van Oploo
Eric Zimny

The University of Utah

David S. Chapman (Faculty Coordinator)
Danielle D'Afonso
Becky Hollingshaus
Ruthann Shurtleff
Christian Hardwick
Michal Kordy
Kevin Smith

Virginia Polytechnic Institute and State University

Robert J. Bodnar (Faculty Advisor)
David Dorsett
Rebecca Horne

NREL senior geothermal analyst Erin Anderson examines a heat sensor that descends 500 feet under the IKEA store construction site in Centennial, Colorado. *Photo by Pat Corkery, NREL/PIX 17906*