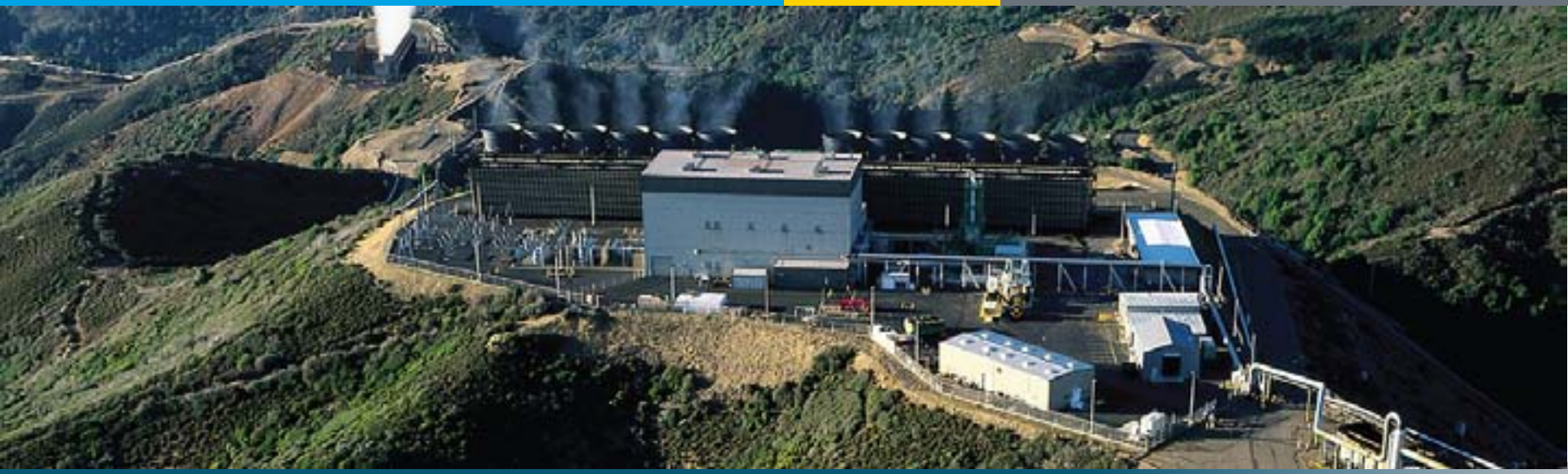
U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy



Strategic Planning Analysis and Geothermal Informatics Subprogram Overview

May 18, 2010

Geothermal Technologies Program Peer Review

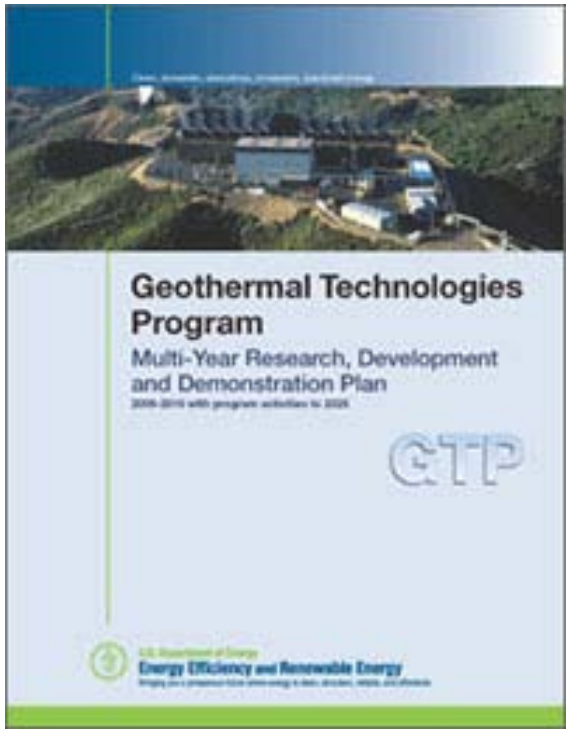
Crystal City, VA

Arlene Anderson
Geothermal Technologies Program
Office of Energy Efficiency and Renewable Energy
U.S. Department of Energy

Multi-Year Program Planning

Geothermal Technologies Program Multi-Year Research, Development and Demonstration Plan, 2011-2015 to be issued Oct. 1 2010 for public comment

The new plan broadens GTP's focus to include geothermal projects funded under the American Recovery & Reinvestment Act of 2009 as follows:



Draft Vision - To establish geothermal energy as a significant contributor to America's future electricity generation by partnering with industry, academia and the national laboratories to discover new geothermal resources, develop innovative methods, and demonstrate high-impact technologies.

Draft Mission - Clean energy from geothermal development yields positive economic impacts and is a major contributor to the nation's baseload energy portfolio.

