

Utah Geological Survey

Status and Directions (2007–2012)



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Preface

This document is designed to be a snapshot of the Utah Geological Survey (UGS) in late 2007. Since the draft strategic plan compiled in early 2005 to coincide with the transition to a new Governor and new DNR Executive, many strategic changes have affected the UGS. The UGS has grown with the addition of the State Energy Program (SEP), two staff have been added to the Ground-Water Section as a result of a General Fund increase, and there have been increased amounts and volatility in Mineral Lease revenue. The 2007 legislature appropriated over \$2 million for the UGS to install ground-water monitor wells in Utah's west desert, and they also established a \$5 million revolving loan fund for energy efficiency improvements in public schools that will be administered by the SEP. The Governor is currently considering the recommendations of the Working Group on Geologic Hazards, some of which would have implications for the UGS if they are implemented. Within DNR, a new set of integrated logos for each Division have been developed, and mission statements have been modified to be more consistent. The modified mission statement and a newly stated vision and values statements are given below. Change is clearly continuing, requiring ongoing anticipation and adaptation.

This Status and Directions document reviews current issues, and identifies long-term issues and goals (5-year time frame). Background information about the UGS is compiled in the appendices, including references in State Code (as modified by the 2007 legislature), history of the UGS, current staff levels (October, 2007), and performance measures over the last five years.

Mission

The Utah Geological Survey provides timely scientific information about Utah's geologic environment, resources and hazards.

Vision

All Utahns are aware of geologic and energy information, and use it to improve their lives.

Values

We value:

- The generation and dissemination of geologic information
- Excellence, integrity, and objectivity in everything we do
- Responsible stewardship of Utah's geologic and energy resources
- Free exchange of ideas and information in a spirit of cooperation
- The worth and dignity of individuals
- Providing prompt and courteous service to our customers

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Summary

Utah's ongoing growth is causing stress on its geologic resources (minerals, energy, water), increasing vulnerability to natural hazards, and increasing conflict over the wise use of land (development versus preservation). The role of the Utah Geological Survey (UGS) has grown to meet state needs through its 75-year history. Its mission is:

"The Utah Geological Survey provides timely scientific information about Utah's geologic environment, resources and hazards"

A summary of the present role of the UGS is as follows (defined in more detail by state code):

- Identify, inventory, assess, and encourage the prudent development of Utah's mineral, energy, ground-water, and paleontological resources
- Identify, inventory, assess, and mitigate Utah's geologic and subsurface environmental hazards to promote safe and responsible land use
- Provide accurate and timely geologic, topographic, and energy information and advice to government, industry, educators, and the public
- Prepare, publish, and distribute maps and reports of the geology of the state
- Collect, maintain, and preserve data and geologic and energy information, and act as a repository for the information
- Stimulate research, study, and activities in paleontology
- Seek federal funds for, and administer federally funded state programs regarding renewable energy, energy efficiency, and energy conservation

Six technical programs (Energy and Minerals, State Energy Program, Geologic Hazards, Geologic Mapping, Ground Water and Paleontology, Geologic Information and Outreach) cover the agency mission. Each program has identified 5-year goals, which are outlined in this document. Four initiatives are highlighted here because they represent new or enhanced work areas for the UGS for the next five years. They result from national or state trends that have developed in recent years and are relevant to the UGS mission.

1. Managing Financial Volatility

Energy price volatility is likely to be a feature of the next decade. The main implication for Utah and the UGS is that mineral lease revenues will reflect this volatility, with varying wellhead price for natural gas production being the dominant factor. In the last three years, monthly payments to the UGS have varied from < \$100,000 to > \$300,000. Mineral Lease revenue represents almost 40% of UGS revenue, and is typically received two months after the time that it accrues. This means 25% of mineral lease revenue is received by the UGS in or after the last month of the fiscal year when it is too late to substantially change expenditure patterns. In addition, about 30% of total UGS revenue is from grants and contracts, which also vary from year to year. To accommodate unexpected swings in revenue, the UGS will need to maintain its year-end carry-forward of, ideally, a minimum of about \$500,000. It will also need to resist the temptation to increase permanent staff levels in strong revenue years, using a balance between sub-contractors and temporary staff to accommodate short-term work priorities.

2. Decompression of Salaries and Market Inequities

Close to 60% of all UGS salaries are within the first quartile of the pay ranges. This has occurred because of shifts in the salary scales because of excessive inequities with the external job market, but without commensurate funding for the actual salaries. The problem is not unique, and unfortunately not new to the UGS, and it is very dependent on legislative actions to improve the situation. There is limited scope for internally funded salary adjustments (ASIs) because personnel costs are typically about 75% of total costs, and an increase in average salary would have to be balanced mostly by a decrease in staff numbers. The recent boom in commodity prices and the resulting boom in exploration activity has created a demand for geologists in the private sector. Although the UGS has not yet seen a major loss in experienced personnel, there are signs that it will have difficulties filling positions in the future because of the salary inequities.

3. Increasing vulnerability to natural hazards

Urban growth in and adjacent to the hazard-prone Wasatch Front and southwestern Utah has increased the vulnerability of property and lives to the effects of earthquakes, landslides, debris flows, and unstable soils. Current studies of the probable intensity of earthquake ground shaking and its implications for appropriate design for buildings and structures need to be accelerated. Greater effort needs to be focused on monitoring, predicting, and understanding landslides and other ground movement potential in and near present and future urban areas. These efforts need to be carried out in collaboration with local authorities so that the findings are incorporated into urban planning. The recommendations of the Governor's Working Group on Geologic Hazards need to be followed up, and the working group (chaired by the UGS) needs to continue meeting to improve both hazard awareness and consistency in zoning for geologic hazards

4. Adapting to Technology Changes

An important role of the UGS is to serve up information to its diverse customers. Recent evidence of growing use of geologic information via the UGS web site suggests additional gains in paperless data transfer are possible. The shift towards digital products rather than hard-copy publications, print-on-demand maps, and serving basic information freely through the web site should be continued. Pressure on space in the DNR Library should be relieved as new acquisitions and existing holdings are converted to digital format. In addition, the possibility of efficiency gains through contracting and outsourcing tasks such as conversion of data to digital formats and some aspects of digital map production needs to be investigated. New ways to serve up large volumes of data over the web (e.g., GIS geologic maps) also need to be investigated.

Background

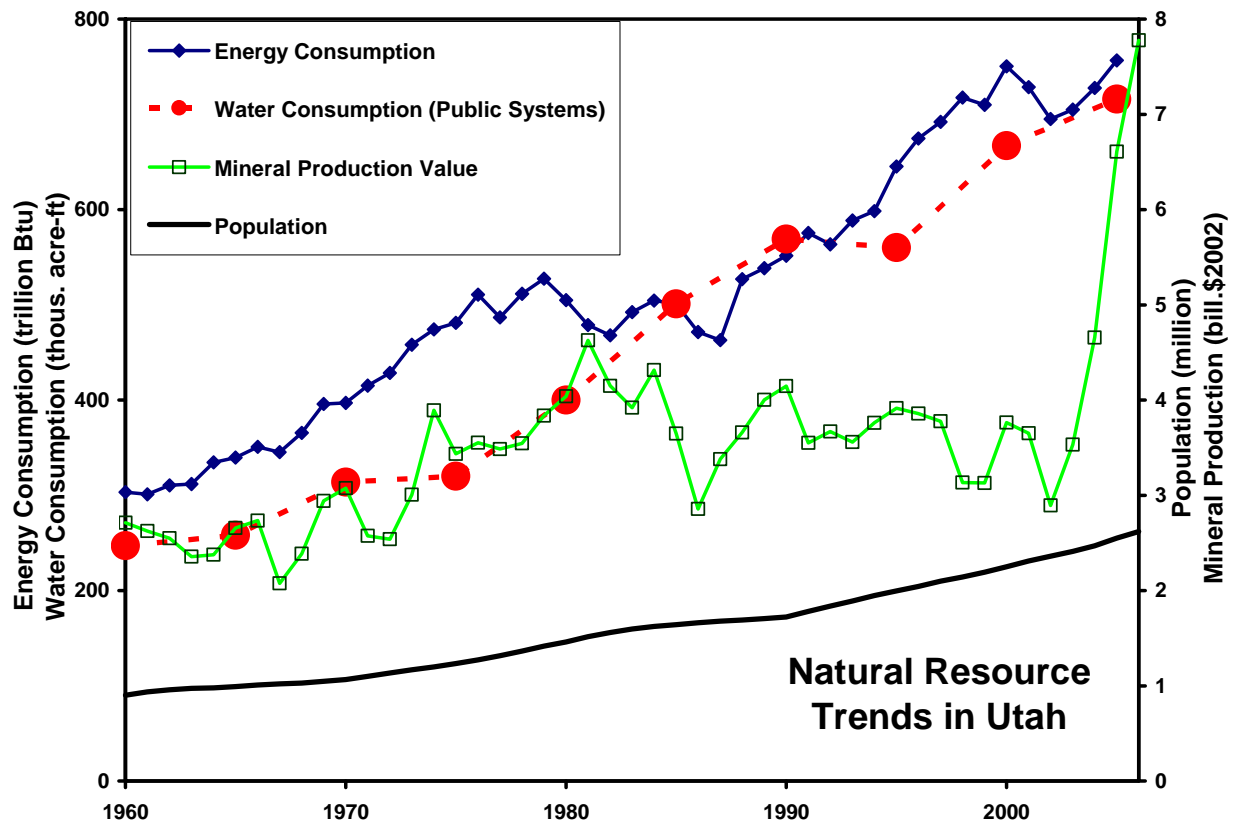
Importance of Geologic and Energy Information to Utah

Improved understanding of Utah's geology and energy resources helps with:

- Reducing vulnerability to natural hazards such as earthquakes, rock falls, landslides, debris flows, flooding, unstable soils, and subsidence
- Quantifying and advising about the endowment of resources such as oil, gas, coal, geothermal energy and metallic and industrial minerals
- Wise land-use decisions such as suitable locations for highways, dams, urban development, and utility corridors which balance the needs to protect Utah's stunning scenic and educational geological features
- Decision-making by the state, municipalities, and rural landowners to sustainably develop precious ground-water resources while protecting ground-water quality
- Managing our natural environment, including Utah's exemplary preservation of earth history (dinosaurs and Ice Age mammals) and outstanding scenery
- Increased energy efficiency and conservation of critical resources

Utah's rapid population and economic growth rates cause a steady increase in demand for resources, while stressing both the urban infrastructure as well as the natural environment. The graph below shows how Utah's energy and water consumption, and mineral production have grown as the population has grown. Examples of issues confronting Utahns over the next decade for which geological and energy resource information will be critical are:

- Utah has considerable energy and mineral wealth (annual production value of \$7 billion) but there are increasing challenges to extracting that wealth in an acceptable and environmentally sustainable way
- Utah's demand for electricity continues to grow, and will likely require new coal-fired power plant capacity; the next generation of coal plants (IGCC) may require geologic sequestration of carbon dioxide from the flue gases
- Utah has untapped renewable energy and energy-efficiency resources that can help diversify the state's energy portfolio
- Natural gas has become Utah's most important energy commodity in recent years, but normal production decline rates in existing wells require new exploration to sustain this trend
- The continued growth in urban areas is filling available land on the valley floors and causing development in more hazardous areas in hillside and foothill regions
- Utah has been lucky that a very damaging earthquake has not yet occurred along the Wasatch Front in historical times; old, unreinforced masonry buildings vulnerable to collapse that were built until the 1970s are abundant in most downtown city areas
- Utah is the second-driest state, ground-water resources are finite, and in some areas of the state they may have been over-appropriated; in other areas there is a risk of impacts from ground water pumping in adjacent states



Utah's use of its natural resources such as oil, gas, minerals, and ground water has grown as the population has grown. These trends are expected to continue, requiring additional geologic advice and information to help with challenging land-use decisions that balance development versus preservation needs.

Evolution of UGS

The Utah Geological and Mineralogical Survey (UGMS) was created by the Utah State Legislature in 1931. The Governor appointed an advisory board, but no funding was appropriated for salaries or operations and no personnel were assigned to the Survey. Geological Survey work was carried out by staff of the University of Utah Engineering Experiment Station until 1941, when the UGMS and various other state agencies, including the Utah State Parks Commission, were placed in the newly created "Utah State Department of Publicity and Industrial Development" (UPID). In 1949 UPID was disbanded by the state and the UGMS was transferred to the State School of Mines and Mineral Industries at the University of Utah.

The mission and size of what subsequently became known as the Utah Geological Survey has grown as geological issues have become increasingly important to the economic well being of the state. A full review of the history of the UGS is given in Appendix 2. Selected critical events were:

- 1951 UGMS Sample Library started in cooperation with geology departments of the state's universities, the Utah Geological Society, and the Intermountain

- Association of Petroleum Geologists. Support provided by grants from the University of Utah research fund
- 1966 Economic Geology Program (later became Energy and Minerals Program) established to formally assess and advise on Utah's energy and mineral resources
- 1980 Site Investigations Section formed (later became Geologic Hazards Program) to investigate geologic hazards and perform engineering geology work
- 1983 Geologic Mapping Program established to systematically map the state; like many western states, the density of mapping in Utah is relatively sparse
- 1991 Legislature shortens division's name to the "Utah Geological Survey" - UGS moves its headquarters to Foothill Drive.
- 1993 Ground-Water Section established
- 1995 Paleontology Section established when four staff transferred to UGS from State History. The Paleontology and Ground-Water Sections became the Environmental Sciences Program (now Ground Water and Paleontology Program)
- 1996 Geologic Extension Program established (later became Geologic Information and Outreach Program)
- 1997 UGS builds a 12,000 sq. ft. facility on the DNR campus to house the state's drill hole core and cuttings largely donated by energy and mineral industry drilling within the state. This facility (now called the Utah Core Research Center) also houses an office, classroom, and a sample preparation lab
- 2005 Utah State Legislature transfers the State Energy Program and administration of the Renewable Energy Tax Credit to the UGS
- 2007 UGS asked by legislature to install a ground water level monitoring network in Utah's west desert. The legislature also sets up a \$5 million revolving fund for energy efficiency improvements in schools to be administered by SEP, and overseen by the UGS Board

Present Status

UGS Role

The purpose of the UGS has been defined by the Utah Code, which has undergone relatively minor revision over the years. These revisions mostly involved expanding the role of the Survey to match growing state needs. A summary of the present role, as defined from Utah Code Section 63-73-6 "Powers and Duties of Survey," is listed below (see Appendix 1 for complete code).

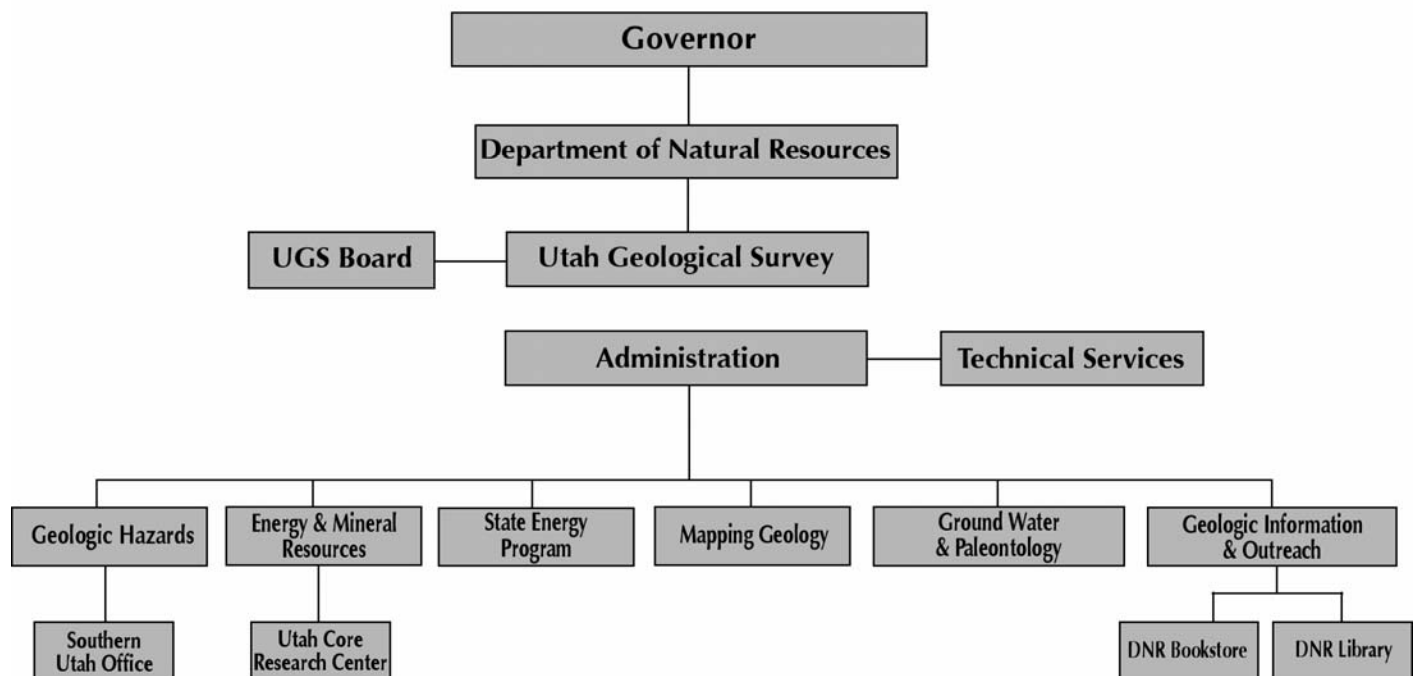
- Identify, inventory, assess, and encourage the prudent development of Utah's mineral, energy, and ground water in order to facilitate their economic use
- Identify, inventory, assess, and mitigate Utah's geologic and subsurface environmental hazards to promote safe and responsible land use
- Provide accurate and timely geologic and topographic information and advice to government, industry, educators, and the public
- Collect, maintain, and preserve geologic and energy data and information, and act as a repository for this information
- Prepare, publish, and distribute maps and reports of the geology of the state

- Stimulate research, study, and activities in paleontology
- Seek federal funds for, and administer federally funded state programs regarding renewable energy, energy efficiency, and energy conservation

Administrative Structure

The UGS is one of seven Divisions within the Department of Natural Resources. Within the UGS structure, six technical programs are supported by Administrative, Editorial, and Computer Resource functions, as shown in the diagram below. All but four staff members are housed in the DNR offices of Salt Lake City. Three staff members are located in an office in Cedar City, and one person (part-time) works from home in St George. At the start of January 2007, the UGS had a staff of 78 full-time equivalents, comprising 73 full-time staff and 9 part-time staff. Two permanent positions were temporarily vacant.

UGS Administrative Structure



UGS Administrative and Program structure

Stakeholder Relationships

The relatively broad nature of the UGS mission demands that it interface with numerous agencies in both the public and private sectors. This is a very important aspect of the UGS mission, ensuring rapid and effective dissemination of geologic information to the agencies that could benefit from it. Some of the key linkages based on the last five years are as follows:

- ***UGS Board***

The seven-member UGS Board is appointed by the Governor, and has the power to establish and review UGS policies and make Rules (see Appendix 2, Utah Code Sections 63-73-3 and 4). Board members represent a cross-section of the geological industry in Utah and include one member from the public-at-large (members also defined in code). An important responsibility is advising the Director of geological trends and needs within the state. A new role starting in FY08 will be to oversee the awarding of low-interest loans for energy efficiency improvements in schools as part of the State Energy Program if the UGS.

- ***Within DNR***

The UGS has a close working relationship with several DNR Divisions. The Division of Oil, Gas and Mining (DOGGM) has a largely regulatory role in contrast to the UGS' information and advisory role on oil, gas, and mineral resources. The UGS is the state's primary agency assessing the hydrogeology and ground-water potential, and therefore also works closely with the Division of Water Rights and the State Engineer. The UGS also works with Forestry, Fire and State Lands (Great Salt Lake issues), Parks and Recreation (geologic information for Utah state parks), Water Resources, and Water Rights (hazards and dam safety).

- ***Within State Government***

There are many examples of recent work with other state agencies:

- Governor's Office (advice on resource production and price projections quarterly to Revenue Assumptions Committee; Energy Advisor – advice on energy resource endowment and energy policy)
- Public Lands Office (input to RDCC process reviewing potential impacts of development proposals from around the state; cooperate with State Planning Coordinator on state hazard issues)
- Legislators (requests for geologic and energy information)
- Division of Drinking Water, Department of Environmental Quality (DEQ) (input to Drinking Water Source Protection Plans)
- Division of Water Quality (DEQ) (recommendations for ground-water quality classification; evaluation of septic-tank-system suitability)
- Division of Air Quality (DEQ) (collaboration on carbon dioxide and other potential emissions from coal combustion)
- Division of Plant Industries, Department of Agriculture and Food (ground-water sensitivity and vulnerability to pesticides)
- Division of Public Utilities utility (energy efficiency programs and integrated resource planning)
- School and Institutional Trust Lands (SITLA, assessment of mineral potential, hazard potential, and paleontological resources on state lands)
- Utah State Office of Education (geologic advice for the state science core curriculum revision; guidelines for and review of geotechnical investigations of school sites; geologic kits lent to teachers)
- Utah Department of Transportation (earthquake and landslide evaluations)
- Utah Division of Homeland Security (State Hazard Mitigation Team, Utah Seismic Safety Commission, statewide emergency response planning, provide energy data for State Energy Emergency Plan)

- Utah state universities (scientific investigations supporting resource and hazard research)
- **Local Government (cities and counties)**

Recent examples:

 - **Information and Advice on Oil, Gas, CO₂, and Mineral Resources:**
Cache, Carbon, Emery, Grand, Duchene, Iron, Kane, Millard, Piute, San Juan, Sanpete, Sevier, Summit, Uinta, Washington Counties
 - **Reviews of Geologic Hazards Reports for Subdivisions:**
Cities: Fruit Heights, Layton, Provo, Ogden, Morgan, Farmington, Pleasant Grove, North Ogden, Lehi, North Salt Lake, Alpine, Draper, St. George
Counties: Weber, Wasatch, Cache, Morgan, Washington
 - **Responses to Geologic-Hazards Emergencies:**
Cities: Vernal, Santaquin, Farmington, Provo, Springville, Centerville, Riverdale, Layton, Salt Lake City, South Weber, Cedar Hills
Counties: Wasatch, Tooele, Morgan, Davis, Utah
 - **Assistance in Writing Ordinances/Land-Use Advice:**
Cities: Draper, Layton, Alpine, Provo, Ogden, Lehi
Counties: Wasatch, Salt Lake, Weber, Morgan
 - **Geologic-Hazards Maps and Reports**
Cities: Monroe, Moab
Counties: Cache, Washington, Weber (Ogden Valley), Grand, Wasatch Front Regional Council
 - **Ground-Water Quality Assessments and/or Classification**
Cache County, Central Iron County Water Conservancy District, Grand County, Tooele County, Castle Valley Town, Sanpete Valley, Weber Basin Water Conservancy District, Weber-Morgan Health Department
 - **Septic-Tank Density/Lot-Size Recommendations**
Beaver City, Cache County, Central Iron County Water Conservancy District, Castle Valley Town, Cedar Valley, Snake Valley, Weber-Morgan Health Department
 - **Hydrogeologic Framework Studies**
Cedar Fort Valley, Central Iron County Water Conservancy District, Castle Valley Town, Tremonton area, Snake Valley
 - **Geologic Mapping Near Urban Areas**
Jordan Valley Water Conservancy District, Alpine City, Salt Lake County, Eagle Mountain, Saratoga Springs, Lehi, St George, Kanab, and Wasatch County
 - **Interpretive Information for Park Signs**
Salt Lake City, Salt Lake County
 - **County Resource Management and Post-Disaster Mitigation Plans**
All counties and Associations of Governments
 - **Public Buildings Energy Efficiency Pilot Grants**
(6 projects to 4 local governments and one school district)
- **Federal Agencies**

These are a major source of funding for the UGS. Contracts and grants usually involve a state-funded cost share, which typically ranges between 20 and 50% of total project costs.

- Department of Energy (numerous grants for assessment of Utah's oil potential and techniques for enhanced oil recovery; CO₂ sequestration potential; mercury in coal assessment; SEP formula, special projects, and omnibus grants)
 - Environmental Protection Agency (ground-water quality classification, ground-water vulnerability to pesticide contamination)
 - U.S. Geological Survey (geologic mapping, coal resource assessments, numerous earthquake hazard projects and working groups, landslide loss estimation)
 - Bureau of Land Management (geologic mapping, coal resource assessments, mineral assessments, paleontological surveys)
 - U.S. Forest Service (energy and mineral resource assessment, post-fire hazard assessment, paleontological resource review)
 - National Park Service (geologic mapping, assistance with interpretive geologic information)
 - Mine Safety and Health Administration (coal mine database)
 - Bureau of Reclamation (paleontological surveys; earthquake studies for dams; working groups)
 - Utah National Guard (geologic mapping at Camp Williams)
 - Federal Emergency Management Agency (pre- and post-disaster-response planning)
- ***Universities***
 Collaboration with many research partners, mainly in Utah universities. The UGS provides opportunities for interns and summer field mapping help, and the Core Research Center is used by researchers from all around the world to study classic sequences of Utah core as analogs for sedimentary settings elsewhere. Recent examples of work with University researchers are:
 - Competitive grants awarded by the UGS for oil and gas initiatives that advance understanding of Utah's prospectivity – many have been awarded to university groups (USU, UofU, BYU, and some out of state universities)
 - Collaboration with university partners on many federal grants
 - Collaboration on Weber River Basin aquifer storage and recovery project (Weber State, UofU)
 - Subcontract with UofU to assess feasibility of INSAR technique to identify subsidence due to aquifer pressure decline
 - Ground-water data exchange in Cedar Valley hydrogeology study (BYU)
 - Assist with curriculum for renewable energy course (SLCC)
 - Collaboration with earthquake hazard working groups and liquefaction maps (USU, UofU, BYU)
 - Site condition mapping for seismic response (USU)
 - Collaboration on landslide assessment, Coal Creek, Kane County (USU)
 - Support of local EDMAP proposals to USGS; subcontracts for GIS input to geologic maps (SUU)
 - Collaboration with Utah Seismic Observatory (UofU), on risk assessment and support of Utah Seismic Safety Commission

- ***Private Sector***

The UGS does not contract work with the private sector because it does not compete against local geologic contractors. One of the roles of the UGS is to provide geologic information to assist the private sector. For example, the UGS provides geologic map data, hazard information, and energy and mineral resource information, through public inquiries, publications, presentations, and core workshops.

The UGS collaborates with consulting companies on federally funded earthquake research. It also occasionally subcontracts work to consultants for specialist input to projects (e.g., geological mapping).

The UGS does provide SEP (State Energy Program) formula and special project funding opportunities to qualified, competitive private entities in the areas of improved energy efficiency, energy conservation, and renewable energy use. There may be contracts with a limited number of non-profit organizations for energy education activities. The SEP is also in the process of contracting with a private company for codes training (\$75,000); Questar and Rocky Mountain Power are contributing \$90,000 to cover all training costs.

The UGS is receiving a grant from the Discovery Media Network for paleontological excavations to be used as a basis for documentaries about dinosaurs.

- ***General Public***

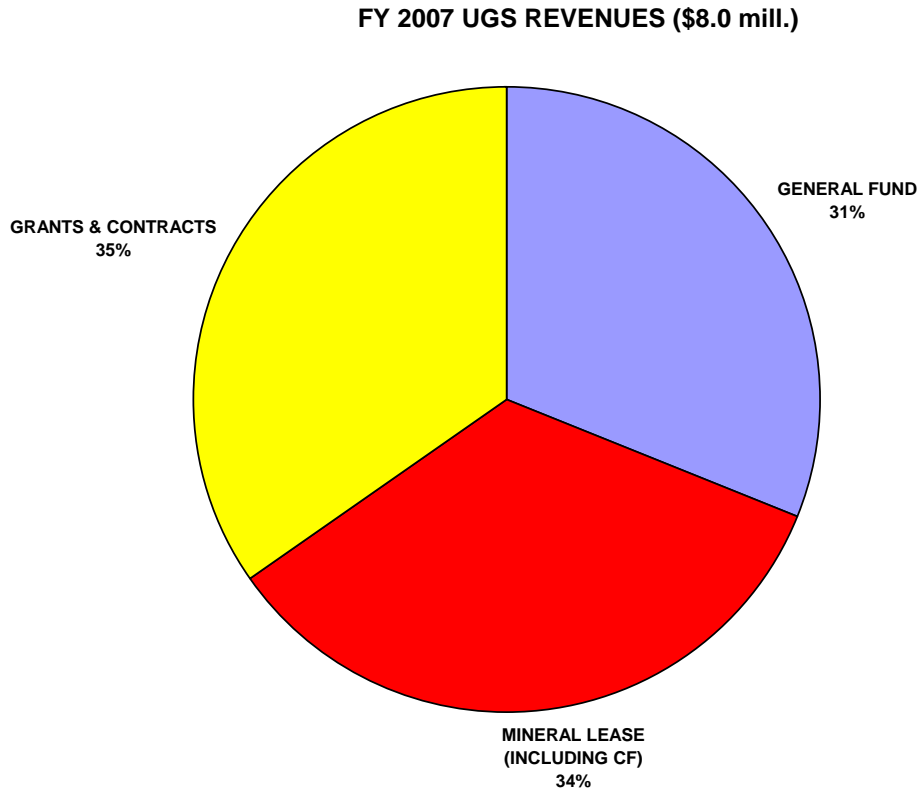
The UGS typically receives about 6000 inquiries (phone, walk-in, email) a year, most of which are from the general public. Approximately half of the inquiries are energy related, in particular on energy efficiency, energy conservation, and renewable energy. Use of the internet has expanded the way the UGS provides information to the public. The amount of information (web pages) on the UGS website has increased greatly in recent years, and website visits have correspondingly increased. The UGS website is currently receiving more than 0.5 million visits a year. The DNR Bookstore (operated by UGS) is the one of the largest suppliers of topographic maps in the country, selling more than 20,000 maps per year.

Financial Characteristics

Funding Sources

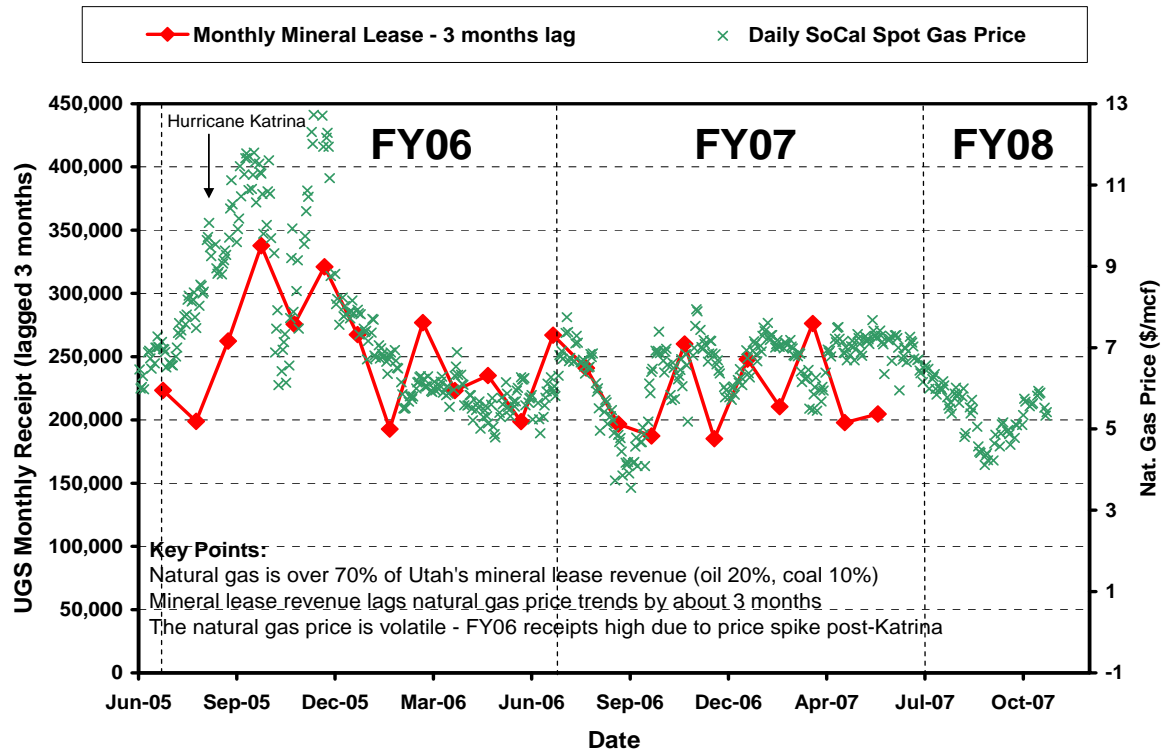
The three principal funding sources are General Funds, Mineral Lease payments (main component is 2.25% of royalties paid by Mineral Management Service to the Mineral Lease Account resulting from oil, gas, and coal producers on federal land in Utah), and various contracts, grants (from federal, state, and local governments, and other sources) and dedicated credits (e.g., Bookstore sales). These diverse funding sources require special project management efforts to ensure deliverables on time and within budget. They also provide financial strength to the UGS because of the potential for offsetting cyclical trends in non-General Fund revenue sources. Approximately two thirds of the funding for grants and contracts comes from federal agencies.

The various funding source percentages are shown in the figure below for the most recent year with complete data, FY07. Although the gross revenue was \$8 million, the net revenue after accounting for the carry-forward at the end of the year was \$7.3 million. The year-end carry-forward is actually Mineral Lease funds that are not fully spent in each year, for reasons outlined below. This requires intent language each year.



Mineral Lease revenue for FY06 was unusually high because of the effect of Hurricane Katrina on natural gas prices, and contributed to the rise in carry-forward between FY06 and FY07 (see graph below). This highlights a financial management issue caused by the short- and long-term variability in Mineral Lease payments, together with the longer-term variability in contracts and grants. Mineral Lease payments vary primarily because of month-to-month volatility in the commodity prices, in particular that for natural gas, which amounts to 70% of the Mineral Lease royalties based on current production and prices (oil 20%, coal 10%). In the last three years, monthly payments to the UGS have varied from < \$100,000 to > \$300,000. Mineral Lease payments are made monthly, but typically are received two months after the applicable month. This means that by the start of the last month of the financial year the UGS may have three months of Mineral Lease payments outstanding, amounting to 25% of the total Mineral Lease revenue. It is too late at that stage of the year to alter expenditures to accommodate likely revenue changes. The Mineral Lease carry-forward mechanism is essential to handle this uncertainty. In addition, improved Mineral Lease prediction tools are needed. The graph below shows the relationship between the daily spot price for natural gas and Mineral Lease payments.

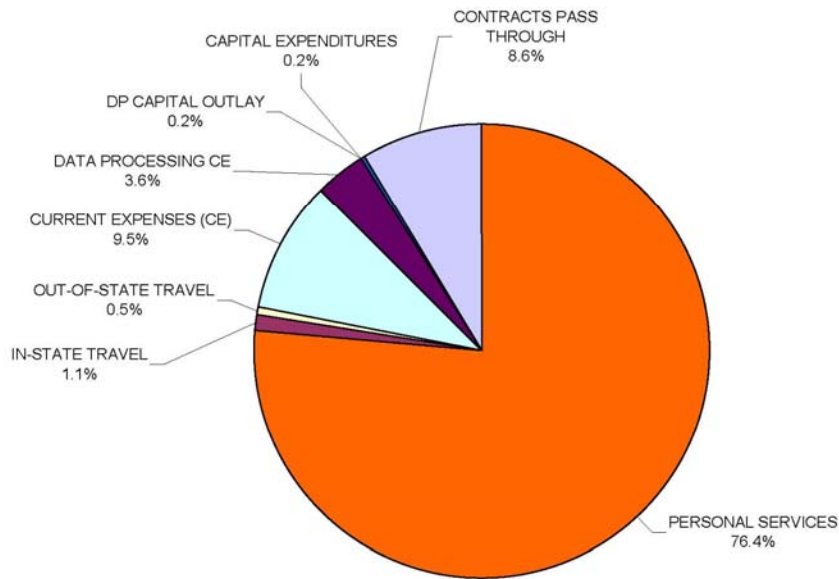
A reasonable correlation exists between the natural gas spot price for the Southern California hub, and the monthly Mineral Lease receipt lagged by 3 months since the spike in gas prices around the time of Hurricane Katrina. Since gas production in Utah in recent years has been increasing at about 10%/year, this correlation will need to be adjusted every few years. Another complication introduced since March 2007 is that approximately 10% of UGS Mineral Lease receipts is now coming through as SITLA Exchanged Lands revenue, and is being reported separately. Due to an oversight during the 2007 legislative session, UGS has not received this revenue, or the revenue earmarked for west desert ground-water monitor wells. This situation is expected to be rectified during the 2008 legislative session.



UGS Expenditures

Total expenditure in FY07 amounted to \$7.3 million (see graph below). The dominant component of total expenditure is always personnel salaries, which in FY07 amounted to 77%. Pass through funds for sub-contracts were the second largest factor, amounting to 9% of FY07. The difference between revenue (\$8.0 mill.) and expenditure (\$7.3 mill.) was mineral lease

carry-forward to FY08.



UGS Expenditure Breakdown (FY2007, \$7.3 mill. total)

When split by program, the expenditure is as follows:

Program	FY07 k\$	
Administration	788	11%
Technical Services	531	7%
Energy and Minerals	1534	21%
Ground Water & Paleontology	1262	17%
Geologic Mapping	910	12%
Geologic Hazards	821	11%
State Energy Program	711	10%
Geologic Information and Outreach	787	11%
Total	7344	100%

Funding Trends

The following table shows recent trends in the main revenue sources. The dominant trend has been for the proportion of General Funds to decrease, and for Mineral Lease to increase. General Funds represented 39% of UGS revenue in FY04, but this declined to 31% in FY07. For several years we have anticipated that future funds from federal sources may decrease because of cuts in Departmental budgets due efforts to reduce the national deficit. This has not happened to date, but remains a financial risk.

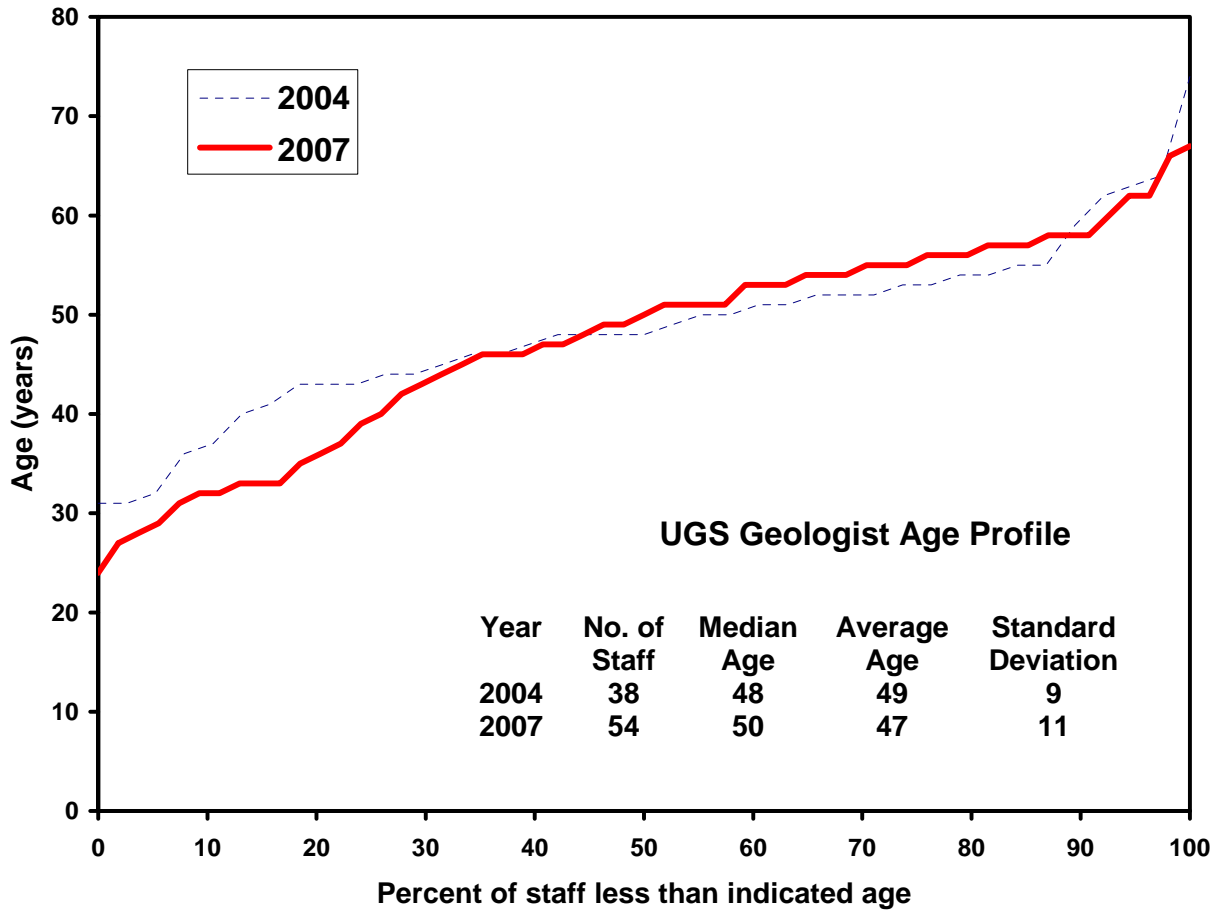
UGS Financial Trends

(\$ thousands)	<i>Actual</i> FY05	<i>Actual</i> FY06	<i>Actual</i> FY07	<i>Estimated</i> FY08
Revenue Sources				
General Fund Appropriation	2334	2452	2519	4206*
Federal Grants, Contracts	676	1535	1317	1084
Dedicated Credits, Agency Transfers	868	665	700	935
Mineral Lease	1686	2849	2500	2495
Beginning Mineral Lease Carry-forward	609	210	727	720
TOTAL REVENUE	6173	7711	7757	9440
End Mineral Lease Carry-forward	(210)	(727)	(719)	(250)
TOTAL EXPENDITURE	5963	6984	7257	9190
Full-Time Equivalents on staff	67	78	82	83

*Note: UGS will be receiving \$5 million in one-time funding in FY08 for a revolving fund to assist low interest loans for energy efficiency improvements in schools, and about \$2 million for well drilling and ground-water monitoring in the west desert of Utah.

Age Demographics of UGS Staff

An aging, skilled workforce has been identified as a potential issue nationally for many scientific organizations, particularly as the rate of retirements increases in about a decade. The age profile staff on the geology career track is relatively balanced. More frequent retirements in about ten years will require attention to insure there is not a sudden loss of expertise. Over the last three years, as increased funding has allowed more geologists to be hired, the average age has decreased by two years, but the median age has increased by two years. The standard deviation of the age trend has increased by two years. These trends are a consequence of staff that were present in 2004 now being 3 years older, and a bias towards new staff being hired in their 20s and 30s. The increased spread in ages in 2007, indicated by the increased standard deviation, can be interpreted as a positive human resource trend.



Goals and Issues (2007 – 2012)

Strategic Issues for UGS

General

- Ensuring the UGS remains responsive to both the increasing and changing needs for geological information and advice in a state with rapid population growth and growing geological issues. Related human resource issues are:
 - Maintaining expertise within the UGS that reflects changing geological needs
 - Sustaining staff motivation, keeping staff trained and equipped with emerging technology and techniques, and ensuring staff remain up to date with advances in geological knowledge in their subject area
 - Maintaining a balance of staff expertise that ranges from experienced generalists with broad expertise through to specialists with knowledge of new technologies or critical subject areas
 - Tackling the continued inequities between state pay scales and the external job market, and distortions caused by past movement of pay scales without corresponding movement of the salaries (i.e., salary compression)
 - Monitoring likely imminent retirements and minimizing future management succession issues. The age profile of the UGS suggests this will become important in about 10 years.
- Maintaining financial mechanisms that can cope with relatively large downturns in revenue, especially Mineral Lease and federal funds, without significant loss of staff. These include:
 - Developing and sustaining diversified external funding sources
 - Improving the method for predicting future Mineral Lease payments
 - Ensuring there is a balance between permanent staff and temporary staff, interns, or contract workers, so that year-to-year funding variations can be managed with minimal impact
 - Ensuring there is a significant Mineral Lease carry-forward each year so that the effects of unexpected downturns in revenue sources are mitigated (at least 25% of the past year's Mineral Lease revenue).
 - While Mineral Lease revenue is strong, maintain a competitive grants program for non-UGS specialists to complement UGS activities, especially in the mineral lease counties. The grants program can be terminated or curtailed on a year-to-year basis, providing a financial mechanism for coping with downturns in Mineral Lease revenue.
- With the rapid growth in almost all aspects of the natural resources sector of Utah (including ground water), there is an ongoing need to track and archive new data. There is a need to maintain easily accessible data repositories for past projects, basic geologic information, published material, digital data, and critical rock, core and cuttings that capture adequate metadata/documentation.
- Modify the Utah Core Research Center to adapt to the increasing requests and use by the exploration industry and researchers. An improved area for holding workshops is urgent.

Longer term, the UCRC needs a management plan for coping with ongoing donations of core and cuttings, and dwindling open shelf space.

Program Goals and Issues (2007 – 2012)

The UGS has six technical programs (goals and issues listed below) and two support programs, Administration and Technical Services. Administration provides division-wide leadership, strategic planning, financial management, technical review of manuscripts, and handles the day-to-day operational functions of the UGS as an agency. The Technical Services Program consists of the Editorial Section, which prepares reports and maps for UGS publications. In both support programs the primary goals are to provide effective, prompt, and courteous service to the rest of staff. Administration also has requirements for fairness, consistency, and adherence to human resources and financial rules and regulations. Clarity of leadership, good communications systems, and ensuring effective management tools are in place are essential.

Geologic Hazards Program (GHP)

The Geologic Hazards Program helps protect the health and safety of Utah citizens by identifying, evaluating, and reporting on geologic hazards (such as earthquakes, landslides, debris flows, rock falls, unstable ground)

Goals (2007 – 2012)

- Identify and characterize geologic hazards
 - Perform paleoseismic evaluations of Weber and Brigham City segments of the Wasatch Fault Zone and the West Valley, Washington, Gunnison, Scipio, and other fault zones; prepare community fault model
 - Assist USGS and others in developing Wasatch Front urban seismic-hazard maps
 - Prepare Weber and Provo segment WFZ earthquake scenarios
 - Prepare site-conditions map and Hurricane fault earthquake scenario for St. George area
 - Help characterize liquefaction-induced ground-failure hazards in Utah, Weber, and Davis Counties
 - Implement long-term landslide and debris-flow plans, including characterizing Norwood and Manning Canyon landslides and monitoring movement in large, undeveloped landslides.
- Implement recommendations of the Governor's Geologic Hazards Working Group; principally expand assistance to state and local governments in reviewing consultant reports, responding to emergencies, reviewing ordinances, and other outreach.
- Update Wasatch Front 1980s hazard maps and complete/prepare/begin new maps for Ogden Valley, Cache Valley, Morgan County, Cedar City/Parowan valleys, and central Sevier Valley (Richfield area); assist local governments in using maps and adopting ordinances.
- Promote hazard reduction by disseminating information and assisting users through publications and databases, website information, conferences and workshops, and

participation on committees, panels, advisory and review boards, and working groups.

- Complete “Putting Down Roots” publication.

Issues

- Recommendations of the Governor’s Geologic Hazards Working Group greatly increase SLC and CC workloads, and include a recommended minimum of two additional GHP FTEs to:
 - Work with local governments to assess risks and add a geologic hazards element to general plans
 - Develop a model ordinance
 - Form a Disclosure Working Group
 - Update existing hazard maps; expand program to produce new maps
 - Expand outreach program (planner workshops, presentations, etc.)
 - Expand consultant-report review program or spearhead an alternative (circuit rider, etc.)
 - Expand outreach to consultants to improve standard of practice, particularly for landslide studies
 - Perform more detailed post-event investigations
- The lack of outside funding sources for critical program goals such as landslide studies, geologic-hazard mapping, and local government assistance reduces their priority.
- Conflicts exist between grant responsibilities/deadlines and timely completion of reports on geologic hazard mapping projects, emergency response, reviews, and ability to capitalize on awareness opportunities provided by emergencies.
- Increased role in providing leadership by coordinating interdisciplinary studies and policy groups (Earthquake, Landslide, Geologic Hazards Working Groups) has taken considerable resources.
- Increased workload and advanced technical and GIS/web expertise needed to take over responsibility for updating and maintaining NEHRP Wasatch Front community velocity model.
- Improving staff expertise in engineering seismology and geotechnical engineering as well as engineering and Quaternary geology, through training and/or hiring.
- Planning for the future of the Southern Utah Office (staff, facility, etc.), considering likely increased local-government-assistance role following release of St. George hazard maps.
- More emphasis on providing web materials, both for general audiences and for technical users (searchable databases, clearinghouse pages, etc.).

Energy and Minerals Program (E&M)

The Energy and Minerals Program investigates and reports on the energy (oil, gas, coal, uranium) and mineral resources of Utah. The program is managed as three sections (oil and gas, minerals, and coal)

Goals (2007 – 2012)

- Develop diverse funding sources for targeted research on Utah's energy and mineral resources.
- In view of higher commodity prices and local and world demand, continue to reappraise Utah's endowment of energy and mineral resources.
- Expend a considerable effort to preserve, enhance, and digitize geologic sample and resource information and make it available on the UGS website.
- In response to concern over global climate change, investigate potential Utah reservoirs for storage of carbon dioxide.
- Develop, maintain, and enhance capabilities of an experienced E&M geologic staff with broad expertise.
- Look for ways to expand the Utah Core Research Center in light of the growing sample collection, increased demand for workshops, increased need for paleontological preparation, and dwindling storage space.

Issues

- Potential loss of traditional DOE oil and gas research funding requires finding other sources of funding.
- In the face of high commodity prices and high industry demand for experienced geologists, maintain a talented E&M geologic staff with GIS skills.
- Maintain E&M program budget flexibility should energy and mineral prices drop, the economy enter a recession, or outside funding sources disappear.
- Dwindling space at the UCRC for research and storage.

Mapping Geology Program (GMP)

The Mapping Geology Program maps the geology of the state at various scales. Accurate geologic maps are the basis for all other types of geologic studies and resource evaluations. Mapping priorities are established by a 14-member panel of geologic-map users outside the UGS who represent several federal and state agencies, universities, school trust lands, and other public geologic organizations.