Systems Analysis Portfolio

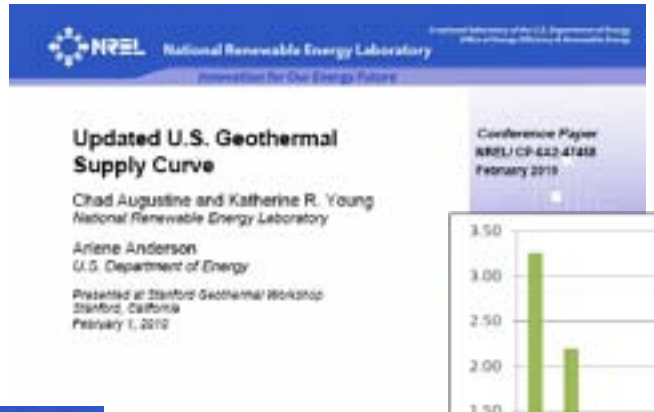
GTP Systems Analysis includes analysis conducted by the DOE national laboratories, private companies, and universities to guide research, development, and demonstration (RD&D) efforts and respond to critical inquiries pertaining to the return on investment obtained by public investments in geothermal RD&D. GTP's goals in this sub-program area are to:

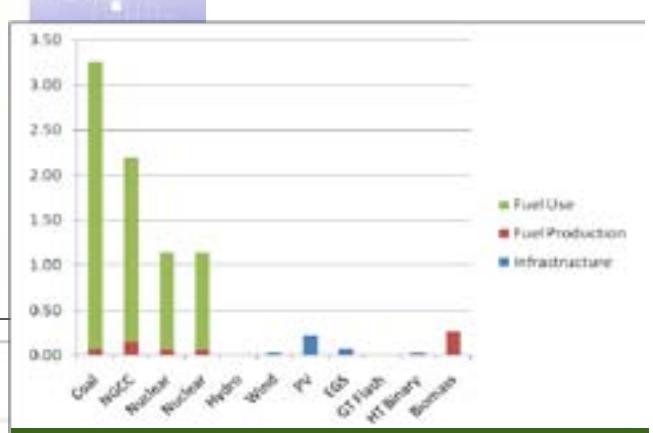
- Use modeling, assessments, and supply curves to analyze market trends and inform policymakers in the geothermal industry;
- Identify and overcome technology, market, and industry barriers;
- Support and inform decision-making;
- Identify the economic, environmental, and energy security benefits of geothermal development; and
- Demonstrate progress toward GTP goals and help direct research efforts

For additional information see our Project Database and our Strategic Planning and Analysis website

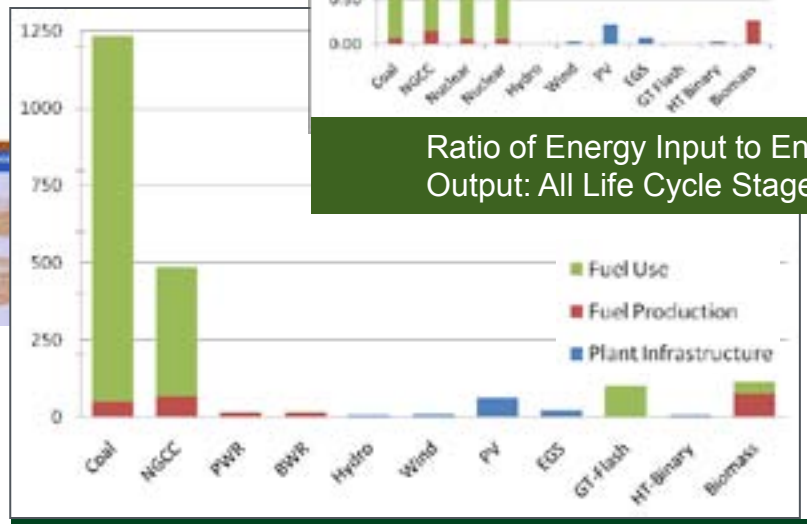
http://www1.eere.energy.gov/geothermal/planning_analysis.html

Geothermal Supply – The Missing Link





Ratio of Energy Input to Energy Output: All Life Cycle Stages



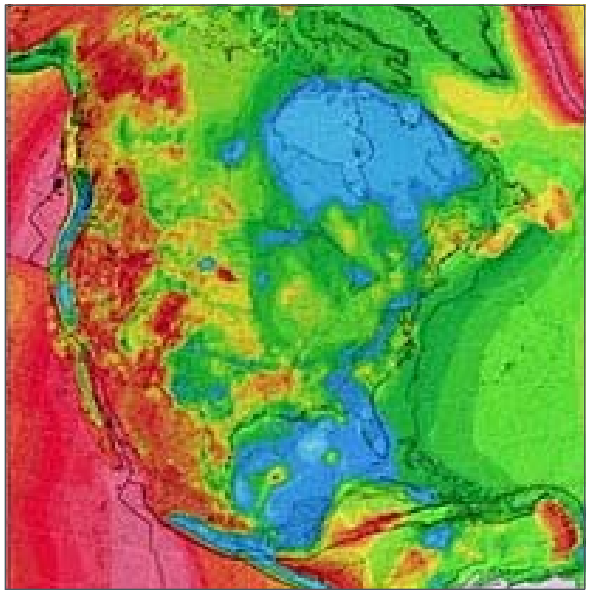
GHG Emissions of Power Generation by Life Cycle Stage in g/kWh – ANL 2010