Goals (2007 – 2012)

- Provide public with GIS coverage of entire state at scale of 1:250,000.
 - Most will be the 30'x60' quadrangles listed below; other areas will be filled by the best existing maps we can find at any scale. (Current Status: the only complete GIS coverage of entire state is the 1:500,000-scale map by Hintze; 35% covered at larger scale).
- Advance 30'x60' (1:100,000) mapping as follows
 - Release 17 more quadrangles in GIS format (OFR, MP, or Map series). Current status: 17 of 46 quadrangles in GIS format; completion of this goal will leave 12 to complete series. *This goal includes the following quadrangles: Tremonton*

[USGS], Newfoundland Mtns [USGS], Ogden, Tooele, Wildcat Mtn [Dugway part], Provo, Vernal, Seep Ridge, Salina [E ½], San Rafael D, Beaver, Loa [E ½], Escalante, Hite Xing, St. George, Kanab; plus Kings Peak and Duchesne at 1:125k scale).

- Revise and re-release in paper format four previously released 30'x60' maps and release seven new maps in at least OFR format. *Re-releases will be: Ogden, Provo, Escalante, San Rafael D; new releases: Tremonton, Newfoundland Mtns, Tooele, Wildcat Mtn [Dugway part], Seep Ridge, Hite Xing, Wah Wah Mtn South [Rowley]).* This will bring the total paper maps in this series to 35, leaving 11 for subsequent years.
- Publish seven more 30'x60' quadrangles in full color (*St. George, Cedar City, Dutch John, Vernal, Escalante, Provo, San Rafael D*)
- Start new or arrange outside mapping of 13 remaining 30'x60' quadrangles: (*Grouse Ck, Promontory Pt, Bonneville SF, Rush Valley, Fish Springs, Salina W ½, Loa W ½, Panguitch, Hanksville, Navajo Mtn, Blanding, Bluff*). Current Status: 11 not started in any major way, plus *Kings Peak and Duchesne* need to be done at 1:100,000.
- Advance 7.5' quadrangle mapping (1:24k) as follows:
 - Complete and release (OFR or better) 25 new 7.5' quadrangles (5 per year)
 - Publish (press run or print-on-demand) 25 OF'd 7.5' quad maps (5 per year)
 - Complete and release GIS of 25 published 7.5' quadrangle geologic maps

Issues

- Increasing need for more accurate and detailed geologic maps and geologic GIS data than are currently available due to increased growth and development, recreation use, resource extraction, environmental awareness, and increasing government regulations that require better maps for reports and land-use planning.
- Too many projects at the same time. Each Mapper has 10 to 15 projects to complete or manage at the same time, which decreases efficiency.
- The STATEMAP geologic mapping program provides funds only for completing projects to open-file status. Thus, there is never enough time or personnel to complete maps for final publication. As a result, the number of open-filed maps continually increases. This drive to start new projects also limits our ability to pursue geologic problems encountered while mapping or to complete a project as thoroughly as it should be done.
- Salary is a constant sore point. In general, job satisfaction within the Mapping Program is good, but there is the constant irritation of employees feeling like they are stuck near the bottom of the pay scale ladder, and that they are falling farther and farther behind their friends in the private and federal government sectors.

Geologic Information and Outreach

The Geologic Information and Outreach Program (GIO) answers geologic inquiries, performs outreach by providing access to and promoting the use of geologic information of Utah. The GIO manages the UGS Web Site, Natural Resources Map & Bookstore, and the Department of Natural Resources Library. The GIO also prepares publications for non-technical users of UGS information. Goals and Issues are split into Information, Bookstore and Library sections

Goals (2007 – 2012; Information Section)

- Enhance Outreach on the UGS website:
 - Update and organize current pages.
 - Create needed new pages (includes geologic/paleontologic topics, timely events, etc.)

- Conduct geologic projects/partnerships and create brochures/articles:
 - Geologic Guide to the Northern Wasatch Front Canyons.
 - Interpretive signs for Salt Lake County Geologic Viewing Area (2007).
 - Interpretive signs for Goblin Valley State Park (2007 contract).
 - Publish 2 Survey Notes columns (GeoSights and Glad You Asked) 3x/year.
 - Pursue partnership/funding with Utah Office of Tourism for Scenic Byway projects.
 - Assess State Park's need/desire for geologic guides (possible funding).

- Continue/maintain quality Teacher Education program:
 - Complete all kits' updates and newly created kits (2007).
 - Add kits' PowerPoint presentations to the web.
 - Complete web organization/links/etc. (2007-2008)
 - Publish Teacher's Corner column 3x/year in Survey Notes.
 - Train one more GIO staff to be an education "specialist."

- Hire additional 1 FTE Geologist for geologic projects to replace losses through future retirements or reassignments, especially to focus on creating web pages. Consider a geologist with GIS skills.

- Increase efforts on website maintenance and enhancement.

Goals (Bookstore)

- Continue to aim for the "one-stop-shopping venue."
- Improve Bookstore website.
- Continually assess viability of Map Kiosk.
- Continually assess viability of Online Shopping Cart.
- Monitor potential future need for 1 additional full-time or part-time Revenue Tech I.

Goals (Library)

- Continue to scan publications when hiring a temporary is feasible.
- Move out DOGM's well logs as soon as they are all scanned in.
- Look into feasibility of multi-media center with TV, VCR, DVD, and projector.

Issues (Information Section)

- Not enough staff time to work on geologic projects:
 - Increase in web work has resulted in losing equivalent of 1 FTE Geologist to work on geologic projects
 - Total combined time of Program Manager and two other Geologists available for geologic projects is ~ 0.5 FTE.

- Increasing demand for:

- Website maintenance and additional web pages.
- GIS assistance for graphics/maps.
- Education services/resources.
- Two staff plan to retire in 3 years.

Issues (Library)

- Need to continue to keep hard copies of publications and maps because of the ever-changing technology of CD software.

Ground Water and Paleontology Program

The Ground Water & Paleontology Program evaluates the quantity and quality of Utah's ground-water resources; and helps identify, protect, and preserve Utah's fossil resources through public outreach programs and through inventory and recovery projects that reconcile preservation and development needs.

Goals (2007 – 2012; whole program)

- Maintain a unified program while allowing presence of the two diverse sections

Goals (Ground-Water Section)

- Continue to expand the customer base at both the State agency and local government level to reduce vulnerabilities created by fluctuations in the availability of federal funding.
- Maintain the close, cooperative relationship we currently have with the Utah Division of Water Rights by continuing to treat them as a partner rather than as a funding source.
- Continue to expand the ground-water modeling and water-quality sampling capabilities. Expand staff competencies as appropriate (modeling, UST certification).
- Develop and maintain a ground-water monitoring network in Utah's west desert (with focus on Snake Valley) due to heightened interest in and concern over ground-water resources in response to the Southern Nevada Water Authority's plans to begin large-scale ground-water withdrawals along the Utah-Nevada border in the area.

Goals (Paleontology Section)

- Increased effort to obtain outside funding from the federal government and the private sector (such as Discovery Channel) to excavate and curate specimens for Utah museums, and produce paleontological sensitivity maps, while continuing to meet legislative mandates.
- Increased focus on developing web pages and materials for the use of the Geologic Information and Outreach Program in public outreach.

Issues

- Effectively manage funds provided by the Utah Legislature to the ground-water section to develop a ground-water monitoring network in Snake Valley, providing long term information on the impacts of water development in the region.
- Most staff are underpaid for their skills compared to the private sector. To resolve this

issue, continue to give staff added responsibilities, and, in view of the added responsibilities and increased experience, use desk audits to obtain promotions (at least one level) for all existing staff.

- As a rule, four-fifths of the time needed to excavate, describe, and publish on a new paleontological discovery (like *Falcarius*) is in preparation. Specimens requiring preparation time continue to build up at the UGS Core Research Center. To resolve this issue, whenever UGS discretionary funding is available, seek to hire interns to help prepare existing specimens at the UGS Core Research Center.

State Energy Program

The State Energy Program provides energy information, program support, and access to federal funding for energy efficiency, energy conservation, and renewable energy initiatives in Utah.

Goals

- Provide information and policy support and manage programs supporting the Governor's 20% / 2% energy efficiency and renewable energy goals for the state.
- Develop SEP into a robust energy project deployment office.
- Identify and validate prime areas for wind energy development.
- Increase funding from federal, state, and private sources to allow for new or expanded deployment programs.
- Implement, manage, and fully subscribe energy efficiency revolving loan program created in the 2007 General Session.

Issues

- Funding – Provide for program stability in the face of variable federal appropriations and changes in deployment programs.
- SEP is highly dependent upon federal funding to operate state programs. Increased budget support from the legislature is necessary for program stability
- As SEP's programs develop and expand, care will need to be taken to identify an appropriate mix of staff specialties and expertise.

Program Performance Measures

A set of performance measures has been compiled to highlight trends in important metrics of the UGS during the last five years. These have been part of annual reporting requirements to the State Legislature and to the Governor’s Office. This year the Governor’s Office requested that performance measures be reduced to a “balanced scorecard” which shows on one page key trends within the Department or Division. A copy of the most recent scorecard is shown below. Performance measures also exist for each Program, and these are related to UGS Goals, and Program objectives and inputs. The most recent update of Performance Measures is included as Appendix 3.

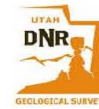
UTAH GEOLOGICAL SURVEY - *Balanced Scorecard*

Reporting Period:09/30/07

Mission Statement:

Contacts:
Richard Allis, Director - 801-538-3301

The Utah Geological Survey provides timely scientific information about Utah's geologic environment, resources, and hazards.



Metric	Status	Trend	Target	Current	Previous	Frequency	Metric Comments
PERFORMANCE MEASURES							
Geologic Information Dissemination							
Public Inquiries Answered		↓	1500	1817	1872	quarterly	
Visitor Hits on Web Site (in thousands)		↑	230	291	240	semi-annually	
Publications Produced		↑	100	146	120	annually	
Financial							
Fed. Grants & Ded. Credits (in thousands)		↓	500	305	405	quarterly	federal grants declining
Customer-Based							
Satisfied Employee Rating (%)		↓	80	79	80	annually	

STATUS - Default Ranges
90% or greater of target = green
>=75% to <90% of target = yellow
less than 75% of target = red

Appendix 1: UGS History

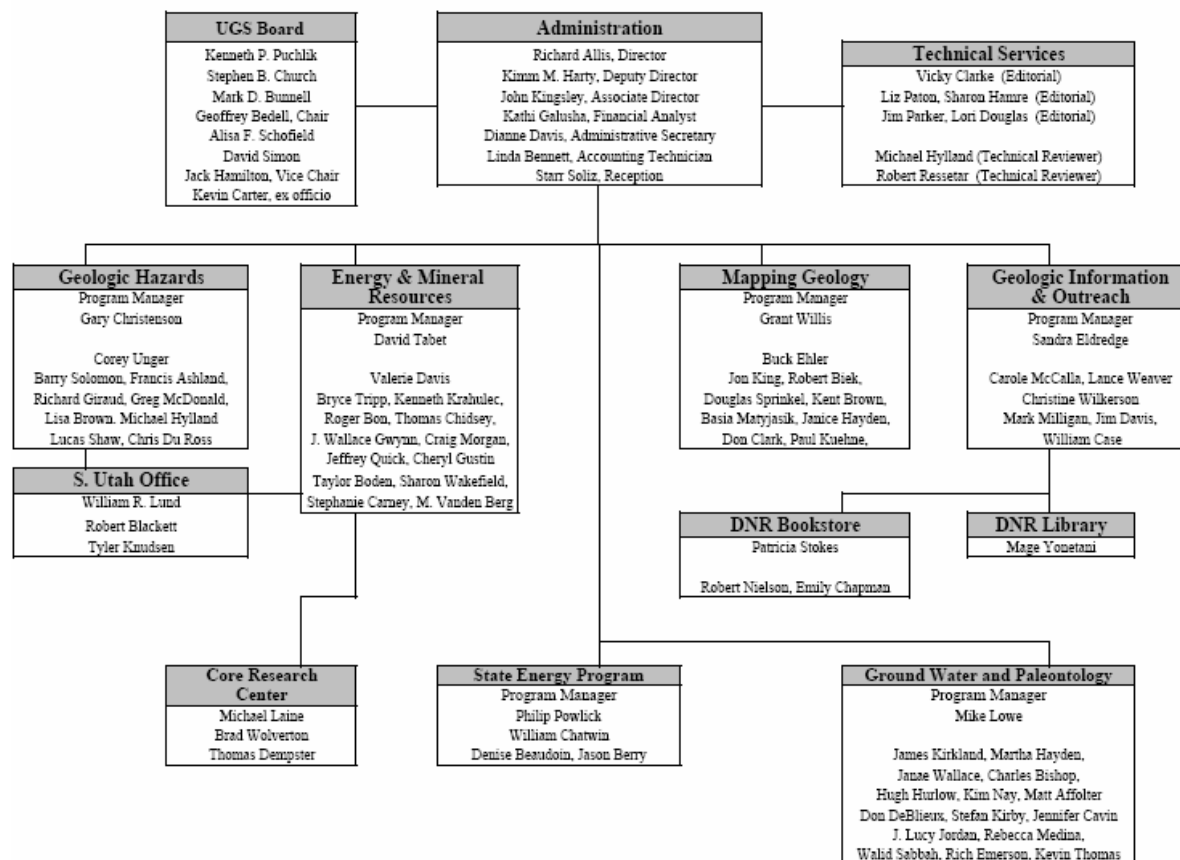
YEAR	EVENT
1919	University of Utah Board of Regents finds the forbearer of the UGS, the “University Geological and Resource Survey of Utah”, under the direction of Dr. Frederick J. Pack. No funding is provided.
1929	Bill introduced to state legislature to formally create the “Utah Geological and Mineralogical Survey.” The bill fails.
1931	Utah Geological and Mineralogical Survey (UGMS) created by the Utah State Legislature. Governor appoints an advisory board, but no funding is appropriated for salaries or operations and no personnel are assigned to the Survey.
1941	The UGMS and various other state agencies, including the Utah State Parks Commission are placed in the newly created “Utah State Department of Publicity and Industrial Development” (UPID).
1949	UPID disbanded by the state. UGMS transferred to the State School of Mines and Mineral Industries at the University of Utah. Arthur L. Crawford appointed first Director of the UGMS and legislature appropriates \$25,000 for 1949-1951 biennial budget.
1951	UGMS Sample Library started in cooperation with geology departments of the state’s universities, the Utah Geological Society, and the Intermountain Association of Petroleum Geologists. Support provided by grants from the University of Utah research fund.
1961	Crawford retires, UGMS advisory board names Dr. William P. Hewitt director.
1963	Utah Governor Clyde appropriates a portion of the State’s Mineral-Lease revenues to the UGMS.
1966	The Survey creates the Economic Geology Program under the direction of Dr. Hellmut Doelling.
1970	UGMS receives first outside grant to study Utah coal deposits under the direction of Hellmut Doelling.
1973	Legislature transfers UGMS from the University of Utah to the Utah Department of Natural Resources; name shortened to “Utah Geological and Mineral Survey” (previously “Mineralogical”). UGMS Advisory Board replaced by a seven-member Board appointed by the Governor. Legislature officially names the Survey Director as State Geologist.
1974	Hewitt retires and is succeeded by industry mining geologist Donald T. McMillan.
1976	UGMS moves its headquarters from the University of Utah main campus to Research Park.
1980	Site Investigations Section formed (later becomes Applied Geology Program) to investigate geologic hazards and perform engineering geology work.
1981	Survey staff grows to 20 full-time and 9 part-time geologists and 10 support staff. McMillan retires, Genevieve Atwood, the Survey’s and the Nation’s first woman State Geologist is appointed Director.
1983	Geologic Mapping Program is created.

- 1984 Recent addition of the Geologic Mapping Program and reconfiguring of the Applied Geology Programs expands the Survey's staff to 26 full-time geologists, 10 geotechnicians, and 17 support staff.
- 1985 Utah Legislative Representative John Hollingshaus proposes a merger of UGMS and DOGM to save administrative costs. A legislative committee asks DNR to study the proposal and report back. In September 1986, UGMS Director Genevieve Atwood issues a report studying the merger issue and concludes that consolidation of the two divisions would not result in savings and that the functions and missions of the two agencies do not significantly overlap.
- 1988 At some previous date, Utah Legislative Senator, William Barton requested that the Office of the Auditor General review the possible benefits (cost savings and improving public service) of consolidating DNR divisions of: UGMS, DOGM, the Division of State lands, and the Utah Energy Office. Legislative Auditor Wayne Welsh releases a report (10/88) studying this proposed merger and concludes that consolidating these four divisions is impractical, because the division missions and programs did not overlap, and thus cost savings would not be realized.
- 1989 Genevieve Atwood steps down, Dr. M. Lee Allison named UGMS Director.
- 1991 Legislature shortens division's name to the "Utah Geological Survey" - UGS moves its headquarters to Foothill Drive.
- 1993 DNR Administration requests that the UGS reinstitute a Ground-Water Section. Two employees are transferred from other programs to initiate the Section.
- 1995 Four staff from the Utah Division of State History are transferred to the UGS; "Paleontology and Paleocology Section" is created. The Geologic Extension Service Program is created.
- 1996 UGS headquarters move to new Department of Natural Resources building complex on North Temple Street. Paleontology/Paleocology and Ground-Water Sections are combined to form the Environmental Sciences Program.
- 1996-98 UGS builds a new, 12,000 sq. ft. Sample Library facility on the DNR campus. Core is moved from a rented warehouse, to the new facility, which also houses offices, classrooms, and a sample preparation lab.
- 1997 Full- and part-time UGS staff includes 35 geologists, 10 geotechnicians, and 21 support staff.
- 1999 Lee Allison steps down as UGS Director. DNR Executive Director Kathleen Clarke asks an internal DNR committee to investigate the possibility of saving costs by merging UGS and DOGM such that the divisions would be administered by one director. The committee provides a list of pros and cons but makes no specific recommendations. The UGS Board advises Ms. Clark that the merger would not be in the best interests of the UGS or DNR.
- 2000 Dr. Richard G. Allis appointed Director of the Utah Geological Survey. Emphasis placed on information dissemination via the Internet and making geologic information and publications available on the Web.
- 2001 UGS Sample Library renamed "Utah Core Research Center." Some UGS technical programs renamed: "Applied Geology" becomes "Geologic Hazards," "Economic Geology" becomes "Energy and Mineral Resources," and "Geologic Extension Service" becomes "Geologic Information and Outreach."
- 2005 Utah State Legislature transfers the State Energy Program and administration of the Renewable Energy Tax Credit to the UGS

UGS asked by legislature to install a ground water level monitoring network in Utah's west desert with approximately \$2 million allocated to this from one-time General Finds and two years of exchanged lands revenue. The legislature also sets up a \$5 million revolving fund for energy efficiency improvements in schools to be administered by SEP, and overseen by the UGS Board. The renewable energy tax credits are indefinitely renewed.

Appendix 2: 2007 Staff List

UTAH GEOLOGICAL SURVEY



12/18/2007

UGS Board Details

Name	Term	Industry Sector
Geoffrey Bedell (Chair)	3/1/01 – 3/1/09	Minerals – metals
Jack Hamilton (Vice Chair)	3/1/05 – 3/1/09	Academia
Stephen B. Church	3/1/01 – 3/1/09	Minerals – oil and gas
David B. Simon	3/1/05 – 3/1/09	Engineering Geology
Alisa F. Schofield	3/1/07 – 3/1/11	Public at Large
Ken Puchlik	3/1/07 – 3/1/11	Minerals – Industrial
Mark D. Bunnell	3/1/07 – 3/1/11	Minerals - Coal
Kevin Carter (ex officio)		SITLA

Appendix 3.

UTAH GEOLOGICAL SURVEY PERFORMANCE MEASURES (FY07)

Updated August 2007

MISSION STATEMENT

The Utah Geological Survey provides timely scientific information about Utah's geologic environment, resources, and hazards.

DIVISION GOALS

1. Identify, inventory, assess, and encourage the prudent development of Utah's mineral, energy, ground-water and paleontological resources.
2. Identify, inventory, assess, and mitigate Utah's geologic hazards and subsurface environmental hazards to promote safe and responsible land use.
3. Serve as a repository of geologic samples and data for Utah.
4. Provide accurate and timely geologic, topographic, and energy information and advice to government, industry, educators, and the public.
5. Prepare, publish, and distribute maps and reports of the geology of the state.
6. Provide access to federal assistance for energy efficiency, energy conservation, and renewable energy projects/programs.

UGS PROGRAMS

The Utah Geological Survey (UGS) is organized into eight programs. Six are technical programs and include: (1) Geologic Hazards, (2) Mapping Geology, (3) Energy and Mineral Resources, (4) Ground Water & Paleontology, (5) Geologic Information and Outreach, and (6) the State Energy Program (SEP). The other two are support programs and include: (1) Technical Services and (2) Administration. Objectives and strategies for each program that help the UGS achieve its mission and goals are presented below. Performance measures shown for objectives reflect best estimates of UGS staffing for fiscal year 2007 (FY 07). Output results are shown for FY 07 and the four previous fiscal years. Note that input data for the six technical programs do not include inputs from the two support programs, which are shown separately. Also note that the state general appropriation supports less than half of the division's objectives. The remaining funding comes from federal and local grants, dedicated credits, and mineral-lease royalties on federal lands.

GEOLOGIC HAZARDS PROGRAM

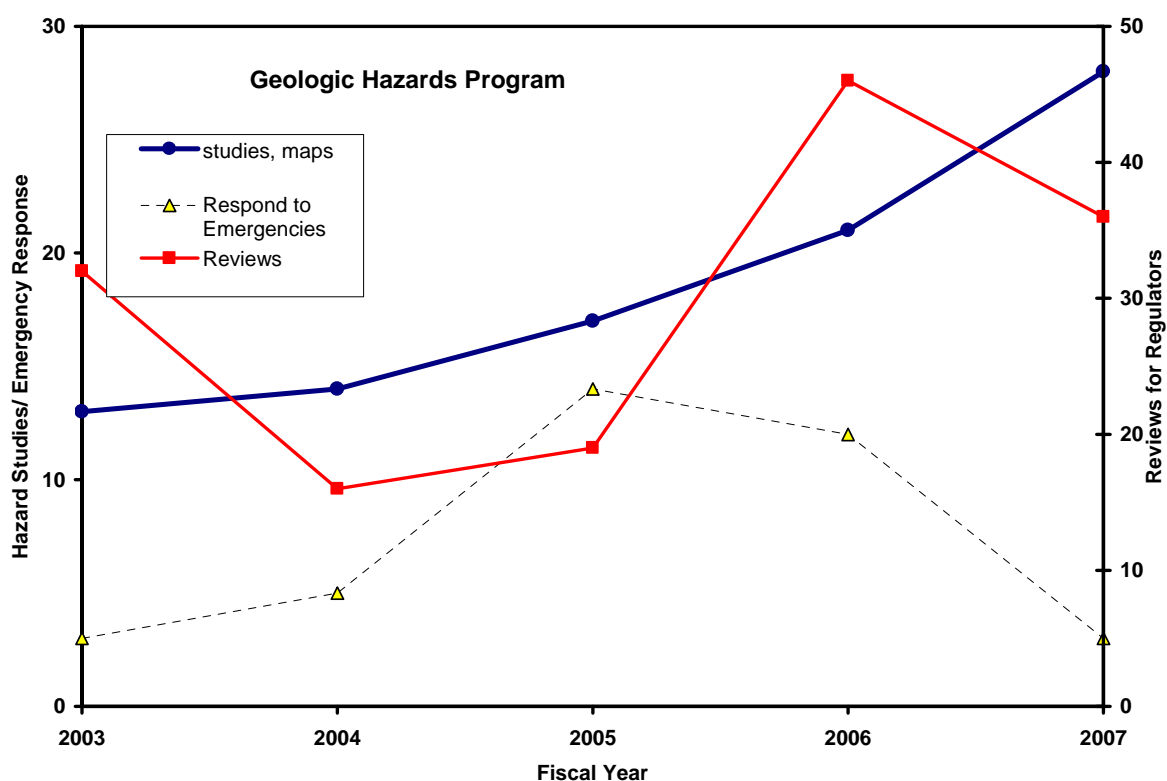
The Geologic Hazards Program helps protect the health and safety of Utah citizens by identifying, evaluating, and reporting on geologic hazards (such as earthquakes, landslides, debris flows, rock falls, unstable ground). The objectives and strategies of this program support UGS Goals 2, 3, 4, and 5.

Objectives: Improve the geologic safety of essential public facilities and proposed development; improve understanding of geologic hazards to minimize adverse interaction between human activities and the geologic environment; respond to geologic-hazards emergencies.

Inputs (FY-07): 1 geological program manager, 7 geologists, ½ geological technician, 1 GIS analyst, ½ secretary

Strategies & Outputs:

	Fiscal Year				
	'03	'04	'05	'06	'07
Review Geologic Reports for Regulators:	32	16	19	46	36
Perform Geologic Hazards Studies/Map Hazards:	13	14	17	21	28
Respond to Geologic Hazards Emergencies:	3	5	14	12	3



MAPPING GEOLOGY PROGRAM

The Mapping Geology Program maps the geology of the state at various scales. Accurate geologic maps are the basis for all other types of geologic studies and resource evaluations. Mapping priorities are established by a 14-member panel of geologic-map users outside the UGS who represent several federal and state agencies, universities, school trust lands, and other public geologic organizations. Geologic mapping is a multi-disciplinary activity; therefore, the objectives and strategies of the Mapping Geology Program support all six UGS goals.