Three-part strategy to reduce geothermal development risks

NGDS
National Geothermal Data System

- **System Design, Development and Testing**: Geothermal Data Consortium led by Boise State University. This distributed web-based system design leverages the Geosciences Information Network (NSF, U.S. Geological Survey, and American Association of State Geologist). Geothermal Desktop to include financial assessment tool.

- **Data Development, Collection & Maintenance**: Populate NGDS by linking to high quality data sets in partnership with all state geological surveys and other geothermal data providers including Southern Methodist University and GTP technology partners.



- **Resource Assessment and Classification:** Implement Inter-Agency Agreement with U.S. Geological Survey which includes revising and updating the assessment of low-temperature geothermal resources

$37.92M for 4 Cooperative Agreements & U.S. Geological Survey Interagency Agreement

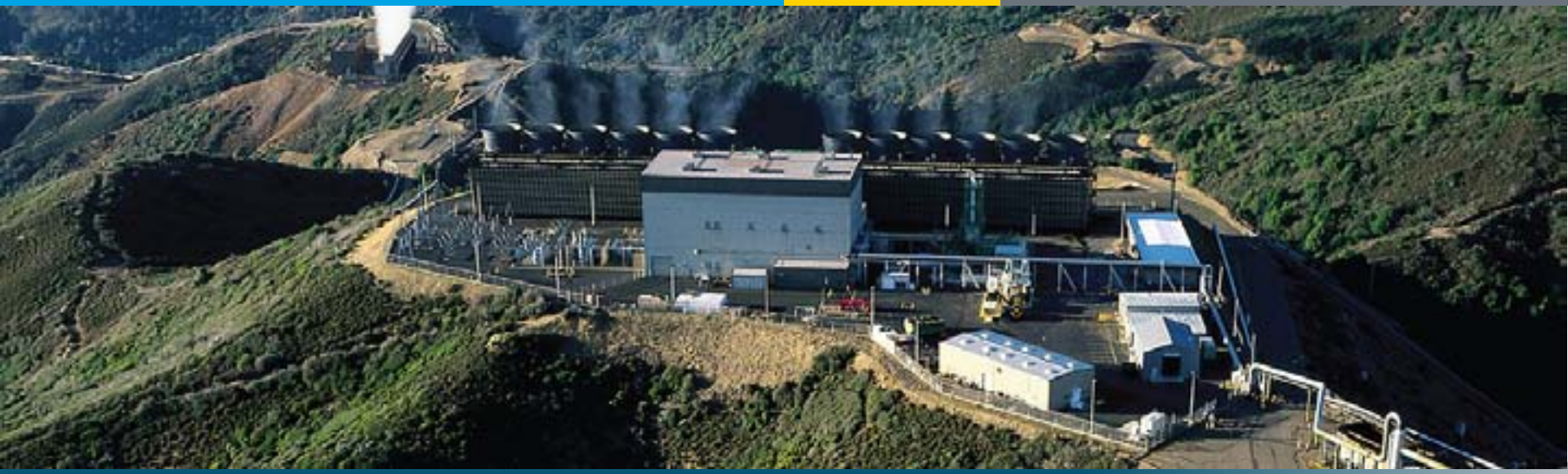
- **BSU: $4,992,089** ($697,386 expended to date) NGDS Design, Testing and Mgm't. Geothermal Data Consortium led by Boise State University.

- **Arizona Geological Survey $21,858,224 : (on behalf of the American Association of State Geologists)**: Data Development, Collection & Maintenance: Populate NGDS by linking to high quality data sets in partnership with all state geological surveys and other principal State geothermal data providers.

- **Southern Methodist University: $5,250,000** Data Development, Collection & Maintenance: Update SMU Heat Flow Database to include onshore US and offshore regions of the Gulf of Mexico. Also includes GRC library containing 36,000 geothermal documents

- **BSU: $1,550,000** Data Development, Collection & Maintenance: DOE Legacy and Current Projects conduct webinars to assess data and meta data type and format

•**U.S. Geological Survey: $4,270,366 ($2,025,400 in FY 10)** Initiate National Resource Assessment and Classification of Conventional Geothermal Resources; Enhanced Geothermal Systems, Geothermal Resources in Sedimentary Basins, and revising and updating the assessment of low-temperature geothermal resources.



Thank you!

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