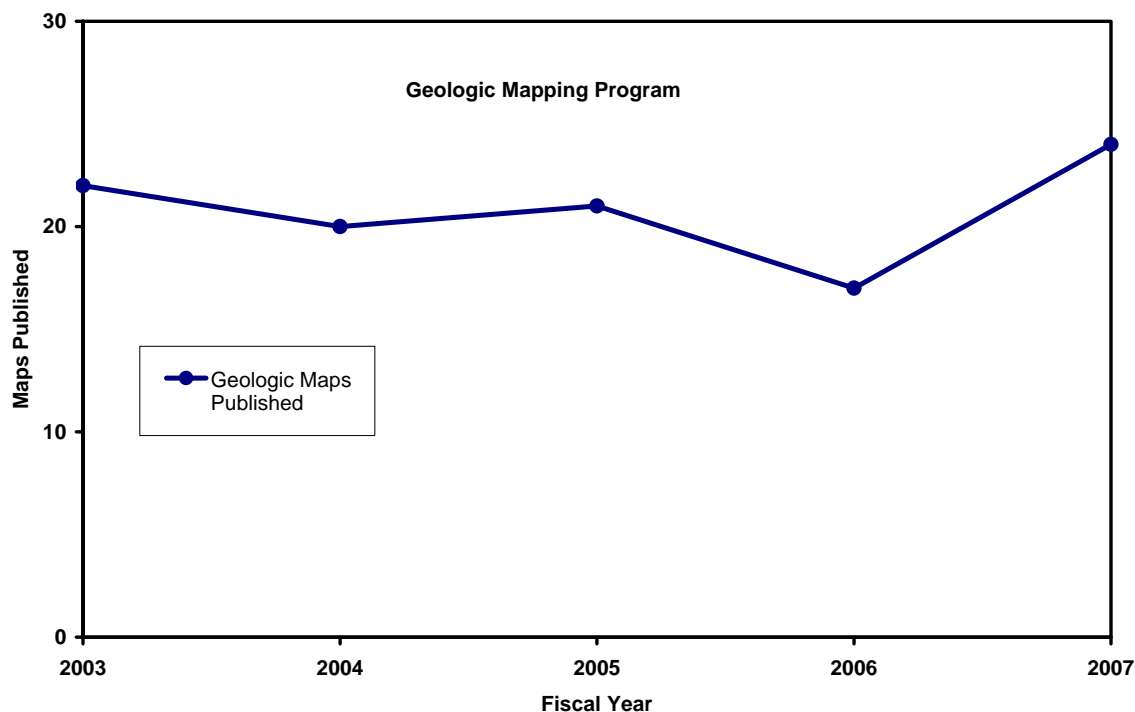
Objectives: Provide customers with multi-use geologic information on Utah's 1:24,000-scale quadrangle maps (1,512 total, complete mapping of all quadrangles by the year 2150); Provide customers with multi-use geologic information on Utah's 100,000-scale quadrangle maps (46 total, complete all quadrangles by the year 2015).

Inputs (FY-07): 1 geological program manager, 6 geologists, 3 GIS analysts, ½ secretary

Strategy & Outputs:

Fiscal Year				
'03	'04	'05	'06	'07

Number of Geologic Maps Published:	22	20	21	17	24
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ENERGY AND MINERALS PROGRAM

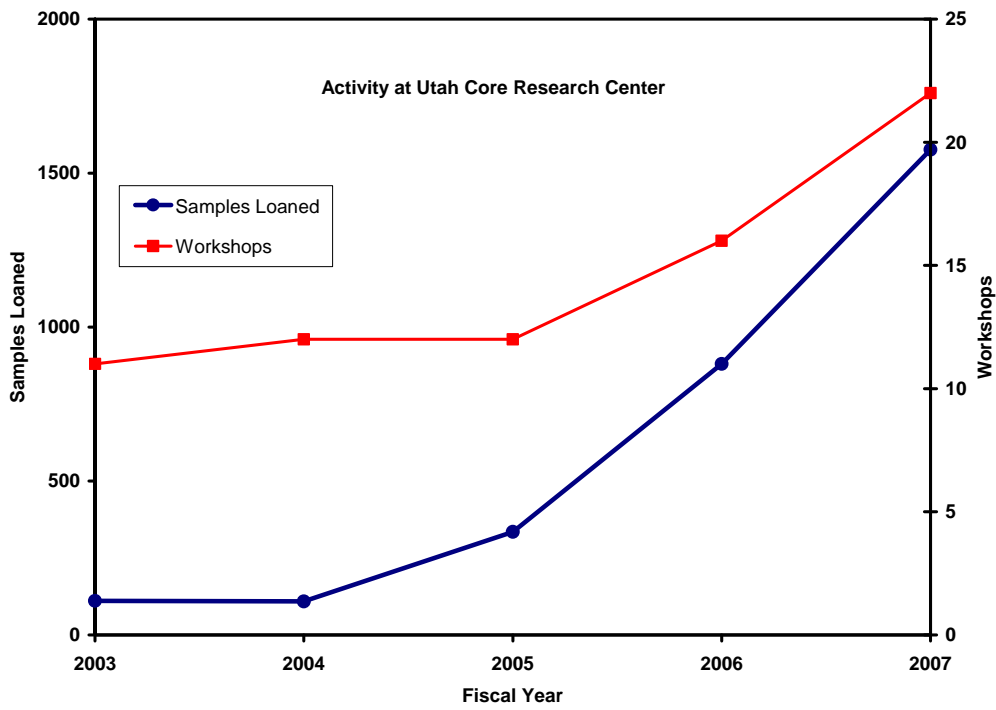
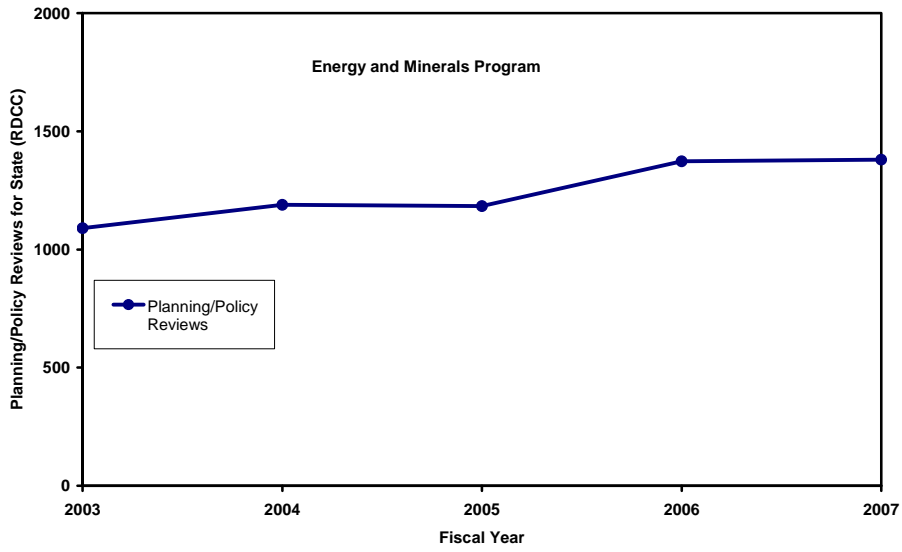
The Energy and Minerals Program investigates and reports on the energy (oil, gas, coal, uranium) and mineral resources of Utah. The objectives and strategies for this program support UGS Goals 1, 3, 4, 5, and 6.

Objectives: Characterize the energy and mineral resources of Utah; publish reports and present results to government, industry, and to the public; maintain, update, and improve accessibility to databases and a Core Research Center (CRC) to facilitate research and development of Utah’s energy and mineral resources; provide various industry, government, education, and other customers with up-to-date and comprehensive information on Utah’s energy and mineral deposits.

Inputs (FY-07): 1 geological program manager, 2 section chiefs, 9 geologists, 2 geological technicians, 1 warehouse worker, 1 GIS analyst, 1 secretary, 1 office specialist

Strategies and Outputs:

	Fiscal Year				
	<u>'03</u>	<u>'04</u>	<u>'05</u>	<u>'06</u>	<u>'07</u>
Planning/Policy Issues Reviewed for the State (RDCC):	1090	1189	1183	1373	1380
Federal Grant Projects / Reports to Federal Agencies:	11/24	13/25	13/27	12/30	6/24
XRF Mineral and Coal Petrographic Samples Analyzed:	1943	1393	139	135	163
Core Research Center Workshops / Samples Loaned:	11/111	12/109	12/335	16/880	22/1576



GROUND WATER & PALEONTOLOGY PROGRAM

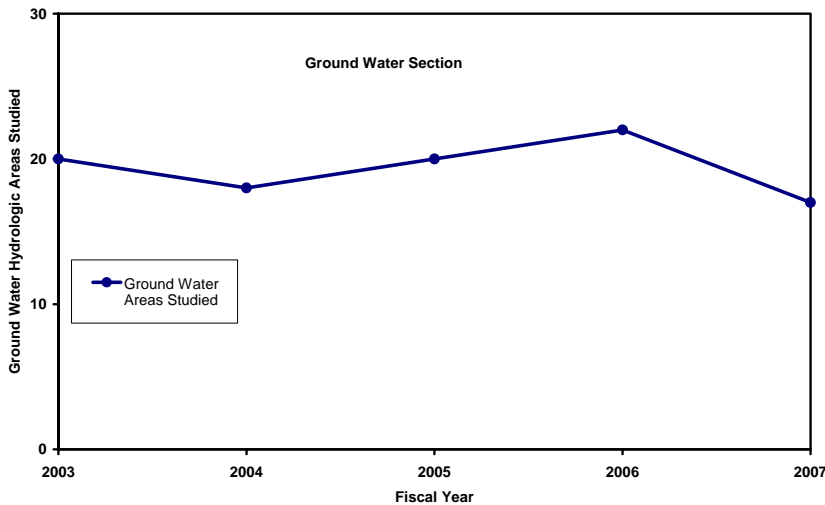
The Ground Water & Paleontology Program evaluates the quantity and quality of Utah's ground-water resources; and helps identify, protect, and preserve Utah's fossil resources through public outreach programs and through inventory and recovery projects that reconcile preservation and development needs. This program supports UGS Goals 1 through 5.

Objectives: Perform studies to assess and map the quantity and/or quality of ground-water resources; permit fossil-excavation projects, and recover or inventory critically important fossil resources.

Inputs (FY-07): 1 geological program manager, 11 geologists, 2 geological technicians/paleontological assistants, 1/2 secretary

Strategies & Outputs:

	Fiscal Year				
	<u>'03</u>	<u>'04</u>	<u>'05</u>	<u>'06</u>	<u>'07</u>
Number of Ground Water Hydrogeologic Areas Studied:	20	18	20	22	17
Active paleontological permits tracked / recoveries & inventories conducted	16/3	13/3	15/5	15/6	22/17



STATE ENERGY PROGRAM

The State Energy Program provides energy information, program support, and access to federal funding for energy efficiency, energy conservation, and renewable energy initiatives in Utah. The objectives and strategies of the State Energy Program support UGS Goals 1, 4, and 6.

Objectives: Increase the implementation of energy efficiency and conservation measures and spur the development of renewable energy resources in Utah; help assess Utah’s wind energy resource potential by providing an anemometer loan program that includes timely rotation of 13 20-meter and eight 50-meter meteorological towers throughout the state; maintain publicly accessible database of anemometer data; provide citizens and businesses with timely and accurate energy market data; increase the utilization of federal-assistance programs and support for energy efficiency, energy conservation, and renewable energy initiatives in Utah.

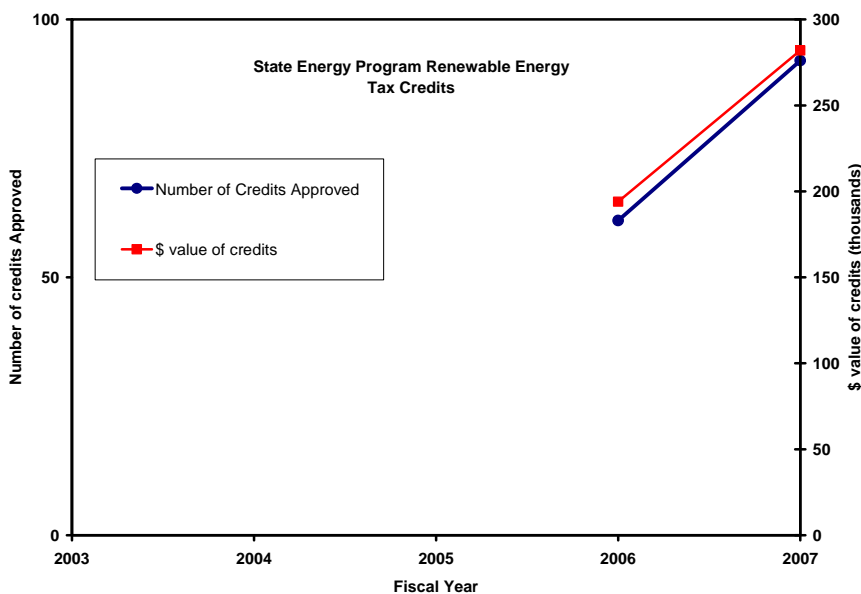
Inputs (FY-07): 1 program leader, 1 partner coordinator, 1 renewable energy coordinator, 0.25 geologist/energy database specialist

Strategies & Outputs:

Fiscal Year
'06* '07

Anemometers installed/monitored:	14/20	11/30
Grant awards in Utah distributed (number of awards/award in thousands of dollars):	5/200	12/169
Renewable Energy Systems Tax Credits approved (number/credits in thousands of dollars):	61/194	92/282

*Program legislatively established in UGS in FY-06.



GEOLOGIC INFORMATION AND OUTREACH

The Geologic Information and Outreach Program (GIO) answers geologic inquiries, performs outreach by providing access to and promoting the use of geologic information of Utah. The GIO manages the UGS Web Site, Natural Resources Map & Bookstore, and the Department of Natural Resources Library. The GIO also prepares publications for non-technical users of UGS information. The objectives and strategies of the Geologic Information and Outreach Program support UGS Goals 3, 4, and 5.

Objectives: Provide customers a "one-stop" shopping and reference service for Utah natural resources information, including hard-copy and Web-available publications, and geologic and topographic maps; provide geologic information to the public, industry, educators, governments, and others through an outreach program.

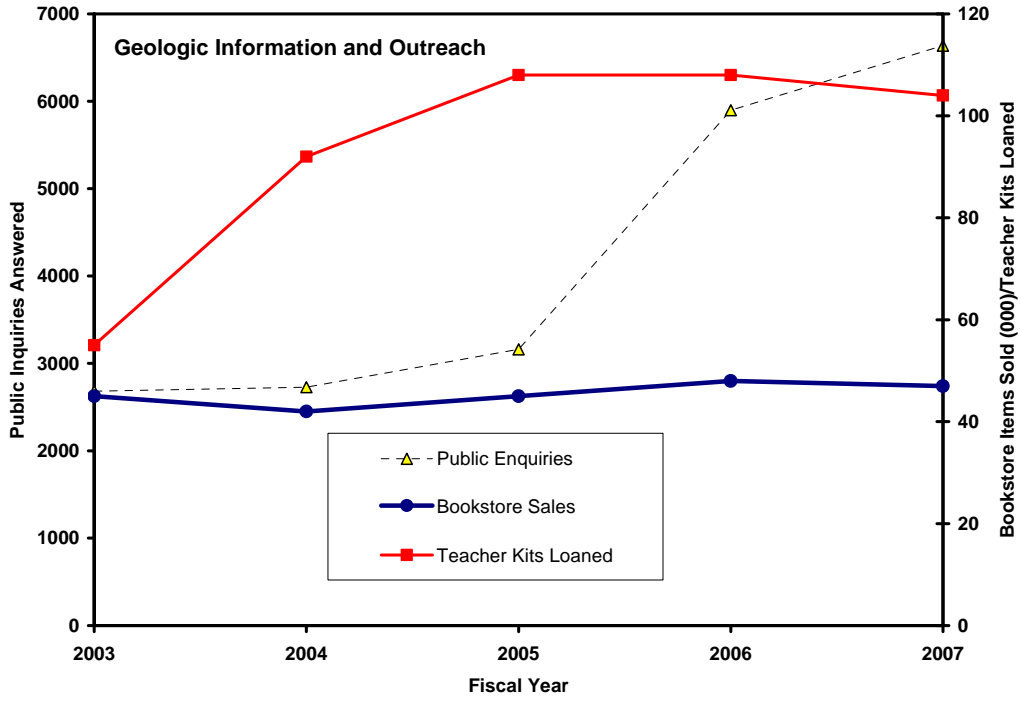
Inputs (FY-07): 1 geological program manager, 4 geologists, 1 geological technician, 1 librarian, 1 bookstore manager, 2 accounting technicians

Strategies & Outputs:

	Fiscal Year				
	<u>'03</u>	<u>'04</u>	<u>'05</u>	<u>'06</u>	<u>'07</u>
Number of library patrons:	2680	2433	3078	2370	3041
Cost of Operating Library (in thousands of dollars):	46	45	64	69	68
Web Site Visitor Sessions (in thousands):	533	536	400 ¹	460	531
Number of Web Pages on UGS Web Site:	1279	1492	1596	884 ²	931
Cost of Operating Web Site (in thousands of dollars):	32	34	36	40	43
Number of Public Inquiries Answered: (telephone, walk-in, e-mail)	2683	2727	3161	5898	6637
Number of Bookstore Items Sold (in thousands):	45	42	45	48	47
Cost of Operating DNR Bookstore (revenue neutral) (in thousands of dollars):	309	311	304	301	296
Number of Teachers Using UGS Geology Kits:	55	92	108	108	104
Number of Participants in Earth Science Week	670	940	950	570	600

¹ Data incomplete due to mid-year software changes.

² Due to search-engine limitations, the UGS counts only html pages, no longer pdfs, texts, excels, or power-point pages on the Web, which continue to increase.



TECHNICAL SERVICES

The Technical Services Program consists of the Editorial Section, which prepares reports and maps for UGS publications. This program supports all six Goals of the UGS.

Objectives: Publish high-quality maps, books, reports, and related materials in a timely and cost-effective manner; provide editorial services for geologic reports produced by UGS geologists for outside publications.

Inputs (FY-07): 1 geologic publications editor, 2 cartographers, 2 graphic design specialists

Strategies & Outputs:

	Fiscal Year				
	'03	'04	'05	'06	'07
Number of Geologic Publications:	99	91	120	120	146

ADMINISTRATION

Administration provides division-wide leadership, strategic planning, financial management, and handles the day-to-day operational functions of the UGS as an agency. Administration activities support all six UGS goals.

Objective: Provide overall UGS direction and agency coordination, ensuring the UGS meets state code requirements and fiscal responsibilities.

Inputs (FY-06) 1 director, 1 deputy director, 1 associate director, 1 financial analyst, 1 accounting technician, 1 technical reviewer, 1 administrative secretary, 1 receptionist

Strategies: Establish strategic directions, policies, procedures, programs, and standards for the efficient and successful operation of the UGS. Provide payroll, personnel, accounting, contract management, technical review, purchasing, and record-keeping support for the division. Prepare, present, and monitor the UGS budget.

Outputs: Paperwork, meetings, policy statements, technical reviews, paid bills, paychecks, a budget, fiscal year-end closing, a strategic plan, revenue generation/invoicing, and other administrative business.

Appendix 4: State Code References to the UGS

Included below are all references to the UGS in State Code Annotated, and in the Utah Administrative Code (Rules). Note that three bills passed by the Utah Legislature in 2007 affected the UGS, and they are included at the end of this section. There has not been time for the code to be updated. These three bills address the following:

- A change in formula of part of the Mineral Lease allocation (exchanged lands revenue from SITLA will no longer be called Mineral Lease revenue, and a some additional funds will be added to the UGS from this source for west desert ground-water monitoring for two years).
- The establishment of a revolving fund of \$5 million for low interest loans for energy efficiency improvements in schools to be administered by the SEP.
- Renewal of the renewable energy tax credits administered by the SEP. This bill refers to some existing code which is also given below.

1. State Code Defining the Utah Geological Survey and its Role

63-73-1. Definitions

As used in this chapter:

- (1) "Agency" means a department, division, office, bureau, board, commission, or other administrative unit of the state.
- (2) "Board" means the Board of the Utah Geological Survey.
- (3) "Collection" means a specimen and the associated records documenting the specimen and its recovery.
- (4) "Critical paleontological resources" means vertebrate fossils and other exceptional fossils that are designated state paleontological landmarks as provided for in Section **63-73-16**.
- (5) "Curation" means management and care of collections according to standard professional museum practice, which may include inventorying, accessioning, labeling, cataloging, identifying, evaluating, documenting, storing, maintaining, periodically inspecting, cleaning, stabilizing, conserving, exhibiting, exchanging, or otherwise disposing of original collections or reproductions, and providing access to and facilities for studying collections.
- (6) "Curation facility" is defined as provided in Section **53B-17-603**.
- (7) "Department" means the Department of Natural Resources.
- (8) "Director" means the director of the Utah Geological Survey.
- (9) "Excavate" means the recovery of critical paleontological resources.
- (10) "Museum" means the Utah Museum of Natural History.
- (11) "Paleontological resources" means remains of prehistoric life pertaining to the natural history of the state.
- (12) "Repository" is defined as provided in Section **53B-17-603**.
- (13) "School and institutional land grants" means the transfer of properties pursuant to Sections 6 and 8 of the Utah Enabling Act and Utah Constitution Article XX.
- (14) "School and institutional trust lands" are those properties defined in Section **53C-1-103**.
- (15) "Site" means any paleontological deposit or other location that is the source of specimens.
- (16) "Specimen" means remains of a critical paleontological nature found on or below the surface of the earth.

- (17) "State Paleontological Register" means a register of paleontological sites and localities.
- (18) "Survey" means the Utah Geological Survey.

63-73-2. Board of Utah Geological Survey Created

- (1) There is created within the Department of Natural Resources the Board of the Utah Geological Survey.
- (2) The board is the policymaking body for the survey.

63-73-3. Members of Board -- Qualifications and Appointment -- Vacancies -- Organization -- Meetings -- Financial Gain Prohibited -- Expenses

- (1) The board consists of seven members appointed by the governor, with the consent of the Senate.
- (2) The members shall have the following qualifications:
 - (a) one member knowledgeable in the field of geology as applied to the practice of civil engineering;
 - (b) four members knowledgeable and representative of various segments of the mineral industry throughout the state, such as hydrocarbons, solid fuels, metals, and industrial minerals;
 - (c) one member knowledgeable of the economic or scientific interests of the mineral industry in the state; and
 - (d) one member who is interested in the goals of the survey and from the public at large.
- (3) The director of the School and Institutional Trust Lands Administration is an ex officio member of the board but without any voting privileges.
- (4)
 - (a) Except as required by Subsection (b), members are appointed for terms of four years.
 - (b) Notwithstanding the requirements of Subsection (a), the governor shall, at the time of appointment or reappointment, adjust the length of terms to ensure that the terms of board members are staggered so that approximately half of the board is appointed every two years.
 - (c) No more than four members may be of the same political party.
 - (d) When a vacancy occurs in the membership for any reason, the replacement shall be appointed for the unexpired term by the governor with the consent of the Senate.
- (5) The board shall select from its members a chair and such officers and committees as it considers necessary.
- (6)
 - (a) The board shall hold meetings at least quarterly on such dates as may be set by its chair.
 - (b) Special meetings may be held upon notice of the chair or by a majority of its members.
 - (c) A majority of the members of the board present at a meeting constitutes a quorum for the transaction of business.
- (7) Members of the board may not obtain financial gain by reason of information obtained during the course of their official duties.
- (8)
 - (a)
 - (i) Members who are not government employees shall receive no compensation or benefits for their services, but may receive per diem and expenses incurred in the performance of the member's official duties at the rates established by the Division of Finance under Sections **63A-3-106** and **63A-3-107**.
 - (ii) Members may decline to receive per diem and expenses for their service.
 - (b)
 - (i) State government officer and employee members who do not receive salary, per diem, or expenses from their agency for their service may receive per diem and expenses incurred in the performance of their official duties from the

board at the rates established by the Division of Finance under Sections **63A-3-106** and **63A-3-107**.

- (ii) State government officer and employee members may decline to receive per diem and expenses for their service.

63-73-4. Responsibilities of Board

The board has the following responsibilities:

- (1) establish and review policies, programs, and priorities;
- (2) review and recommend budgets;
- (3) assess the needs of the community with regard to development and use of geologic resources;
- (4) keep the director advised concerning survey policies; and
- (5) enact rules in accordance with Title 63, Chapter 46a, the Utah Administrative Rulemaking Act, that are necessary to carry out the purposes of this chapter.

63-73-5. Establishment of Survey Within the Department -- General Supervision of the Survey

The survey is established within the department under the administration and general supervision of the executive director of the department and under the policy direction of the board.

63-73-6. Powers and Duties of Survey

- (1) The survey shall:
 - (a) assist and advise state and local governmental agencies and state educational institutions on geologic, paleontologic, and mineralogic subjects;
 - (b) collect and distribute reliable information regarding the mineral industry and mineral resources, topography, paleontology, and geology of the state;
 - (c) survey the geology of the state, including mineral occurrences and the ores of metals, energy resources, industrial minerals and rocks, mineral-bearing waters, and surface and ground water resources, with special reference to their economic contents, values, uses, kind, and availability in order to facilitate their economic use;
 - (d) investigate the kind, amount, and availability of mineral substances contained in lands owned and controlled by the state, to contribute to the most effective and beneficial administration of these lands for the state;
 - (e) determine and investigate areas of geologic and topographic hazards that could affect the safety of, or cause economic loss to, the citizens of the state;
 - (f) assist local and state government agencies in their planning, zoning, and building regulation functions by publishing maps, delineating appropriately wide special earthquake risk areas, and, at the request of state agencies or other governmental agencies, review the siting of critical facilities;
 - (g) cooperate with state agencies, political subdivisions of the state, quasi-governmental agencies, federal agencies, schools of higher education, and others in fields of mutual concern, which may include field investigations and preparation, publication, and distribution of reports and maps;
 - (h) collect and preserve data pertaining to mineral resource exploration and development programs and construction activities, such as claim maps, location of drill holes, location of surface and underground workings, geologic plans and sections, drill logs, and assay and sample maps, including the maintenance of a sample library of cores and cuttings;

- (i) study and analyze other scientific, economic, or aesthetic problems as, in the judgment of the board, should be undertaken by the survey to serve the needs of the state and to support the development of natural resources and utilization of lands within the state;
- (j) prepare, publish, distribute, and sell maps, reports, and bulletins, embodying the work accomplished by the survey, directly or in collaboration with others, and collect and prepare exhibits of the geological and mineral resources of this state and interpret their significance;
- (k) collect, maintain, and preserve data and information in order to accomplish the purposes of this section and act as a repository for information concerning the geology of this state;
- (l) stimulate research, study, and activities in the field of paleontology;
- (m) mark, protect, and preserve critical paleontological sites;
- (n) collect, preserve, and administer critical paleontological specimens until they are placed in a repository or curation facility;
- (o) administer critical paleontological site excavation records;
- (p) edit and publish critical paleontological records and reports; and
- (q) by following the procedures and requirements of Title 63, Chapter 38e, Federal Funds Procedures, seek federal grants, loans, or participation in federal programs, and, in accordance with applicable federal program guidelines, administer federally funded state programs regarding:
 - (i) renewable energy;
 - (ii) energy efficiency; and
 - (iii) energy conservation.
- (2) (a) The survey may maintain as confidential, and not as a public record, information provided to the survey by any source.
- (b) The board shall adopt rules in order to determine whether to accept such information and to maintain the confidentiality of the accepted information.
- (c) The survey shall maintain information received from any source at the level of confidentiality assigned to it by the source.
- (3) Upon approval of the board, the survey shall undertake other activities consistent with Subsection (1).
- (4) (a) Subject to the authority granted to the department, the survey may enter into cooperative agreements with the entities specified in Subsection (1)(g), if approved by the board, and may accept or commit allocated or budgeted funds in connection with those agreements.
- (b) The survey may undertake joint projects with private entities if:
 - (i) the action is approved by the board;
 - (ii) the projects are not inconsistent with the state's objectives; and
 - (iii) the results of the projects are available to the public.

63-73-7. Director of Survey -- Designation as State Geologist -- Qualifications -- Duties and Authority

- (1) The director is the executive and administrative head of the survey and is designated the state geologist.
- (2) The director's qualifications shall include graduation from a recognized university and demonstrated competency in the science of geology and in administration.
- (3) The director administers the survey for the benefit of the public. A person may not call upon

or require the director or his associates to enter upon any special survey for the benefit of that person.

- (4) The director, subject to review by the board and approval by the executive director of the department, may initiate cooperative agreements with private companies or parties or state or federal agencies to carry out the provisions of this chapter.

63-73-8. Personnel of Survey -- Employment -- Restrictions -- Salaries and Benefits

- (1) The director, after consultation with the board and approval by the executive director of the department, shall select, employ, or contract for qualified individuals and services required to carry out the provisions of this chapter within the authorized programs and within the allocated and budgeted funds.
- (2) Persons retained on a contract basis act in the capacity of independent contractors and are not subject to the Utah State Personnel Management Act. Each contract written for these services shall specify this fact.
- (3) An employee of the survey may not have an interest in lands within the state which creates a conflict of interest harmful to the goals and objectives of the survey. An employee may not obtain financial gain by reason of information obtained through work as an employee of the survey. The board shall resolve questions regarding potential conflicts and financial gain. For permanent employees, this restriction is lifted at the end of a two-year period following termination of service or, with respect to information which is confidential and not a public record, for however long the information is classified as confidential and not a public record, whichever period of time is longer. Similar time periods, which can be modified only after publication of the data, apply to contractors or consultants employed on special problems.
- (4) A survey employee may not engage in outside or private work which is or can be in conflict with the operations, goals, and objectives of the survey. Situations in dispute that arise in this field are resolved by the board.
- (5) Survey personnel are paid in accordance with state salary schedules and are subject to state benefit and retirement programs. Survey employees under the University of Utah salary schedules and enrolled under the university's employee benefit and retirement programs have the option of remaining in the university's retirement system but are paid in accordance with state salary schedules.

63-73-9. Investigatory Powers and Immunities of Survey Personnel

- (1) Authorized survey personnel, after providing reasonable notification and identification, have the right to enter all lands subject to the police power of the state for the purpose of securing geologic, topographic, and mineral and water resource information or specimens and samples required by the survey in fulfillment of its objectives.
- (2) Survey personnel are immune from trespass while engaged on official business.

63-73-10. Disposition of Survey Income -- Sources of Funds

- (1) Income to the survey is deposited with the state treasurer and credited by the treasurer to the General Fund as a nonlapsing restrictive account for use by the survey.
- (2) In addition to those funds that are available to the survey under Subsection (1), the Legislature shall provide such funds by appropriation as are reasonably necessary to meet the requirements of the survey in the performance of its duties and obligations.

63-73-11. Protection of School and Institutional Trust Land Interests Relating to Paleontological Resources

- (1) The Legislature declares that the general public and beneficiaries of the school and institutional trust lands have an interest in the preservation and protection of the state's paleontological resources and a right to the knowledge derived and gained from the scientific study of those resources.
- (2) The Legislature finds that:
 - (a) policies and procedures for the excavation of critical paleontological resources from school and institutional trust lands are consistent with the provisions of the school and institutional land grants, if these policies and procedures insure that primary consideration is given, on a site or project specific basis, to the purpose of support for the beneficiaries of the school and institutional land grants;
 - (b) the preservation, placement in repository, curation, and exhibition of specimens found on school or institutional trust lands for scientific and educational purposes are consistent with the provisions of the school and institutional land grants;
 - (c) the preservation and development of sites found on school and institutional trust lands for scientific or educational purposes, or the disposition of sites found on school and institutional trust lands, after the appropriate level of data recovery, for preservation, development, or economic purposes, are consistent with the provisions of the school and institutional land grants; and
 - (d) the excavation, curation, study, and exhibition of the state's paleontological resources should be undertaken in a coordinated, professional, and organized manner for the general welfare of both the public and the beneficiaries.

63-73-12. Permit Required to Excavate Critical Paleontological Resources on State Lands -- Removal of Specimen or Site

- (1)
 - (a) Before excavating for critical paleontological resources on lands owned or controlled by the state or its subdivisions, except as provided in Section **63-73-13**, a person must obtain a permit from the survey.
 - (b) Application for a permit shall be made on a form furnished by the survey.
 - (c) The survey shall make rules for the issuance of permits specifying or requiring:
 - (i) the minimum permittee qualifications;
 - (ii) the duration of the permit;
 - (iii) proof of permission from the land owner that the permittee may enter the property for purposes specified in the permit;
 - (iv) research designs that provide for the maximum recovery of scientific, paleontological, and educational information, in addition to the physical recovery of specimens and the reporting of paleontological information meeting current standards of scientific rigor;
 - (v) the need, if any, to submit data obtained in the course of field investigations to the survey;
 - (vi) proof of consultation with the designated museum representative regarding curation of collections;
 - (vii) proof of consultation with other agencies that may manage other legal interests in the land; and
 - (viii) other information the survey considers necessary.
- (2) All paleontological work shall be carried out under the supervision of the director, or assigned

staff.

- (3) A person may not remove from the state, prior to placement in a repository or curation facility, a specimen, site, or portion of a specimen or site from lands owned or controlled by the state or its subdivisions, except as provided in Section **63-73-13**, without permission from the survey, and without prior consultation with the landowner or other agencies managing other interests in the land.

63-73-13. Permit Required to Excavate Critical Paleontological Resources on School and Institutional Trust Lands -- Removal of Specimen or Site

- (1) (a) Before excavating for critical paleontological resources on school or institutional trust lands, a person must obtain a permit from the School and Institutional Trust Lands Administration.
 - (b) The School and Institutional Trust Lands Administration may, by rule, delegate the authority to issue excavation permits for critical paleontological resources to the Utah Geological Survey.
 - (c) Application for a permit shall be made on a form furnished by the School and Institutional Trust Lands Administration.
 - (d) Prior to issuing a permit, the school and institutional trust lands administration shall consult with the survey director, or assigned staff, pursuant to Section **63-73-19**.
 - (e) The School and Institutional Trust Lands Administration shall enact rules for the issuance of permits specifying or requiring:
 - (i) the minimum permittee qualifications;
 - (ii) the duration of the permit;
 - (iii) the need, if any, to submit data obtained in the course of field investigations to the administration;
 - (iv) proof of consultation with the designated museum representative regarding curation of collections; and
 - (v) other information the School and Institutional Trust Lands Administration considers necessary.
- (2) A person may not remove from the state, prior to placement in a repository or curation facility, a specimen, site, or portion of a specimen or site from school and institutional trust lands without permission from the School and Institutional Trust Lands Administration, granted after consultation with the Utah Geological Survey.

63-73-14. Ownership of Collections and Resources

- (1) Collections recovered from lands owned or controlled by the state or its subdivisions, except as provided in Subsection (2), shall be owned by the state.
- (2) Collections recovered from school and institutional trust lands shall be owned by the respective trust.
- (3) Paleontological resources, other than critical paleontological resources, recovered from school and institutional trust lands, shall be owned by the respective trust and shall be managed pursuant to statutory authority of the School and Institutional Trust Lands Administration.
- (4) The repository or curation facility for collections from lands owned or controlled by the state or its subdivisions shall be designated pursuant to Section **53B-17-603**.
- (5) Specimens found on lands owned or controlled by the state or its subdivisions may not be sold.

63-73-14. Revocation or Suspension of Permits -- Criminal Penalties

- (1) A permitting agency under Section **63-73-12** or **63-73-13** may revoke or suspend a permit if the permittee fails to conduct the excavation pursuant to the law, the rules enacted by the permitting agency, or permit provisions.
- (2)
 - (a) A person violating any provision of Section **63-73-12** or **63-73-13** is guilty of a class B misdemeanor.
 - (b) A person convicted of violating any provision of Section **63-73-12** or **63-73-13**, or the rules promulgated by the Utah Geological Survey or the School and Institutional Trust Lands Administration under those sections, shall forfeit to the state or the respective trust all paleontological resources discovered by or through the person's efforts, in addition to any penalties imposed.

63-73-16. Paleontological Landmarks

- (1)
 - (a) Sites of significance or sites with exceptional fossils may be recommended to and approved by the board as state paleontological landmarks.
 - (b) No privately owned site or site on school or institutional trust lands may be so designated without the written consent of the owner or the trust.
- (2) A person may not excavate on a privately owned designated landmark without a permit from the survey.
- (3) Before an alteration is commenced on a designated landmark, three months notice of intent to alter the site shall be given the survey.

63-73-17. Report of Discovery on State or Private Lands

- (1) A person who discovers any paleontological resources on privately owned lands or on lands owned or controlled by the state or its subdivisions shall promptly report the discovery to the survey.
- (2) Field investigations shall be discouraged except in accordance with this chapter.
- (3) Nothing in this section may be construed to authorize a person to excavate for paleontological resources.

63-73-18. State Paleontological Register -- Survey Duties

- (1) The survey shall establish a state paleontological register for the orderly identification and recognition of the state's paleontological resources.
- (2) The board shall notify owners of sites and localities before placing those sites or localities on the State Paleontological Register.

63-73-19. Agency Responsibilities -- Allowing Director Reasonable Opportunity to Comment

- (1) Before expending state funds or approving an undertaking, each state agency shall:
 - (a) take into account the effect of the undertaking on a specimen that is included in or eligible for inclusion in the State Paleontological Register; and
 - (b) allow the director or assigned staff a reasonable opportunity to comment regarding the undertaking or expenditure.
- (2) The director or assigned staff shall advise on ways to maximize the amount of scientific, paleontological, and educational information recovered, in addition to the physical recovery of specimens and the reporting of paleontological information, at current standards of scientific rigor.

63-73-20. Curriculum and Materials for the Training of Volunteers Who Assist Paleontologists

- (1) The survey shall develop a curriculum and materials for the training of volunteers who assist paleontologists in the field and laboratory.
- (2) A qualified employee of the survey shall be appointed by the survey director to develop the curriculum and materials under this section.
- (3) The survey may request input and assistance from any interested organization in developing the curriculum and materials.
- (4) The survey may collect fees to cover the costs of the materials and updating of the curriculum.

63-73-21. Utah Geological Survey Sample Library Fund

- (1) There is created a restricted special revenue fund known as the "Utah Geological Survey Sample Library Fund."
- (2) The fund consists of monies from the following revenue sources:
 - (a) donations or contributions from individuals, companies, organizations, or government entities; and
 - (b) interest generated by the fund.
- (3) The director shall administer the fund.
- (4)
 - (a) Donations and other contributions to the fund and unallocated interest as provided in Subsection (5)(d) shall constitute the fund's principal.
 - (b) The principal may be expended only with the concurrence of the board.
- (5)
 - (a) Interest generated by the fund may be expended to support the sample library as provided in Subsections (5)(b) through (d).
 - (b) For the first two years of the fund's existence, interest generated by the fund shall accrue to the fund and may not be expended.
 - (c) After two years, an amount of money equal to or less than the interest generated by the fund in the previous fiscal year may be expended annually in support of the sample library.
 - (d) Funds that are eligible to be spent, but remain unallocated at the end of any fiscal year, revert to the fund and become part of the fund's principle.

2. State Code Referring to State Geologist Position on DOPL Geology Board

58-76-201. Board

- (1) There is created the Professional Geologist Licensing Board consisting of five members as follows:
 - (a) three professional geologists;
 - (b) *the Utah state geologist*; and
 - (c) one member representing the general public.
- (2) Except for the *Utah state geologist*, the board shall be appointed and serve in accordance with Section 58-1-201.
- (3) The duties and responsibilities of the board are in accordance with Sections 58-1-202 and 58-1-203, and the board shall also:
 - (ii) designate one of its members on a permanent or rotating basis to assist the division in reviewing complaints concerning the unlawful or unprofessional conduct of professional geologists; and
 - (b) advise the division in its investigation of these complaints.

- (4) A board member who has, under Subsection (3), reviewed a complaint or advised in its investigation may be disqualified from participating with the board when the board serves as a presiding officer in an adjudicative proceeding concerning the complaint.

3. State Code Referring to UGS Director and UGS Staff Support Role in Utah Seismic Safety Commission

63C-6-101. Creation of Commission -- Membership -- Appointment -- Vacancies

- (1) There is created the Utah Seismic Safety Commission consisting of 15 members, designated as follows:
 - (a) the director of the Division of Emergency Services and Homeland Security or his designee;
 - (b) the director of the Utah Geological Survey or his designee;
 - (c) the director of the University of Utah Seismograph Stations or his designee;
 - (d) the executive director of the Utah League of Cities and Towns or his designee;
 - (e) a representative from the Structural Engineers Association of Utah biannually selected by its membership;
 - (f) the director of the Division of Facilities and Construction Management or his designee;
 - (g) the executive director of the Department of Transportation or his designee;
 - (h) the State Planning Coordinator or his designee;
 - (i) a representative from the American Institute of Architects, Utah Section;
 - (j) a representative from the American Society of Civil Engineers, Utah Section;
 - (k) a member of the House of Representatives appointed biannually by the speaker of the House;
 - (l) a member of the Senate appointed biannually by the president of the Senate;
 - (m) the commissioner of the Department of Insurance or his designee;
 - (n) a representative from the Association of Contingency Planners, Utah Chapter, Biannually selected by its membership; and
 - (o) a representative from the American Public Works Association, Utah Chapter, biannually selected by its membership.
- (2) The commission shall annually select one of its members to serve as chair of the commission.
- (3) When a vacancy occurs in the membership for any reason, the replacement shall be appointed for the unexpired term.

63C-6-104. Staffing and Appropriated Funds

- (1) Staff support to the commission shall be provided by the Division of Emergency Services and Homeland Security and the Utah Geological Survey.
- (2) Monies not expended by the Utah Seismic Safety Commission during a fiscal year are nonlapsing except that any balance of General Fund monies greater than \$10,000 lapses to the General Fund.

4. State Code Referring to Mineral Lease Funds

59-21-1. Disposition of Federal Mineral Lease Monies - Priority to Political Subdivisions Impacted by Mineral Development - Disposition of Mineral Bonus Payments - Appropriation of Monies Attributable to Royalties from Extraction of Minerals on Federal Land Located Within Boundaries of Grand Staircase-Escalante National Monument.

- (f) The Legislature shall annually appropriate 2.25% of the monies described in Subsection (4)(b) to the Utah Geological Survey to facilitate the development of energy and mineral resources in counties that are:
 - (i) socially or economically impacted by the development of minerals under the Mineral Lands Leasing Act; and
 - (ii) located within the boundaries of the Grand Staircase-Escalante National Monument.
- (g) Seventeen and three-fourths percent of the monies described in Subsection (4)(b) shall be deposited annually into the State School Fund established by Utah Constitution [Article X, Section 5](#).

59-21-2. Definitions - Mineral Bonus Account Created - Contents - Use of Mineral Bonus Account Money - Mineral Lease Account Created - Contents - Appropriation of Monies From Mineral Lease Account

- (3) (a) The Mineral Lease Account is created within the General Fund.
- (b) The Mineral Lease Account consists of:
 - (i) federal mineral lease money deposited pursuant to [Subsection 59-21-1\(1\)](#); and rentals and royalties from the lease of the following deposited pursuant to [Section 53C-3-202](#):
 - (A) minerals on acquired lands; or
 - (B) acquired mineral interests.
- (c) The Legislature shall make appropriations from the Mineral Lease Account as provided in [Subsection 59-21-1\(1\)](#) and this Subsection (3).
- (f) The Legislature shall annually appropriate 2.25% of all deposits made to the Mineral Lease Account to the Utah Geological Survey, to be used for activities carried on by the survey having as a purpose the development and exploitation of natural resources in the state.

53C-3-203. Land Exchange Distribution Account.

- (1) As used in this section, "account" means the Land Exchange Distribution Account created in Subsection (2)(a).
- (2) (a) There is created within the General Fund a restricted account known as the Land Exchange Distribution Account.
- (b) The account shall consist of all revenue deposited in the account as required by Subsections [53C-3-202\(2\)\(a\)\(ii\)](#) and (2)(b)(ii).
- (3) For fiscal years beginning on or after fiscal year 2007-08, because the revenue is not derived from taxes, the Legislature shall annually appropriate from the account:
 - (a) 55% of all deposits made to the account to counties in amounts proportionate to the amounts of mineral revenue generated from the acquired land, exchanged land,

- acquired mineral interests, or exchanged mineral interests located in each county, to be used to mitigate the impacts caused by mineral development;
- (b) 25% of all deposits made to the account to counties in amounts proportionate to the total surface and mineral acreage within each county that was conveyed to the United States under the agreement or an exchange, to be used to mitigate the loss of mineral development opportunities resulting from the agreement or exchange;
 - (c) 1.68% of all deposits made to the account to the State Board of Education, to be used for education research and experimentation in the use of staff and facilities designed to improve the quality of education in Utah;
 - (d) 1.66% of all deposits made to the account to the Geological Survey, to be used for natural resources development in the state;
 - (e) 1.66% of all deposits made to the account to the Water Research Laboratory at Utah State University, to be used for water development in the state; and
 - (f) 7.5% of all deposits made to the account to the Constitutional Defense Restricted Account created in Section [63C-4-103](#).
- (4) For fiscal years 2007-08 and 2008-09, the Legislature shall annually appropriate from the account 7.5% of all deposits made to the account to the Geological Survey, to be used for test wells and other hydrologic studies in the West Desert.
 - (5) For fiscal years beginning on or after fiscal year 2009-10, the Legislature shall annually appropriate from the account 7.5% of all deposits made to the account to the Permanent Community Impact Fund created in Section [9-4-303](#), to be used for grants to political subdivisions of the state to mitigate the impacts resulting from the development or use of school and institutional trust lands.

5. Code Reference to UGS Within Dept. Natural Resources

63-34-1. Short Title

Statute text

This act shall be known and may be cited as the "Utah Natural Resources Act."

63-34-3. Department of Natural Resources Created - Boards, Councils, and Divisions Within Department

Statute text

- (1) There is created within state government the Department of Natural Resources.
- (2) The Department of Natural Resources comprises the following boards, councils, and divisions:
 - (g) Board of the Utah Geological Survey;

The 1996 amendment, effective July 1, 1996, in the introductory language of Subsection (2) deleted "There is created within" at the beginning and inserted "comprises"; substituted "Forestry, Fire and State Lands Advisory Council" for "Sovereign Lands Advisory Council" in Subsection (2)(b); substituted "Board of the Utah Geological Survey" for "Board of Geological Survey" in Subsection (2)(g); and substituted "Division of Forestry, Fire and State Lands" for "Division of Sovereign Lands and Forestry" in Subsection (2)(k).

63-34-5. Executive Director of Department of Natural Resources - Appointment - Removal - Compensation - Responsibilities - Department Fee Schedule [Effective Until Execution and Funding of Settlement Agreement; See Notes].

Statute text

- (2) The executive director shall:
 - (a) administer and supervise the Department of Natural Resources and provide for coordination and cooperation among the boards, divisions, and offices of the department;
 - (b) approve the budget of each board and division;

6. UGS Role in Resource Development Coordinating Committee

63-38d-501. Creation

Statute text

There is created the Resource Development Coordinating Committee within the Governor's Office of Planning and Budget to:

- (1) assist the state planning coordinator in fulfilling the responsibilities of reviewing and coordinating technical and policy actions that may affect the physical resources of the state; and
- (2) facilitate the exchange of information on those actions among state agencies and other levels of government.

63-38d-502. Membership - Terms - Chair - Expenses

Statute text

- (1) The Resource Development Coordinating Committee shall consist of the following 25 members:
 - (s) a representative from the Utah Geological Survey appointed by the director

7. Repeal Dates

63-55-263. Repeal dates, Titles 63 and 63A

The 1996 amendment by ch. 136, effective April 29, 1996, in Subsection (4)(c), substituted "Sovereign Lands Advisory Council" for "Board of State Lands and Forestry"; in Subsections (4)(h) and (4)(n) substituted " Utah Geological Survey " for "Geological Survey"; deleted former Subsection (4)(h) citing the statute reference and repeal date of the Great Salt Lake Advisory Council; added Subsection (8); and redesignated the other subsections accordingly.

8. State Code References to State Energy Program Activities

Revolving Loan Fund

53A-20c-102. Energy Efficiency Fund -- Contents -- Use of Fund Monies

- (1) As used in this section:
 - (a) "Board" means the Board of the Utah Geological Survey.
 - (b) "Energy code" means the energy efficiency code adopted by the Division of Occupational and Professional Licensing under Section 58-56-4.
 - (c) "Energy efficiency project" means:
 - (i) for existing buildings, a retrofit to improve energy efficiency; or
 - (ii) for new buildings, an enhancement to improve energy efficiency beyond the minimum required by the energy code.
 - (d) "Fund" means the Energy Efficiency Fund created by this part.
- (2) There is created a revolving loan fund known as the Energy Efficiency Fund.
- (3) The fund shall consist of:
 - (a) monies appropriated to it by the Legislature;
 - (b) monies received for the repayment of loans made from the fund;
 - (c) monies made available to the state for energy efficiency from any source; and

- (d) interest earned on the fund.
- (4) (a) The board shall make loans from the fund only to school districts to finance energy efficiency projects in school district buildings, including paying the costs of construction, engineering, investigation, inspection, and other related expenses.
- (b) The board may not:
 - (i) make loans from the fund to finance a school district's compliance with the energy code in the construction of a new building;
 - (ii) make a loan from the fund with a term of less than two years or more than 12 years; or
 - (iii) make loans from the fund to any entity other than a school district.
- (5) (a) (i) Each school district seeking a loan shall submit an application to the board in the form and containing the information that the board requires, which shall include the plans and specifications for the proposed energy efficiency project.
- (ii) In the application, the school district may request a loan to cover all or part of the cost of an energy efficiency project.
- (b) If an application is rejected, the board shall notify the applicant stating the reasons for the rejection.
- (6) (a) By following the procedures and requirements of Title 63, Chapter 46a, Utah Administrative Rulemaking Act, the board shall make rules establishing criteria for:
 - (i) determining eligibility for loans; and
 - (ii) determining appropriate priorities among projects.
- (b) In making rules governing determining priorities for eligible projects, the board may consider:
 - (i) possible additional sources of revenue;
 - (ii) the feasibility and practicality of the project;
 - (iii) the energy savings attributable to an eligible energy efficiency project;
 - (iv) the annual energy cost savings attributable to an eligible energy efficiency project;
 - (v) the projected energy cost payback of an eligible energy efficiency project;
 - (vi) the financial need of the public facility owner;
 - (vii) the environmental and other benefits to the state and local community attributable to an eligible energy efficiency project; and
 - (viii) the availability of federal funds for the project.
- (7) (a) In approving a project, the board shall:
 - (i) review the loan application and the plans and specifications for the project;
 - (ii) determine whether or not to grant the loan by applying its eligibility criteria; and
 - (iii) if the loan is granted, prioritize the project by applying its priority criteria.
- (b) The board may condition approval of a loan request and the availability of funds on assurances from the school district that the board considers necessary to ensure that:
 - (i) the proceeds of the loan will be used to pay the cost of the project; and
 - (ii) the project will be completed.
- (8) Employees of the state energy program shall serve as staff to the board when it performs the duties established in this section.

59-7-614. Renewable Energy Systems Tax Credit -- Definitions -- Limitations -- State Tax Credit in Addition to Allowable Federal Credits -- Certification -- Rulemaking authority.

- (1) As used in this section:
 - (a) "Active solar system":
 - (i) means a system of equipment capable of collecting and converting incident solar radiation into thermal, mechanical, or electrical energy, and transferring these forms of energy by a separate apparatus to storage or to the point of use; and
 - (iii) includes water heating, space heating or cooling, and electrical or mechanical energy generation.

- (b) "Biomass system" means any system of apparatus and equipment for use in converting material into biomass energy, as defined in Section **59-12-102**, and transporting that energy by separate apparatus to the point of use or storage.
- (c) "Business entity" means any sole proprietorship, estate, trust, partnership, association, corporation, cooperative, or other entity under which business is conducted or transacted.
- (c) "Commercial energy system" means any active solar, passive solar, geothermal electricity, direct-use geothermal, geothermal heat-pump system, wind, hydroenergy, or biomass system used to supply energy to a commercial unit or as a commercial enterprise.
- (d) "Commercial enterprise" means a business entity whose purpose is to produce electrical, mechanical, or thermal energy for sale from a commercial energy system.
- (f) (i) "Commercial unit" means any building or structure that a business entity uses to transact its business.
 - (ii) Notwithstanding Subsection (1)(f)(i):
 - (A) in the case of an active solar system used for agricultural water pumping or a wind system, each individual energy generating device shall be a commercial unit; and
 - (B) if an energy system is the building or structure that a business entity uses to transact its business, a commercial unit is the complete energy system itself.
- (g) "Direct-use geothermal system" means a system of apparatus and equipment enabling the direct use of thermal energy, generally between 100 and 300 degrees Fahrenheit, that is contained in the earth to meet energy needs, including heating a building, an industrial process, and aquaculture.
- (h) "Geothermal electricity" means energy contained in heat that continuously flows outward from the earth that is used as a sole source of energy to produce electricity.
- (i) "Geothermal heat-pump system" means a system of apparatus and equipment enabling the use of thermal properties contained in the earth at temperatures well below 100 degrees Fahrenheit to help meet heating and cooling needs of a structure.
- (j) "Hydroenergy system" means a system of apparatus and equipment capable of intercepting and converting kinetic water energy into electrical or mechanical energy and transferring this form of energy by separate apparatus to the point of use or storage.
- (k) "Individual taxpayer" means any person who is a taxpayer as defined in Section **59-10-103** and an individual as defined in Section **59-10-103**.
- (l) "Passive solar system":
 - (i) means a direct thermal system that utilizes the structure of a building and its operable components to provide for collection, storage, and distribution of heating or cooling during the appropriate times of the year by utilizing the climate resources available at the site; and
 - (ii) includes those portions and components of a building that are expressly designed and required for the collection, storage, and distribution of solar energy.
- (m) "Residential energy system" means any active solar, passive solar, biomass, direct-use geothermal, geothermal heat-pump system, wind, or hydroenergy system used to supply energy to or for any residential unit.
- (n) "Residential unit" means any house, condominium, apartment, or similar dwelling unit that serves as a dwelling for a person, group of persons, or a family but does not include property subject to a fee under:
 - (i) Section **59-2-404**;
 - (ii) Section **59-2-405**;
 - (iii) Section **59-2-405.1**;

- (iv) Section **59-2-405.2**; or
- (v) Section **59-2-405.3**.
- (o) "Utah Geological Survey" means the Utah Geological Survey established in Section **63-73-5**.
- (p) "Wind system" means a system of apparatus and equipment capable of intercepting and converting wind energy into mechanical or electrical energy and transferring these forms of energy by a separate apparatus to the point of use, sale, or storage.
- (2) (a) (i) For taxable years beginning on or after January 1, 2007, a business entity that purchases and completes or participates in the financing of a residential energy system to supply all or part of the energy required for a residential unit owned or used by the business entity and situated in Utah is entitled to a nonrefundable tax credit as provided in this Subsection (2)(a).
 - (ii) (A) A business entity is entitled to a tax credit equal to 25% of the reasonable costs of each residential energy system installed with respect to each residential unit it owns or uses, including installation costs, against any tax due under this chapter for the taxable year in which the energy system is completed and placed in service.
 - (B) The total amount of each credit under this Subsection (2)(a) may not exceed \$2,000 per residential unit.
 - (C) The credit under this Subsection (2)(a) is allowed for any residential energy system completed and placed in service on or after January 1, 2007.
 - (iii) If a business entity sells a residential unit to an individual taxpayer before making a claim for the tax credit under this Subsection (2)(a), the business entity may:
 - (A) assign its right to this tax credit to the individual taxpayer; and
 - (B) if the business entity assigns its right to the tax credit to an individual taxpayer under Subsection (2)(a)(iii)(A), the individual taxpayer may claim the tax credit as if the individual taxpayer had completed or participated in the costs of the residential energy system under Section **59-10-1014**.
- (b) (i) For taxable years beginning on or after January 1, 2007, a business entity that purchases or participates in the financing of a commercial energy system situated in Utah is entitled to a refundable tax credit as provided in this Subsection (2)(b) if the commercial energy system does not use wind, geothermal electricity, or biomass equipment capable of producing a total of 660 or more kilowatts of electricity, and:
 - (A) the commercial energy system supplies all or part of the energy required by commercial units owned or used by the business entity; or
 - (B) the business entity sells all or part of the energy produced by the commercial energy system as a commercial enterprise.
 - (ii) (A) A business entity is entitled to a tax credit of up to 10% of the reasonable costs of any commercial energy system installed, including installation costs, against any tax due under this chapter for the taxable year in which the commercial energy system is completed and placed in service.
 - (B) Notwithstanding Subsection (2)(b)(ii)(A), the total amount of the credit under this Subsection (2)(b) may not exceed \$50,000 per commercial unit.
 - (C) The credit under this Subsection (2)(b) is allowed for any commercial energy system completed and placed in service on or after January 1, 2007.
 - (iii) A business entity that leases a commercial energy system installed on a commercial unit is eligible for the tax credit under this Subsection (2)(b) if the lessee can confirm that the lessor irrevocably elects not to claim the credit.
 - (iv) Only the principal recovery portion of the lease payments, which is the cost incurred by a

business entity in acquiring a commercial energy system, excluding interest charges and maintenance expenses, is eligible for the tax credit under this Subsection (2)(b).

(v) A business entity that leases a commercial energy system is eligible to use the tax credit under this Subsection (2)(b) for a period no greater than seven years from the initiation of the lease.

(vi) A tax credit allowed by this Subsection (2)(b) may not be carried forward or carried back.

(c) (i) For taxable years beginning on or after January 1, 2007, a business entity that owns a commercial energy system situated in Utah using wind, geothermal electricity, or biomass equipment capable of producing a total of 660 or more kilowatts of electricity is entitled to a refundable tax credit as provided in this Subsection (2)(c) if:

(A) the commercial energy system supplies all or part of the energy required by commercial units owned or used by the business entity; or

(B) the business entity sells all or part of the energy produced by the commercial energy system as a commercial enterprise.

(ii) (A) A business entity is entitled to a tax credit under this section equal to the product of:

(I) 0.35 cents; and

(II) the kilowatt hours of electricity produced and either used or sold during the taxable year.

(B) (I) The credit calculated under Subsection (2)(c)(ii)(A) may be claimed for production occurring during a period of 48 months beginning with the month in which the commercial energy system is placed in commercial service.

(II) The credit allowed by this Subsection (2)(c) for each year may not be carried forward or carried back.

(C) The credit under this Subsection (2)(c) is allowed for any commercial energy system completed and placed in service on or after January 1, 2007.

(iii) A business entity that leases a commercial energy system installed on a commercial unit is eligible for the tax credit under this Subsection (2)(c) if the lessee can confirm that the lessor irrevocably elects not to claim the credit.

(d) (i) A tax credit under Subsection (2)(a) or (b) may be claimed for the taxable year in which the energy system is completed and placed in service.

(ii) Additional energy systems or parts of energy systems may be claimed for subsequent years.

(iii) If the amount of a tax credit under Subsection (2)(a) exceeds a business entity's tax liability under this chapter for a taxable year, the amount of the credit exceeding the liability may be carried forward for a period which does not exceed the next four taxable years.

(3) (a) The tax credits provided for under Subsection (2) are in addition to any tax credits provided under the laws or rules and regulations of the United States.

(b) (i) The Utah Geological Survey may set standards for residential and commercial energy systems claiming a credit under Subsections (2)(a) and (b) that cover the safety, reliability, efficiency, leasing, and technical feasibility of the systems to ensure that the systems eligible for the tax credit use the state's renewable and nonrenewable energy resources in an appropriate and economic manner.

(ii) The Utah Geological Survey may set standards for residential and commercial energy systems that establish the reasonable costs of an energy system, as used in Subsections (2)(a)(ii)(A) and (2)(b)(ii)(A), as an amount per unit of energy production.

(iii) A tax credit may not be taken under Subsection (2) until the Utah Geological Survey has certified that the energy system has been completely installed and is a viable system for saving or production of energy from renewable resources.

(c) The Utah Geological Survey and the commission may make rules in accordance with Title 63, Chapter 46a, Utah Administrative Rulemaking Act, that are necessary to implement this section.

(4) (a) On or before October 1, 2012, and every five years thereafter, the Utah Tax Review Commission shall review each tax credit provided by this section and make recommendations to the

Revenue and Taxation Interim Committee concerning whether the credit should be continued, modified, or repealed.

(b) The Utah Tax Review Commission's report under Subsection (4)(a) shall include information concerning the cost of the credit, the purpose and effectiveness of the credit, and the state's benefit from the credit.

59-10-1014. Renewable Energy Systems Tax Credit -- Definitions -- Limitations -- State Tax Credit in Addition to Allowable Federal Credits -- Certification -- Rulemaking authority

(1) As used in this part:

(a) "Active solar system":

(i) means a system of equipment capable of collecting and converting incident solar radiation into thermal, mechanical, or electrical energy, and transferring these forms of energy by a separate apparatus to storage or to the point of use; and

(ii) includes water heating, space heating or cooling, and electrical or mechanical energy generation.

(b) "Biomass system" means any system of apparatus and equipment for use in converting material into biomass energy, as defined in Section **59-12-102**, and transporting that energy by separate apparatus to the point of use or storage.

(c) "Business entity" means any entity under which business is conducted or transacted.

(d) "Direct-use geothermal system" means a system of apparatus and equipment enabling the direct use of thermal energy, generally between 100 and 300 degrees Fahrenheit, that is contained in the earth to meet energy needs, including heating a building, an industrial process, and aquaculture.

(e) "Geothermal electricity" means energy contained in heat that continuously flows outward from the earth that is used as a sole source of energy to produce electricity.

(f) "Geothermal heat-pump system" means a system of apparatus and equipment enabling the use of thermal properties contained in the earth at temperatures well below 100 degrees Fahrenheit to help meet heating and cooling needs of a structure.

(g) "Hydroenergy system" means a system of apparatus and equipment capable of intercepting and converting kinetic water energy into electrical or mechanical energy and transferring this form of energy by separate apparatus to the point of use or storage.

(h) "Passive solar system":

(i) means a direct thermal system that utilizes the structure of a building and its operable components to provide for collection, storage, and distribution of heating or cooling during the appropriate times of the year by utilizing the climate resources available at the site; and

(ii) includes those portions and components of a building that are expressly designed and required for the collection, storage, and distribution of solar energy.

(i) "Residential energy system" means any active solar, passive solar, biomass, direct-use geothermal, geothermal heat-pump system, wind, or hydroenergy system used to supply energy to or for any residential unit.

(j) "Residential unit" means any house, condominium, apartment, or similar dwelling unit that serves as a dwelling for a person, group of persons, or a family but does not include property subject to a fee under:

(i) Section **59-2-404**;

(ii) Section **59-2-405**;

(iii) Section **59-2-405.1**;

(iv) Section **59-2-405.2**; or

(v) Section **59-2-405.3**.

(k) "Utah Geological Survey" means the Utah Geological Survey established in Section **63-73-5**.

(1) "Wind system" means a system of apparatus and equipment capable of intercepting and converting wind energy into mechanical or electrical energy and transferring these forms of energy by a separate apparatus to the point of use or storage.

(2) For taxable years beginning on or after January 1, 2007, a claimant, estate, or trust may claim a nonrefundable tax credit as provided in this section if:

(a) a claimant, estate, or trust that is not a business entity purchases and completes or participates in the financing of a residential energy system to supply all or part of the energy for the claimant's, estate's, or trust's residential unit in the state; or

(b) (i) a claimant, estate, or trust that is a business entity sells a residential unit to another claimant, estate, or trust that is not a business entity before making a claim for a tax credit under Subsection (6) or Section **59-7-614**; and

(ii) the claimant, estate, or trust that is a business entity assigns its right to the tax credit to the claimant, estate, or trust that is not a business entity as provided in Subsection (6)(c) or Subsection **59-7-614(2)(a)(iii)**.

(3) (a) The tax credit described in Subsection (2) is equal to 25% of the reasonable costs of each residential energy system, including installation costs, against any income tax liability of the claimant, estate, or trust under this chapter for the taxable year in which the residential energy system is completed and placed in service.

(b) The total amount of each tax credit under this section may not exceed \$2,000 per residential unit.

(c) The tax credit under this section is allowed for any residential energy system completed and placed in service on or after January 1, 2007.

(4) (a) The tax credit provided for in this section shall be claimed in the return for the taxable year in which the residential energy system is completed and placed in service.

(b) Additional residential energy systems or parts of residential energy systems may be similarly claimed in returns for subsequent taxable years as long as the total amount claimed does not exceed \$2,000 per residential unit.

(c) If the amount of the tax credit under this section exceeds the income tax liability of the claimant, estate, or trust claiming the tax credit under this section for that taxable year, then the amount not used may be carried over for a period that does not exceed the next four taxable years.

(5) (a) A claimant, estate, or trust that is not a business entity that leases a residential energy system installed on a residential unit is eligible for the residential energy tax credit if that claimant, estate, or trust confirms that the lessor irrevocably elects not to claim the tax credit.

(b) Only the principal recovery portion of the lease payments, which is the cost incurred by the claimant, estate, or trust in acquiring the residential energy system excluding interest charges and maintenance expenses, is eligible for the tax credits.

(c) A claimant, estate, or trust described in this Subsection (5) may use the tax credits for a period that does not exceed seven years from the initiation of the lease.

(6) (a) A claimant, estate, or trust that is a business entity that purchases and completes or participates in the financing of a residential energy system to supply all or part of the energy required for a residential unit owned or used by the claimant, estate, or trust that is a business entity and situated in Utah is entitled to a nonrefundable tax credit as provided in this Subsection (6).

(b) (i) For taxable years beginning on or after January 1, 2007, a claimant, estate, or trust that is a business entity is entitled to a nonrefundable tax credit equal to 25% of the reasonable costs of a residential energy system installed with respect to each residential unit it owns or uses, including installation costs, against any tax due under this chapter for the taxable year in which the energy system is completed and placed in service.

(ii) The total amount of the tax credit under this Subsection (6) may not exceed \$2,000 per residential unit.

(iii) The tax credit under this Subsection (6) is allowed for any residential energy system completed and placed in service on or after January 1, 2007.

(c) If a claimant, estate, or trust that is a business entity sells a residential unit to a claimant, estate, or trust that is not a business entity before making a claim for the tax credit under this Subsection (6), the claimant, estate, or trust that is a business entity may:

- (i) assign its right to this tax credit to the claimant, estate, or trust that is not a business entity; and
- (ii) if the claimant, estate, or trust that is a business entity assigns its right to the tax credit to a claimant, estate, or trust that is not a business entity under Subsection (6)(c)(i), the claimant, estate, or trust that is not a business entity may claim the tax credit as if that claimant, estate, or trust that is not a business entity had completed or participated in the costs of the residential energy system under this section.

(7) (a) A tax credit under this section may be claimed for the taxable year in which the residential energy system is completed and placed in service.

(b) Additional residential energy systems or parts of residential energy systems may be claimed for subsequent years.

(c) If the amount of a tax credit under this section exceeds the tax liability of the claimant, estate, or trust claiming the tax credit under this section for a taxable year, the amount of the tax credit exceeding the tax liability may be carried over for a period which does not exceed the next four taxable years.

(8) The tax credits provided for under this section are in addition to any tax credits provided under the laws or rules and regulations of the United States.

(9) (a) The Utah Geological Survey may set standards for residential energy systems that cover the safety, reliability, efficiency, leasing, and technical feasibility of the systems to ensure that the systems eligible for the tax credit use the state's renewable and nonrenewable energy resources in an appropriate and economic manner.

(b) The Utah Geological Survey may set standards for residential and commercial energy systems that establish the reasonable costs of an energy system, as used in Subsections (3)(a) and (6)(b)(i), as an amount per unit of energy production.

(c) A tax credit may not be taken under this section until the Utah Geological Survey has certified that the energy system has been completely installed and is a viable system for saving or production of energy from renewable resources.

(10) The Utah Geological Survey and the commission may make rules in accordance with Title 63, Chapter 46a, Utah Administrative Rulemaking Act, that are necessary to implement this section.

(11) (a) On or before October 1, 2012, and every five years thereafter, the Utah Tax Review Commission shall review each tax credit provided by this section and make recommendations to the Revenue and Taxation Interim Committee concerning whether the credit should be continued, modified, or repealed.

(b) The Utah Tax Review Commission's report under Subsection (11)(a) shall include information concerning the cost of the credit, the purpose and effectiveness of the credit, and the state's benefit from the credit.

59-10-1106. Renewable Energy Tax Credit

(1) As used in this section:

(a) "Active solar system" is as defined in Section **59-10-1014**.

(b) "Biomass system" is as defined in Section **59-10-1014**.

(c) "Business entity" is as defined in Section **59-10-1014**.

(d) "Commercial energy system" means any active solar, passive solar, geothermal electricity, direct-use geothermal, geothermal heat-pump system, wind, hydroenergy, or biomass system used to supply energy to a commercial unit or as a commercial enterprise.

(e) "Commercial enterprise" means a business entity whose purpose is to produce electrical, mechanical, or thermal energy for sale from a commercial energy system.

(f) (i) "Commercial unit" means any building or structure that a business entity uses to transact its business.

(ii) Notwithstanding Subsection (1)(f)(i):

(A) in the case of an active solar system used for agricultural water pumping or a wind system, each individual energy generating device shall be a commercial unit; and

(B) if an energy system is the building or structure that a business entity uses to transact its business, a commercial unit is the complete energy system itself.

(g) "Direct-use geothermal system" is as defined in Section **59-10-1014**.

(h) "Geothermal electricity" is as defined in Section **59-10-1014**.

(i) "Geothermal heat-pump system" is as defined in Section **59-10-1014**.

(j) "Hydroenergy system" is as defined in Section **59-10-1014**.

(k) "Individual taxpayer" means any person who is a taxpayer as defined in Section **59-10-103** and an individual as defined in Section **59-10-103**.

(l) "Passive solar system" is as defined in Section **59-10-1014**.

(m) "Utah Geological Survey" means the Utah Geological Survey established in Section **63-73-5**.

(n) "Wind system" is as defined in Section **59-10-1014**.

(2) (a) (i) For taxable years beginning on or after January 1, 2007, a business entity that purchases or participates in the financing of a commercial energy system situated in Utah is entitled to a refundable tax credit as provided in this Subsection (2)(a) if the commercial energy system does not use wind, geothermal electricity, or biomass equipment capable of producing a total of 660 or more kilowatts of electricity and:

(A) the commercial energy system supplies all or part of the energy required by commercial units owned or used by the business entity; or

(B) the business entity sells all or part of the energy produced by the commercial energy system as a commercial enterprise.

(ii) (A) A business entity is entitled to a tax credit of up to 10% of the reasonable costs of any commercial energy system installed, including installation costs, against any tax due under this chapter for the taxable year in which the commercial energy system is completed and placed in service.

(B) Notwithstanding Subsection (2)(a)(ii)(A), the total amount of the credit under this Subsection (2)(a) may not exceed \$50,000 per commercial unit.

(C) The credit under this Subsection (2)(a) is allowed for any commercial energy system completed and placed in service on or after January 1, 2007.

(iii) A business entity that leases a commercial energy system installed on a commercial unit is eligible for the tax credit under this Subsection (2)(a) if the lessee can confirm that the lessor irrevocably elects not to claim the credit.

(iv) Only the principal recovery portion of the lease payments, which is the cost incurred by a business entity in acquiring a commercial energy system, excluding interest charges and maintenance expenses, is eligible for the tax credit under this Subsection (2)(a).

(v) A business entity that leases a commercial energy system is eligible to use the tax credit under this Subsection (2)(a) for a period no greater than seven years from the initiation of the lease.

(b) (i) For taxable years beginning on or after January 1, 2007, a business entity that owns a commercial energy system situated in Utah using wind, geothermal electricity, or biomass equipment capable of producing a total of 660 or more kilowatts of electricity is entitled to a refundable tax credit as provided in this section if:

(A) the commercial energy system supplies all or part of the energy required by commercial units owned or used by the business entity; or

(B) the business entity sells all or part of the energy produced by the commercial energy system as a commercial enterprise.

(ii) A business entity is entitled to a tax credit under this Subsection (2)(b) equal to the product of:

(A) 0.35 cents; and

(B) the kilowatt hours of electricity produced and either used or sold during the taxable year.

(iii) The credit allowed by this Subsection (2)(b):

(A) may be claimed for production occurring during a period of 48 months beginning with the month in which the commercial energy system is placed in service; and

(B) may not be carried forward or back.

(iv) A business entity that leases a commercial energy system installed on a commercial unit is eligible for the tax credit under this section if the lessee can confirm that the lessor irrevocably elects not to claim the credit.

(3) The tax credits provided for under this section are in addition to any tax credits provided under the laws or rules and regulations of the United States.

(4) (a) The Utah Geological Survey may set standards for commercial energy systems claiming a tax credit under Subsection (2)(a) that cover the safety, reliability, efficiency, leasing, and technical feasibility of the systems to ensure that the systems eligible for the tax credit use the state's renewable and nonrenewable energy resources in an appropriate and economic manner.

(b) A tax credit may not be taken under this section until the Utah Geological Survey has certified that the commercial energy system has been completely installed and is a viable system for saving or production of energy from renewable resources.

(5) The Utah Geological Survey and the commission may make rules in accordance with Title 63, Chapter 46a, Utah Administrative Rulemaking Act, that are necessary to implement this section.

(6) (a) On or before October 1, 2012, and every five years thereafter, the Utah Tax Review Commission shall review each tax credit provided by this section and make recommendations to the Revenue and Taxation Interim Committee concerning whether the credit should be continued, modified, or repealed.

(b) The Utah Tax Review Commission's report under Subsection (6)(a) shall include information concerning the cost of the credit, the purpose and effectiveness of the credit, and the state's benefit from the credit.

9. Utah Administrative Code (Rules)

R638. Geological Survey

R638-1. Acceptance and Maintenance of Confidential Information

R638-1-1. Authority, Purpose, and Scope

Rule text

a. Authority: This rule is authorized under [Subsection 63-73-6\(2\)](#) UCA.

b. Purpose: This rule enables the Utah Geological Survey to have access to confidential information which it otherwise could not acquire, or which is beyond the financial capability of the Survey to acquire.

c. Scope: This rule provides: (1) guidelines for determining whether or not to accept confidential information, (2) the types of information that will be maintained as confidential, and (3) the process to be used for accepting and maintaining confidential information.

R638-1-2. Definitions

a. "Information" as used in this rule refers to data, statistics, reports, samples and other facts, whether analyzed or processed or not, pertaining to the geology of Utah.

b. "Internal Records" are preliminary documents and notes compiled by employees of the Survey or its contractors in the process of geologic investigations.

c. "Confidential Information" as used in this rule refers to geologic information given to the Survey or purchased by the Survey with the stipulation that the information be held confidential.

h. "Source" is the individual, agency, or organization who provides information to the Survey and stipulates that it is confidential information.

R638-1-4. Procedures

Rule text

- a. Geologic information will be categorized as follows:
 1. Category A: Information that is public and not maintained as confidential.
 - (a) Survey publications.
 - (b) Survey open-file reports.
 - (c) Samples and core accepted for storage.
 - (d) Inhouse-generated files and computer information unless otherwise covered in Category B.
 2. Category B: Information that is temporarily withheld from the public until made available by open filing or publication of the information.
 - (a) Predecisional documents leading to a geologic explanation or publication.
 - (b) Manuscripts received from non-Survey sources.
 - (c) Geologic information and conclusions drawn by the Survey that have been contracted or legislatively mandated for other state agencies.
 - (d) Determination for Category B information will be made by the Director based upon:
 - (1) a likelihood that premature release would result in a competitive advantage or disadvantage to an individual or organization;
 - (2) a likelihood that premature release would result in misuse or harm the public;
 - (3) a judgement that premature release would compromise the Survey's ability to analyze data, or complete and make public the conclusions of a project in a timely manner.
 - (e) Category B information may be open-filed at any time by the Director.
 3. Category C: Information that is not to be made available to the public except under terms and conditions agreed upon at the time of its acceptance.
 - (a) Information given to the Survey by other governmental agencies and classified as confidential by them.
 - (b) Information given to the Survey by private individuals or organizations and classified as confidential by them.
 - (c) Information purchased by the Survey with the understanding that it will be maintained as confidential.
- b. Geologic information designated confidential will be recorded as received by the Survey at the requested level of confidentiality and maintained in locked files with controlled access.

R638-1-5. Anticipated Impacts Regarding Costs of Compliance

Rule text

- a. This rule applies to geologic information provided voluntarily by individuals or organizations to the Survey. Therefore, sources of information have no mandated costs in order to comply with these provisions.

The Survey will budget sufficient funds from its current budget to accomplish the purposes and objectives of this rule.

R652-6. Government Records Access and Management – Forestry, Fire, & State Lands

R652-6-100. Purpose and Authority

Rule text

1. This rule provides procedures for appropriate access to division records.

R652-6-500. Other Requests

Rule text

1. For research purposes:

Access requests for private or controlled records for research purposes pursuant to [Section 63-2-202\(8\)](#), shall be made in writing and directed only to the records officer.

4. To claim limited records status:

A lessee may claim that mineral information provided to the division should be protected under [Section 65A-6-7](#).

The division may make information provided limited records status under this section available for inspection, but not for copying, by the Utah Geological Survey or the Division of Oil, Gas and Mining if consultation is requested by the division, provided further that the confidentiality of such information is safeguarded.

R652-20-1000. Rentals and Royalties – Forestry, Fire, & State Lands

ii) Effective January 1, 1997, the royalty rate for sodium chloride shall be \$0.20 per dry ton. Effective January 1, 1998 and on each January 1 thereafter, the royalty rate for sodium chloride shall be increased by the lesser of \$0.10 per dry ton or \$0.10 per dry ton times the percent of salt in brine by weight at the point of intake for each lessee divided by the percent of salt by weight derived from samples at sampling point LVG4 as measured by the Utah Geological Survey for the current year. The method for calculating the percent salt in brine from Utah Geological Survey and company data shall be determined by the division, but shall include a weighted average of samples taken at low and high water and of samples taken at different depths at the sampling point. The point of sampling for each producer shall be determined by the division after considering factors including the location of the intake canal, point of diversion for water rights, and placement of intake pumps.

R638. Natural Resources, Geological Survey

R638-2. Renewable Energy Systems Tax Credits

R638-2-1. Purpose

(A) This rule implements the responsibilities assigned to the Utah Geological Survey (UGS) for the renewable energy systems tax credit programs established in Utah Code Sections 59-7-614, 59-10-1014, and 59-10-1106.

(B) This rule establishes requirements for eligibility for renewable energy system tax credits and the criteria for determining the amount of such tax credits by defining eligible systems, eligible system components, eligible costs, and other requirements intended to ensure the safety and reliability of systems supported by tax credits, and to ensure the appropriate use of the state's energy and economic resources.

(C) This rule also establishes procedures for taxpayers to use when applying for UGS certification of tax credit eligibility and tax credit amounts, and for UGS to follow in reviewing such applications.

(D) This rule applies to all renewable energy systems installed or entering commercial service after January 1, 2007.

R638-2-2. Authority

Pursuant to Utah Code Sections 59-7-614, 59-10-1014, and 59-10-1106, the UGS and the Utah Tax Commission may each make rules that are necessary to implement renewable energy tax credits for corporate and individual income tax filers. In addition, UGS is required to certify that an energy system for which a tax credit is sought has been installed and is a viable system for saving or production of energy from renewable resources. For taxpayers claiming a tax credit based upon a percentage of the costs of a renewable energy system, the UGS may also set standards for residential and commercial systems that cover the safety, reliability, efficiency, leasing, and technical feasibility of the systems to ensure that they use the state's renewable and non-renewable energy resources in an appropriate and economic manner. For such percentage-of-cost credits, UGS may also establish rules defining the reasonable costs of a system.

R638-2-3. Definitions

(A) The definitions below are in addition to or serve to clarify the definitions found in Utah Code Sections 59-7-614, 59-10-1014, and 59-10-1106.

(B) "Active solar thermal system" means a system of apparatus and equipment capable of intercepting and transferring incident solar thermal radiation to air or liquid by a separate apparatus to the point of storage or use. Transfer of energy to the point of storage or use must be accomplished using a mechanically powered device.

1. Active solar thermal systems include systems that:

a. Heat water for space heating, culinary water, recreational use (including swimming pools), and other industrial or commercial uses;

b. Heat a liquid, contained within a closed loop system, whose transferred heat may be used for space heating, culinary water, recreational use (including swimming pools), and other industrial or commercial uses; and

c. Heat air that is transferred to a building's conditioned space using mechanical systems such as fans or blowers either for heat or to induce air movement used for cooling.

2. Active solar thermal systems do not include systems that use heat for evaporative cooling.

(C) "Biomass system" means a system of apparatus and equipment for use in converting biomass material into fuel or electricity and transporting that energy by separate apparatus to the point of use or storage.

1. Materials that may be used to produce fuel or electricity are as follows:

a. material from a plant or tree; or

b. other organic matter that is available on a renewable basis, including:

i. slash and brush from forests and woodlands;

ii. animal waste;

iii. methane produced at landfills or as a byproduct of the treatment of wastewater residuals;

iv. aquatic plants; and

v. agricultural products.

2. A biomass system does not include

a. A system that uses, black liquor, treated woods, or biomass from municipal solid waste other than methane produced at landfills or sewage treatment plants

b. A system that combusts biomass for the primary purpose of producing and using heat or mechanical energy.

3. In order to be considered a biomass system, a fuel or electricity producing system must use biomass as its primary source of energy.

(D) "Commercial energy system" means any active solar, passive solar, geothermal electricity, direct-use geothermal, geothermal heat-pump system, wind, hydroenergy, or biomass system used to supply energy to a commercial unit or as a commercial enterprise. In the case of systems generating electricity and involving multiple but interconnected energy generation systems, a commercial energy system includes all interconnected components that

1. Were assembled or constructed at approximately the same time as part of a single project; and

2. Supply electricity to a common grid interconnection point.

This includes wind farms connecting to a single substation and biomass generating systems using multiple small generators. Such combinations of intertied generators are considered to be single energy systems for purposes of this rule.

(E) "Commercial tax credit" means the credits defined in Utah Code 59-7-614 (2) (b) and 59-10-1106 that provide tax credits worth 10% of the reasonable cost, up to \$50,000, of a commercial energy system.

(F) “Commercial unit” means any building or structure that a business entity uses to transact its business. For purposes of the commercial investment tax credit, an agricultural water pump and a wind turbine are each considered to be single commercial units.

(G) “Direct use geothermal system” means a system of apparatus and equipment enabling the direct use of thermal energy, generally between 100 and 300 degree Fahrenheit, that is contained in the earth to meet energy needs, including heating a building, an industrial process, or aquaculture. Such systems generally make use of hot water or steam derived from wells bored through the earth’s crust to reach areas of thermal energy. They may include systems that make use of groundwater or those that inject water into the earth for the purpose of deriving heat. They can also include systems that pump a heat exchanging fluid through a sealed, close loop system below the ground to extract heat for use above the earth’s surface.

(H) “Eligible cost” means a cost that is reasonable as defined in this rule, that is incurred for the purchase or installation of a renewable energy system, and that may be used in computing the amount of either a commercial or residential investment tax credit.

(I) “Geothermal electricity system” means a system that uses thermal energy that flows outward from the earth as the sole source of energy for producing electricity.

(J) “Geothermal heat pump system” means a system of apparatus and equipment enabling use of the thermal properties contained in the earth well below 100 degrees Fahrenheit to help meet heating and cooling needs of a structure. For purposes of this rule, geothermal heat pump system means a system that is thermally coupled with the ground through a heat exchange medium or using mechanical heat exchange equipment and that uses a “ground-source heat pump” technology described in the American Society of Heating, Refrigerating, and Air Conditioning Engineers’ (ASHRAE) Applications Handbook, Chapter 32. This can include ground source heat pumps and water source heat pumps using ground water or surface water.

(K) “Grid connected” describes a system that generates electricity and is electrically connected to an electrical load that is also connected to and served by the local utility’s electrical grid. To be considered grid connected, a system needs be able to serve an electrical load that is also served by the local utility.

(L) "Heat transportation system" means all fans, vents, ducts, pipes and heat exchangers designed to move heat from a collection point to either the storage or heat use area.

(M) “Investment tax credit” means a tax credit authorized in any of the Utah Code Sections 59-7-614, 59-10-1014, and 59-10-1106 and that is not a production tax credit.

(N) "Loaded structure" means a part of the building that provides support to that building.

(O) “Placed in commercial service” means the earliest point in time at which a commercial energy system

1. Produces or is capable of producing at its maximum potential output; and
2. Sells all or some portion of its energy output or uses some portion its energy output for commercial activities located at the same site.

(P) "Passive solar system" means a direct thermal system that utilizes the structure of a building and its operable components to provide for collection, storage, and distribution of heating or cooling during the appropriate times of the year by utilizing the climate resources available at the site and includes those portions and components of a building that are expressly designed and required for the collection, storage, and distribution of solar energy.

(Q) “Production tax credit” means the credits defined in Utah Code 59-7-614 (2) (c) and 59-10-1106 (2) (b) that provides 0.35 cents per kilowatt-hour of electricity produced for wind, geothermal, or biomass systems with production capacities of 660 kilowatts or greater.

(R) “Production tax credit window” means the period during which a company is eligible to receive production tax credits for a specific commercial energy system. The window begins on the day that the system is placed in commercial service and ends 48 months after that date.

(S) "Renewable energy system" means any of the following types of systems defined in Utah Code Section 57-7-614, 57-10-1014, and 57-10-1106:

1. Active solar including solar thermal and photovoltaics;
2. Biomass except for systems combusting biomass for heat;
3. Direct-use geothermal;
4. Geothermal electricity
5. Geothermal heat pump;
6. Hydroenergy;
7. Passive solar for heating or cooling;
8. Wind.

(T) "Residential investment tax credit" means the credits defined in Utah Code 59-7-614 (2) (a) and 59-10-1014 that provide tax credits worth 25% of the reasonable cost up to \$2,000 of a residential energy system.

(U) "Residential unit" means any house, condominium, apartment, or similar dwelling for a person or persons, but it does not include any vehicles such as motor homes, recreational vehicles, or house boats.

(V) "Solar PV energy system" means an active solar energy system that converts light to direct current electricity through the use of semiconducting materials and that is capable of producing electricity for use in a building by the use of an inverter to produce alternating current electricity.

(W) "Thermal storage mass" means a structure within the conditioned space consisting of a material with high thermal capacitance or mass to provide heat to the unit at times of low or no heat collection.

(X) "Ton" means heating and/or air conditioning capacity equivalent to 12,000 British thermal units (Btus).

(Y) "USEP" means that Utah State Energy Program, a subdivision of the Utah Geological Survey, which is responsible for certifying tax credits specified under this rule.

(Z) "Wind energy system" means a system of apparatus and equipment capable of intercepting and converting wind energy into mechanical or electrical energy and transferring these forms of energy by a separate apparatus to the point of use, sale, or storage.

(AA) "Solar surface" is a building wall which faces no more than 30 degrees away from true south measured in a horizontal plane.

R638-2-4. Investment Tax Credit Certification Process

(A) The Utah State Energy Program (USEP), a subdivision of the UGS, is responsible for certifying renewable energy systems tax credits.

(B) Applications for credits are to be made on forms developed by USEP to gather information necessary to implement this rule.

(C) USEP will evaluate each application according to the definitions and criteria established by statute and by this rule. If the information contained within an application is inadequate to determine eligibility according to this rule, USEP reserves the right to request additional information from the applicant. If an applicant is unable or unwilling to provide adequate information, USEP may deny the application and no tax credit will be certified.

(D) If, after evaluating an application, USEP finds that a renewable energy system is eligible for a residential or commercial tax credit, USEP will complete a Utah State Tax Commission Form TC-40E that will serve as the taxpayer's documentation of eligibility for a tax credit. Only USEP may issue a completed TC-40E and a tax credit may not be claimed without such documentation.

(E) Upon the completion of USEP's evaluation of an application, USEP will provide to the applicant one of the following, as appropriate:

1. A completed TC-40E allowing the full amount of tax credit requested;

2. A completed TC-40E allowing a portion of the tax credit requested accompanied by a written explanation for the denial of the full requested amount; or

3. A letter informing the applicant that the request for a tax credit has been denied and providing an explanation for the denial.

(F) If USEP denies, in whole or in part, an application for a tax credit, the taxpayer applicant may, consistent with Utah Code 63-46b-12 (Administrative Procedures Act), request that the decision be reviewed by the USEP manager. If, after review by the manager, the taxpayer desires a further appeal, he or she may request reconsideration of the decision by the director of UGS, consistent with Utah Code 63-46b-13.

(G) All applications for credits under this rule shall provide the following information:

1. The true legal name of the person or persons seeking a tax credit;

2. The tax identification number or numbers of persons seeking a tax credit;

3. The physical address, plat number, or global positioning satellite (GPS) coordinates of the property where the system is installed. Location information must be sufficient to permit USEP staff to locate the site for on-site verification of the information in the application.

4. A general description of the system, including technologies employed (e.g. wind, solar thermal), intended use, energy production capacity, cost, date of completed installation, and other information specified in this rule.

(H). Applications for a residential and commercial tax credits must provide, either within an application form or provided as supporting documentation, each of the following:

1. Detailed diagrams of the system installed such that ~~SEP~~ USEP staff, evaluating each proposal, can distinguish all major system components, how the system operates, and which components are eligible costs for computing the tax credit.

2. Photographs or copies of photographs that show major system components, how and where the system is installed, electrical interconnections with the power grid or other components of the electrical system at the taxpayer's home or business, and any other components of the renewable energy system that demonstrate that individual components are eligible costs under this rule. Photographs or copies of photographs should also demonstrate that a system is constructed in a safe and reliable manner.

3. Clear documentation of costs incurred for all components of the renewable energy system. Original or reproduced copies of all receipts or invoices should be provided and all invoices from contractors or equipment dealers must show that the invoiced amounts were paid by the taxpayer; otherwise, copies of canceled checks should be provided. Documentation should also include an itemized listing of all components of an installed system, including manufacturer and model numbers for major equipment components, the costs of all major components, and costs for labor, installation, and/or design. The sum of documentation provided should be sufficient to allow UGS to identify all eligible and ineligible costs and to determine whether such costs are reasonable. Applications that do not include a clear itemization of system costs will not be considered.

R638-2-5. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, General

(A) Taxpayers applying for commercial investment tax credits are entitled to credits equal to 10% of the eligible costs of a renewable energy system up to a maximum of \$50,000 for a commercial unit. This limit applies to the lifetime of the commercial unit. Taxpayers may apply for multiple credits for additional renewable energy systems or for expansions to the capacity of existing systems for the same commercial unit, however, the total of all credits awarded may not exceed \$50,000 for any single commercial unit.

(B) Taxpayers applying for residential investment tax credits are entitled to credits equal to 25% of the eligible costs of a renewable energy system up to a maximum of \$2,000 for a residential unit. This limit applies to the lifetime of the residential unit. Taxpayers may apply for multiple credits for additional renewable energy systems or for expansions to the capacity of existing systems for the same commercial unit, however, the total of all credits awarded may not exceed \$2,000.

(C) Eligible costs for equipment are generally limited to system components that are both

1. Necessary for the renewable energy system to produce energy and to deliver that energy for end-use; and

2. Are not system components that would be used for a conventional energy system fulfilling a similar role in delivering energy for end-use.

(D) Eligible costs for equipment are limited to new components only. Any component of the renewable energy system that has previously been used for any purpose is ineligible.

(E) Costs for equipment and installation of components on existing renewable energy systems are eligible only to the extent that the additional equipment increases the energy production capacity of the existing system. Costs for repair or replacement of any component of an existing system are ineligible for a tax credit.

(F) All major energy-producing, energy conversion, and energy storage components of a renewable energy system shall be commercially available and purpose-built or manufactured for the intended application. Major components built from equipment not manufactured or built primarily for the purpose of generating renewable energy are not eligible unless it can be demonstrated that the component is necessary to the system and that no commercially available, purpose-built or manufactured equivalent is available.

(G) Energy storage devices, and equipment for regulating energy storage, for renewable energy systems that produce electricity are not considered to be eligible costs when used at a residential or commercial unit that is either

1. Connected to the electrical grid; or

2. Within the service territory of a retail electricity provider and is less than one-quarter mile from an electrical distribution line.

(H) Costs for the installation of a renewable energy system are eligible. Labor costs for installation are eligible so long as the taxpayer has paid a qualified installer or other contractor for services. Costs that may be claimed for the estimated value of a taxpayer's own labor are not considered to be eligible.

(I) Equipment and installation costs for backup energy production devices and any other energy production equipment that does not make use of a renewable energy source are not considered to be eligible costs.

(J) Costs for the design of a renewable energy system are generally eligible. However, in instances where design costs of a renewable energy system are included within the costs of a larger project (e.g. the design of a complete building), only the component of design costs specifically attributable to the design of the renewable energy system are eligible. Claims for design costs that do not separate eligible from ineligible costs will be deemed ineligible.

(K) Any portion of the cost of an eligible renewable energy system that is offset by a cash rebate from a manufacturer, vendor, installer, utility, or any other type of rebate shall ~~be~~ not be considered an eligible cost for the purpose of calculating residential or commercial tax credits. For purposes of this rule, utility rebates in the form of credits against bills are considered to be cash rebates and should be deducted from eligible costs. However, the amount of any federal tax credit received for an eligible system will not be deducted from the eligible cost when calculating the amount of Utah tax credits.

(L) USEP may, at its discretion, conduct an on-site inspection of a system applying for a commercial or residential tax credit. Applications for renewable energy systems that are found not to be in compliance with this rule or that are a variance with information provided in a tax credit application may be denied or the amount of the tax credit altered.

(M) Some renewable energy technologies have additional requirements for eligible costs that may be found in technology-specific sections of this rule, below.

R638-2-6. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Active Solar Thermal.

(A) All eligible costs for active solar thermal energy systems must conform with Section R638-2-5, above. Active solar thermal energy systems must also meet the requirements in this Section.

(B) For purposes of determining eligible costs, an active solar thermal system ends at the interface between it and the conventional heating system. Eligible costs for a solar thermal system are limited to components that would not normally be associated with a conventional hot water heating system. Eligible equipment costs include

1. Solar collectors that transfer solar heat to water, a heat transfer fluid, or air;
2. Thermal storage devices such as tanks or heat sinks;
3. Ductwork, piping, fans, pumps and controls that move heat directly from solar collectors to storage or to the interface between the active solar thermal system and a building's conventional heating and cooling systems.

(C) Hot water storage tanks that have dual heat exchange capabilities allowing for the heating of water by both the active solar thermal system and by a nonrenewable energy source such as natural gas or electricity are eligible for tax credits. However only one half of the costs of purchasing and installing such tanks are eligible costs for the purposes of calculating a commercial or residential tax credit.

(D) In order to be eligible for residential or commercial tax credits, a solar collector that heats water must be certified and rated by the Solar Rating Certification Corporation (SRCC) according to SRCC Standard 100, "Test Methods and Minimum Standards for Certifying Solar Collectors."

(E) In order to be eligible for residential or commercial tax credits, an active solar thermal system installed after December 31, 2008 and that heats water must be certified and rated by the Solar Rating Certification Corporation (SRCC) according to SRCC Document OG-300, "Operating Guidelines and Minimum Standards for Certifying Solar Water Heating Systems."

(F) In order to be eligible for a residential or commercial tax credit, the taxpayer applicant must demonstrate that a solar thermal energy system has been sited and installed appropriately in order to realize the maximum feasible energy efficiency for a given location. Specifically, the system should conform with the following:

1. Solar collectors shall be free of shade (vent pipes, trees, chimneys, etc.) and positioned accordingly so as to optimize the average annual solar radiation values (kWh/M²/day). Guidance for siting may be found at the National Renewable Energy Laboratory's (NREL) National Solar Radiation Database, which can be found at:
<http://rredc.nrel.gov/solar/pubs/redbook/PDFs/UT.PDF>;

2. Fixed collectors shall be oriented within 15 degrees of true south.

(G) In order to be eligible for a residential or commercial tax credit, all solar hot water thermal systems shall be installed by one of the following licensed contractors:

1. A Utah licensed plumbing contractor (S210 license);
2. A Utah licensed solar hot water contractor (S215 license); or
3. A licensed contractor who has obtained written approval by the Utah Department of Occupational Licensing for the installation of solar hot water systems.

(H) In order to be eligible for a residential or commercial tax credit, an active solar thermal system must be certified for safety by one of the following:

1. A Utah licensed plumbing contractor (S210 license);
2. A Utah licensed solar hot water contractor (S215 license); or
3. A county or municipal building inspector licensed by the State of Utah.

Proof of this certification may be required on the tax credit application.

(I) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of a flat panel active solar thermal system is considered to be no higher than \$0.15 per Btu/day of heat output for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility). The determination of heat output shall be based upon the ratings of the Solar Rating Certification Corporation (SRCC) “Summary of SRCC Certified Solar Collectors and Water Heating System Ratings” that is found at <http://www.solar-rating.org/ratings/ratings.htm>.

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$0.15 per Btu/day of capacity, the amount of the tax credit shall be calculated as follows:

$$\text{Tax credit granted} = ((\$0.15 * \text{rated output capacity in Btu/day}) - \text{rebates}) * 0.25$$

2. For a commercial tax credit application with total eligible costs exceeding \$0.15 per Btu/day, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

$$\text{Tax credit granted} = ((\$0.15 * \text{rated output capacity in Btu/day}) - \text{rebates}) * 0.10$$

3. If the cost of a flat panel active solar thermal system exceeds \$0.15 per Btu/day of capacity due to unusual and/or unavoidable circumstances (such as a multi-story structure retrofit or difficult pipe chase and interconnection conditions) the taxpayer applicant may request that the reasonable cost limitation above be waived by USEP. In order to do so, the applicant must provide written documentation and explanation from the designer or installer of the system as to why the final system cost exceeded this limit. Granting of such a waiver will be at the discretion of USEP and UGS after investigation as to the validity of the waiver claim.

(J) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of an evacuated tube active solar thermal system is considered to be no higher than \$0.27 per Btu/day of heat output for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility). The determination of heat output shall be based upon the ratings of the Solar Rating Certification Corporation (SRCC) “Summary of SRCC Certified Solar Collectors and Water Heating System Ratings” that is found at <http://www.solar-rating.org/ratings/ratings.htm>.

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$0.27 per Btu/day of capacity, the amount of the tax credit shall be calculated as follows:

$$\text{Tax credit granted} = ((\$0.27 * \text{rated output capacity in Btu/day}) - \text{rebates}) * 0.25$$

2. For a commercial tax credit application with total eligible costs exceeding \$0.27 per Btu/day, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

$$\text{Tax credit granted} = ((\$0.27 * \text{rated output capacity in Btu/day}) - \text{rebates}) * 0.10$$

3. If the cost of a flat panel solar thermal system exceeds \$0.27 per Btu/day of capacity due to unusual and/or unavoidable circumstances (such as multi-story structure retrofit or difficult pipe chase and interconnection conditions) the taxpayer applicant may request that the reasonable cost limitation above be waived by USEP. In order to do so, the applicant must provide written documentation and explanation from the designer or installer of the system as to why the final system cost exceeded this limit. Granting of such a waiver will be at the discretion of USEP and UGS after investigation as to the validity of the waiver claim.

R638-2-7. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Solar PV (Photovoltaic)

(A) All eligible costs for solar PV energy systems must conform with Section R638-2-5, above. Solar PV energy systems must also meet the requirements in this Section.

(B) The costs of the following solar PV energy system components are eligible for residential or commercial tax credits:

1. Solar PV module(s);
2. Inverter;
3. Motors and other elements of a tracking array;

4. Mounting hardware;
5. Wiring and disconnects from modules to the inverter and from the inverter to the point of interconnection with the AC panel;
6. Lightning arrestors.

(C) The costs of additional components of solar PV energy systems are eligible for residential or commercial tax credits if the solar PV system is not grid connected and it provides electricity to a building or structure that is more than one quarter mile from a power distribution line operated by a retail electric utility provider. If these conditions are met, the following components are also eligible:

1. Batteries;
2. Battery wiring;
3. Charge controllers; and
4. Battery temperature sensors.

(D) The costs of solar PV modules are eligible for Utah tax credits only if they are

1. Listed as eligible modules under the California Solar Initiative Program. A list of eligible modules may be found at the following site:

http://www.consumerenergycenter.org/cgi-bin/eligible_pvmodules.cgi; or

2. The applicant can demonstrate to USEP that the modules meet standards that are equivalent to those of the California Solar Initiative Program as of calendar year 2007.

(E) For grid connected solar PV systems, the cost of inverters are eligible for Utah tax credits only if

1. They are also listed as eligible inverters under the California Solar Initiative Program. A list of eligible inverters may be found at the following site:

http://www.consumerenergycenter.org/cgi-bin/eligible_inverters.cgi; or

2. The applicant can demonstrate to USEP that the inverter meets standards that are equivalent to those of the California Solar Initiative Program as of calendar year 2007.

(F) Solar PV modules must be certified for safety by a Nationally Recognized Testing Laboratory and be warranted by the manufacturer to produce at least 80% of rated output after twenty years of operation.

(G) Inverters and charge controllers must be certified for safety by a Nationally Recognized Testing Laboratory and be warranted by the manufacturer against failure due to materials and workmanship for at least five years.

(F) All solar PV energy systems must be designed and installed consistent with the National Electric Code Article 690.

(G) Grid connected systems must meet all interconnection standards of the local electrical utility and must include with an application for a residential or commercial tax credit a copy of an interconnection or net metering agreement with the local electrical utility.

(H) The costs of system performance monitoring hardware and software are not eligible for residential or commercial tax credits. Grid connected backup power and monitoring systems such as Grid Point back-up power systems are not eligible for the tax credit with the exception that the inverter within such systems will be considered to carry a cost of \$2,500 for the purpose of calculating the tax credit.

(I) In order to be eligible for a residential or commercial tax credit, the taxpayer applicant must demonstrate that a solar PV energy system has been sited and installed appropriately. Specifically, the system should be:

1. Located such that the solar modules are completely free of shade from trees and other plants, buildings, chimneys, vent pipes, utility poles, and other objects that would reduce system output for at least two-thirds of the daylight hours at the site;

2. Positioned so as to optimize the average annual solar radiation values (kWh/M²/day). Guidance for siting may be found at the the National Renewable Energy Laboratory's (NREL) National Solar

Radiation Database (found at <http://rredc.nrel.gov/solar/pubs/redbook/PDFs/UT.PDF>);

3. Positioned such that fixed modules and/or arrays are oriented within 15 degrees of true south.

(J) In order to be eligible for a residential or commercial tax credit, a solar PV energy system must be certified for safety by one of the following:

1. A Utah licensed electrical contractor (S200);

2. A Utah licensed solar photovoltaic contractor (S202);

3. A licensed contractor who has obtained written approval by the Utah Department of Occupational Licensing for the installation of solar PV systems; or

4. A county or municipal building inspector licensed by the State of Utah.

Proof of this certification may be required on the tax credit application.

(K) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of a solar PV energy system that is grid connected or that provides electricity to a building or structure that is one quarter mile or less from a power distribution line operated by a retail electric utility provider is considered to be no higher than \$10 per watt of rated output capacity for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility).

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$10 per watt of capacity, the amount of the tax credit shall be calculated as follows:

Tax credit granted = $((\$10 * \text{rated output capacity in watts}) - \text{rebates}) * 0.25$

2. For a commercial tax credit application with total eligible costs exceeding \$10 per watt, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

Tax credit granted = $((\$10 * \text{rated output capacity in watts}) - \text{rebates}) * 0.10$

(L) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of solar PV energy system that is not grid connected and that provides electricity to a building or structure that is more than one quarter mile from a power distribution line operated by a retail electric utility provider is considered to be no higher than \$13 per watt of rated output capacity for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility).

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$13 per watt of capacity, the amount of the tax credit shall be calculated as follows:

Tax credit granted = $((\$13 * \text{rated output capacity in watts}) - \text{rebates}) * 0.25$

2. For a commercial tax credit application with total eligible costs exceeding \$13 per watt, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

Tax credit granted = $((\$13 * \text{rated output capacity in watts}) - \text{rebates}) * 0.10$

R638-2-8. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Passive Solar

(A) An eligible passive solar system must be purposefully designed to use the structure of a building to collect, store, and distribute heating or cooling to a building and to do so at the appropriate season and time of day. (For example providing heat in winter or at night but not during summer days.) All passive solar systems should contain the following in order to be eligible:

1. A means to allow the solar energy to enter the system;

2. A heat-absorbing surface;

3. A thermal storage mass located within the conditioned space;

4. A heat transferral system or mechanism and;

5. Protection from summer overheating and excessive winter heat-loss.

A passive system must receive an average of at least four hours of sunlight per day during the winter months of December through March and shall be primarily south facing.

(B) Eligible costs for a passive solar system include the costs of the following:

1. Trombe wall;
2. Water wall;
3. Thermosyphon;
4. Equipment or building shell components providing direct heat gain; and
5. Any item that can be demonstrated to be a component of a purpose-built system to collect, store and transport heat from the sun. The cost of ventilation, fans, movable insulation, louvers, overhangs and other shading devices shall be eligible provided that they are designed to be used as an integral part of the passive solar system and not part of the conventional building design.

(C) The cost of a solarium is also considered to be eligible if it provides heat to the living space of the house in conjunction with a thermal storage mass and a forced or natural convection heat transportation design. Solariums must also be designed to prevent heat loss at night by means of insulation devices. They must also be designed so as to prevent summer heating that would increase the load on the building's cooling system.

(D) The cost of windows and other glazing devices are eligible only when they are part of a passive solar system that uses thermal mass storage and a passive or active heat transportation system to provide heating throughout the building. In addition, windows and other glazing devices are eligible only when they are oriented within 30 degrees of true south and when they are installed with shading devices or overhangs that prevent direct sun from entering the building in the summer while allowing direct sun in the winter. Windows and other glazing devices must also carry solar heat gain coefficient (SHGC) ratings of 0.50 or higher in order to allow sufficient amounts of heat into the building, but must carry a U-factor rating of 0.35 or less in order to provide sufficient insulation to the building.

(E) The cost of heat transportation systems shall be eligible provided they are part of the passive solar design and will not be used as part of a conventional heating system.

(F) Costs for the thermal storage mass of a passive solar system are eligible subject to the following:

1. For a non-loaded structure, 100% of the cost may be eligible;
2. For a loaded structure, 50% of the cost may be eligible;
3. Notwithstanding (1) and (2) above, the cost of thermal storage mass may not exceed 30% of the total system cost against which a tax credit is calculated.

(G) No tax credit shall be given if USEP concludes that the passive solar system does not supply heating when needed or allows more heat loss than gain in the winter months or overheating in the summer months.

R638-2-9. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Wind

(A) All eligible costs for wind energy systems must conform with Section R638-2-5, above. Wind energy systems must also meet the requirements in this Section.

(B) Wind systems of 50 kilowatts generating capacity or less must include a wind turbine that is either

1. Listed as eligible under the California Emerging Renewables Program in order to be eligible for a Utah commercial or residential tax credit. This list may be found at the following site:

http://www.consumerenergycenter.org/cgi-bin/eligible_smallwind.cgi; or

2. The applicant can demonstrate to USEP that the turbine meets standards that are equivalent to those of the California Emerging Renewables Program as of calendar year 2007.

(C) Inverters and charge controllers must be certified for safety by a Nationally Recognized Testing Laboratory as meeting Underwriters Laboratory Standard 1741.

(D) All wind energy systems must be designed and installed consistent with the National Electric Code. Grid connected systems must also meet all interconnection standards of the local electrical utility.

Applications for residential or commercial tax credits for grid connected systems must include a copy of an interconnection or net metering agreement with the local electrical utility.

(E) In order to be eligible for a residential or commercial tax credit, the taxpayer applicant must demonstrate that a wind energy system has been sited and installed appropriately. Specifically, the system should be

1. Installed such that the central tower or pole upon which the turbine is mounted is located a distance at least equal to one and one-half times the height of the tower or pole from any
 - a. Buildings;
 - b. Utility poles or overhead utility lines;
 - c. Fences, roads, or other structures outside of the boundaries of the taxpayer's property.
2. Installed such that wind flowing to the system is not obstructed or airflow diminished or turbulence created by nearby
 - a. Trees or other vegetation;
 - b. Buildings and other structures;
 - c. Hills, cliffs, or other topographical obstructions.

The photographs included with a wind energy system should include views of the system from all angles such that USEP can verify appropriate siting. USEP also reserves the right to conduct a site visit to verify appropriate siting.

(F) Wind turbines mounted on buildings are not eligible unless it can be demonstrated by a professional engineer that the building's soundness and structural integrity are not compromised by the wind energy system and that the attachments of the system to the building are sufficient to withstand the most extreme local weather conditions.

(G) Wind energy systems must include lightning protection to be eligible for residential or commercial tax credits.

(H) Wind turbines must be covered by a manufacturer's warranty that guarantees against defects in design, material, and workmanship for at least five years after installation under normal use in a wind energy system.

(I) In order to be eligible for a residential or commercial tax credit, a wind energy system must comply with all local building or zoning ordinances. Copies of any required permits should be included with the tax credit application.

(J) In order to be eligible for a residential or commercial tax credit, a wind energy system must be certified for electrical safety by either

1. A professional electrician licensed by the State of Utah;
2. A county or municipal building inspector licensed by the State of Utah.

Proof of this certification may be required with the tax credit application.

(K) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of a wind energy system is considered to be no higher than \$5 per watt of rated output capacity for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility).

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$5 per watt of capacity, the amount of the tax credit shall be calculated as follows:

$$\text{Tax credit granted} = ((\$5 * \text{rated output capacity in watts}) - \text{rebates}) * 0.25$$

2. For a commercial tax credit application with total eligible costs exceeding \$5 per watt, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

$$\text{Tax credit granted} = ((\$5 * \text{rated output capacity in watts}) - \text{rebates}) * 0.10$$

R638-2-10. Investment Tax Credit , Eligible Costs for Commercial and Residential Systems, Geothermal Heat Pumps

(A) All eligible costs for geothermal heat pump systems must conform with Section R638-2-5, above. Geothermal heat pump systems must also meet the requirements in this Section.

(B) In order to be eligible for residential or commercial tax credits, a geothermal heat pump system employed to heat and/or cool a building must derive at least 75% of the heating and cooling from the ground. Systems that provide more than an insignificant amount of energy to the building using combustion, cooling towers, air-source heat pumps, or any other mechanism not involving thermal ground coupling are not eligible.

(C) In order to be eligible for residential or commercial tax credits, a geothermal heat pump system must conform with the design and practice guidelines described in the American Society of Heating, Refrigerating, and Air Conditioning Engineers' (ASHRAE) Applications Handbook, Chapter 32.

(D) In order to be eligible for residential or commercial tax credits, a geothermal heat pump system must have been designed by either

1. A professional engineer licensed in Utah;
2. A person designated as a "Certified GeoExchange Designer" by the Association of Energy Engineers; or
3. A person designated as a "Certified Energy Manager" by the Association of Energy Engineers; or
4. For geothermal heat pump systems installed in a residential unit only, a person designated as an "Accredited Installer" by the International Ground Source Heat Pump Association (IGSHPA).

Proof of designer qualification may be required on the tax credit application.

(E) In order to be eligible for residential or commercial tax credits, a geothermal heat pump system must have been installed by a plumber licensed (S210) or HVAC contractor (S350) in the State of Utah or by an installer certified by the International Ground Source Heat Pump Association (IGSHPA). Proof of installer qualification may be required on the tax credit application.

(F) In the case of a system using a vertical bore (either ground source or water source), drilling must be performed by a water well driller licensed by the Utah Division of Water Rights. Wells drilled for a vertical bore must also obtain a provisional well approval from the Utah Division of Water Rights, Department of Natural Resources. Proof of driller qualifications and well approval may be required on the tax credit application.

(G) Costs incurred for the drilling of wells or excavating trenches are eligible if actually used within the final system for the exchange of heat with the ground. The cost of exploratory wells or trenches that are not used within the final system are not eligible.

(H) Design costs for a geothermal heat pump system are eligible but only for the components of the system that would not normally be associated with a conventional heating and air conditioning system. Tax credit applications should separate design costs for the geothermal and conventional components of the system.

(I) For closed loop systems (both ground source and water source), the heat exchanging pipe loop shall be warranted by the installer against leakage or breakage for not less than three years from the date of installation.

(J) For purposes of computing eligible costs for residential and commercial tax credits, the reasonable cost of a geothermal heat pump system is considered to be no higher than \$4,000 per ton of output capacity for all eligible costs listed above and in Section R638-2-5 and prior to any cash rebates or incentives that the taxpayer may receive from a third party (such as a utility).

1. For a residential tax credit application with total pre-rebate eligible costs exceeding \$4,000 per ton of capacity, the amount of the tax credit shall be calculated as follows:

$$\text{Tax credit granted} = ((\$4,000 * \text{rated output capacity in tons}) - \text{rebates}) * 0.25$$

2. For a commercial tax credit application with total eligible costs exceeding \$4,000 per ton, the amount of the tax credit shall be calculated as 10% of costs calculated as follows:

$$\text{Tax credit granted} = ((\$4,000 * \text{rated output capacity in tons}) - \text{rebates}) * 0.10$$

3. If the cost of a geothermal heat pump system exceeds \$4,000 per ton of capacity due to unusual and/or unavoidable circumstances (such as poor soil or drilling conditions) the taxpayer applicant may request that the reasonable cost limitation above be waived by USEP. In order to do so, the applicant must provide written documentation and explanation from the designer or installer of the system as to why the final system cost exceeded this limit. Granting of such a waiver will be at the discretion of USEP and UGS after investigation as to the validity of the waiver claim.

R638-2-11. Investment Tax Credit, Eligible Costs for Commercial Systems and Residential Systems, Geothermal Electricity

(A) All eligible costs for geothermal electric systems must conform with Section R638-2-5, above. Geothermal electric systems must also meet the requirements in this Section.

(B) Eligible equipment costs for a geothermal electrical system are limited to components up to the point of interconnection with AC service when powering a building, or up to the point of interconnection with the electrical grid for systems intended solely for the sale of power. Eligible equipment costs include production and injection wells and well casings, wellhead pumps, and turbine generators. In addition, flash tanks (flash steam systems), heat exchangers (binary cycle systems), condensers, cooling towers, associated wiring and disconnects, and associated pumps are eligible.

(C) Design costs for a geothermal electrical system are eligible but only for the cost of integrating the eligible components of the system that are listed in (B) above. Tax credit applications should separate design costs for the geothermal and conventional components of the system.

(D) Costs for studies to characterize a geothermal resource are eligible so long as a final system using the geothermal resource is built and placed into operation.

(E) Costs incurred for the drilling of wells are eligible if such wells are actually used (whether for withdrawal or reinjection of water) within the final geothermal electrical system. The cost of exploratory wells that are not used within the final system are not eligible.

(F) In the case of a system that includes any well greater than 30 feet in depth, any drilling must be performed by a water well driller licensed by the Utah Division of Water Rights. All such wells, whether water is returned to the ground through a recharge well or used or discharged at the surface, require an approved water right certification issued by the Utah state engineer in the Division of Water Rights, Department of Natural Resources. Proof of driller qualifications and well right may be required on the tax credit application.

(G) In order to be eligible for residential or commercial tax credits, a geothermal heat pump system must have been designed by either

1. A professional engineer licensed in Utah; or
 2. A person designated as a "Certified Energy Manager" by the Association of Energy Engineers.
- Proof of designer qualification may be required on the tax credit application.

(H) In order to be eligible for a residential or commercial tax credit, a geothermal electricity system must be certified for safety by either

1. A professional electrician licensed by the State of Utah;
 2. A county or municipal building inspector licensed by the State of Utah.
- Proof of this certification may be required with the tax credit application.

R638-2-12. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Direct Use Geothermal

(A) All eligible costs for direct use geothermal systems must conform with Section R638-2-5, above. Direct use geothermal systems must also meet the requirements in this Section.

(B) Eligible costs for a direct use geothermal system are limited to components that would not normally be associated with a conventional hot water heating system. Eligible equipment costs include wells and well casings, wellhead pumps, and heat exchangers where well water is not directly used within a building or a manufacturer's heating system. Equipment and components beyond the wellhead or, where applicable, a heat exchanger, are not eligible. However, water treatment equipment that would permit the direct use of well water within a heating system, is considered eligible.

(C) Design costs for a direct use geothermal system are eligible but only for the components of the system that would not normally be associated with a conventional hot water heating system. Tax credit applications should separate design costs for the geothermal and conventional components of the system.

(D) Costs for studies to characterize a geothermal resource are eligible so long as a final system using the geothermal resource is built and placed into operation.

(E) Costs incurred for the drilling of wells are eligible if such wells are actually used (whether for withdrawal or reinjection of water) within the final direct use geothermal system. The cost of exploratory wells that are not used within the final system are not eligible.

(F) In the case of a system that includes any well greater than 30 feet in depth, any drilling must be performed by a water well driller licensed by the Utah Division of Water Rights. All such wells, whether water is returned to the ground through a recharge well or used or discharged at the surface, require an approved water right certification issued by the Utah state engineer in the Division of Water Rights, Department of Natural Resources. Proof of driller qualifications and well right may be required on the tax credit application.

R638-2-13. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Hydroenergy

(A) All eligible costs for hydroenergy systems must conform with Section R638-2-5, above. Hydroenergy systems must also meet the requirements in this Section.

(B) Eligible equipment costs for a hydroenergy system are limited to components up to the point of interconnection with AC service when powering a building, or up to the point of interconnection with the electrical grid for systems intended solely for the sale of power. The costs of the following hydroenergy system components are eligible for residential or commercial tax credits:

1. Turbine;
2. Generator;
3. Rectifier;
4. Inverter;
5. Penstocks;
6. Penstock ventilation;
7. Buck and boost transformer;
8. Valves;
9. Drains;
10. Diversion structures (with the exception of storage dams, fish facilities, and canals);
11. Screened intake device; and
12. Wiring and disconnects from generator to the inverter and from the inverter to the point of interconnection with the AC panel.

(C) The costs of additional components of hydroenergy systems are eligible for residential or commercial tax credits if the hydroenergy system is not grid connected and it provides electricity to a

building or structure that is more than one quarter mile from a power distribution line operated by a retail electric utility provider. If these conditions are met, the following components are also eligible:

1. Batteries and necessary wiring and disconnects;
2. Battery temperature sensors;
3. Charge controller and necessary wiring and disconnects;
4. Electric load governor and necessary wiring and disconnects.

(D) In order to be eligible for a residential or commercial tax credit, a hydroenergy system must be certified for safety by either

1. A professional electrician licensed by the State of Utah;
2. A county or municipal building inspector licensed by the State of Utah.

Proof of this certification may be required with the tax credit application.

R638-2-14. Investment Tax Credit, Eligible Costs for Commercial and Residential Systems, Biomass

(A) All eligible costs for biomass systems must conform with Section R638-2-5, above. Biomass systems must also meet the requirements in this Section.

(B) Eligible costs for biomass systems do not include the cost of equipment or labor for the growing or harvesting of biomass materials, nor the storage of biomass materials at a location separate from the facility at which electricity or fuel will be produced. It also does not include the cost of transporting biomass materials to the facility where electricity or fuel will be produced.

(C) For biomass systems that produce fuels, eligible system costs include the costs of equipment to receive, handle, collect, condition, store, process, and convert biomass materials into fuels at the processing site.

(D) For biomass systems that use biomass as the sole fuel for producing electricity, the following are eligible equipment costs:

1. Systems for collecting and transporting methane from a digester or landfill;
2. On-site systems or facilities for collecting biomass that will be used in a digester or boiler;
3. Equipment necessary to prepare biomass for use as a fuel (e.g. driers, chippers);
4. Engines or turbines used to power generators;
5. Generators;
6. Inverters;
7. Wiring and disconnects from the generator to the inverter and from the inverter to the point of interconnection with the AC panel.

(F) Grid connected systems must meet all interconnection standards of the local electrical utility and must include with an application for a residential or commercial tax credit a copy of an interconnection or net metering agreement with the local electrical utility.

(G) In order to be eligible for residential or commercial tax credits, a biomass system that produces electricity must have been designed by either

1. A professional engineer licensed in Utah; or
2. A person designated as a “Certified Energy Manager” by the Association of Energy Engineers.

Proof of designer qualification may be required on the tax credit application.

(H) In order to be eligible for a residential or commercial tax credit, a biomass system must be certified for safety by either

1. A professional electrician licensed by the State of Utah;
2. A county or municipal building inspector licensed by the State of Utah.

Proof of this certification may be required with the tax credit application.

R638-2-15. Certification of Production Tax Credit Eligibility

(A) Businesses seeking to claim production tax credits must first apply to USEP for certification that a commercial energy system has been installed, is a viable energy production system, and meets all other relevant requirements of Utah Code 59-7-614 and 59-10-1106. Such certification shall be sought within the first six months of the system being placed into commercial service.

(B) Eligibility for production tax credits is limited to commercial energy systems that are also any of the following:

1. Biomass systems;
2. Wind energy systems; or
3. Geothermal electricity systems.

In addition, the name plate capacity of any system seeking production tax credits must be 660 kilowatts or greater. Electricity produced by the system must either be used by the business seeking a production tax credit or sold in order to be eligible for credits.

(C) Businesses may request certification by providing the following to USEP:

1. A written request for certification of a commercial energy system for eligibility to receive a production tax credit;
2. Information about the company seeking certification, including legal name, type of legal entity, address, telephone number, and the name and telephone number of a contact person regarding the request;
3. A description of the commercial energy system including the type of facility, total nameplate capacity, the methods to be used to produce fuel or electricity, and a list of major fuel or electricity producing components. Systems generating electricity should also provide the number, manufacturer, and model number of generating turbines to be used;
4. Information on the location of the commercial energy system sufficient to permit site inspection by USEP staff. For wind farms this should include a map of the turbine layout. For geothermal systems this should include a map showing production and injection wells along with the location of the generating turbine or turbines;
5. Photographs of key and/or representative components of the commercial energy system;
6. Projected annual electricity production in kilowatt hours for the commercial energy system once it has entered commercial service;
7. The date on which the commercial energy system entered or is expected to enter commercial service.

(D) A business requesting certification for production tax credits must also include with its request information on ownership of the commercial energy system. If the business seeking tax credit certification leases the commercial energy system, it must provide with its request evidence that the lessor of the system has irrevocably elected not to claim production tax credits for the system.

(E) If a business plans to claim production tax credits for electricity that is used and not sold, it must install a separate metering system to measure the electricity production of the commercial energy system. Such metering should be unidirectional, tamperproof, and should measure only the electricity production attributable to the commercial energy system. The meter must also measure net electricity from the system (i.e. gross electricity from the generator minus any electricity used to operate the system itself).

(F) Upon receipt of a request for certification, USEP staff will assess whether the commercial energy system applying for production tax credit certification is a viable system and whether the system has been completely installed. USEP may request that a field inspection take place to verify information in the certification request and to ensure that the system conforms with the requirements of Utah Code 59-7-614 and with this rule.

(G) USEP will respond to a request for certification of eligibility for production tax credits within sixty days of receipt. However, if incomplete information is received or permission for field inspection has

not been granted after sixty days, USEP will have an additional 30 days after receipt of complete information and/or field inspection to respond positively or negatively to a certification request.

(H) Consistent with Utah Code 63-46b (Administrative Procedures Act), upon its decision to grant or deny a certification request, USEP will inform the requesting company in writing of its decision. A copy of the written decision will also be provided to the Utah State Tax Commission in order to document the company's eligibility to claim production tax credits on future tax returns.

R638-2-16. Granting of Production Tax Credits

(A) In order for a company to be granted production tax credits on a return filed under Chapter 59, Chapter 7, Corporate Franchise and Income Taxes, or Chapter 10, Individual Income Tax Act, USEP must validate the amount of tax credits the company may claim for each commercial energy system. In order to claims to be validated, the company must submit to USEP information regarding the following:

1. The date that the commercial energy system first entered commercial service;
2. The beginning and ending dates of the company's tax year;
3. The number of kilowatt hours produced by the system that were sold or used during the company's tax year and that were also used or sold within the system's production tax credit window.

All such information will be provided on a standard claim form created by USEP.

(B) For purposes of validating the number of kilowatt hours sold, the company should also submit to USEP invoices or other information that documents that number of kilowatt hours of electricity sold.

(C) For purposes of validating the number of kilowatt hours produced and used, the company should submit monthly readings from the meter used to measure the net output of the commercial energy system. USEP will retain the right to site inspect the system and meter to validate that the readings provided are true and accurate.

(D) Once it has received a production tax credit claim from a company, USEP will make a determination as to:

1. Whether the information provided conforms with this rule and is complete;
2. Whether the number of kilowatt hours claimed appears to be feasible and accurate;
3. The number of kilowatts deemed to be valid;
4. The amount of tax credit that the company may claim on its corporate income tax return. This

amount will equal 0.35 cents per each validated kilowatt hour of electricity used or sold during the company's tax year and within the systems production tax credit window.

(E) A company claiming a production tax credit must submit the information specified above to USEP on or before the date the tax return on which the credit is claimed is required to be filed with the State Tax Commission. Once USEP has received complete information necessary to validate a production tax credit claim, it will provide to the company a completed validation form (to be created by either USEP or the Utah State Tax Commission) within thirty days. The form will specify the validated number of kilowatt hours that are eligible for credit and the amount (in dollars) of production tax credits that the company may claim for the commercial energy system for that tax year.

(F) If USEP denies, in whole or in part, an application for a tax credit, the taxpayer applicant may, consistent with Utah Code 63-46b-12 (Administrative Procedures Act), request that the decision be reviewed by the USEP manager. If, after review by the manager, the taxpayer desires a further appeal, he or she may request reconsideration of the decision by the director of UGS, consistent with Utah Code 63-46b-13.

(G) Information submitted by an applicant under this section for validating a production tax credit claim will be classified as protected information under UC 63-2-304 (1) and/or UC 63-2-304 (2) when the applicant provides USEP with a written claim of confidentiality and a concise statement supporting the claim, consistent with UC 63-2-308 (1)(a)(i). USEP shall provide the opportunity to make such a claim on the standard form referenced in subsection (A) above.

R638. Natural Resources, Geological Survey

R638-3: Energy Efficiency Fund

R638-3-1. Purpose

This rule is for the purposes of

A. Conducting the responsibilities assigned to the Board of the Utah Geological Survey (UGS) and the State Energy Program (SEP) in managing the Energy Efficiency Fund and implementing the associated loan program established in Utah Code Section 53A-20c-102; and

B. Establishing requirements for eligibility for loans from the Energy Efficiency Fund, procedures for accepting, evaluating, and prioritizing applications for loans, and the terms and conditions for loans.

R638-3-2. Authority

Pursuant to Utah Code Section 53A-20c-102, the UGS board shall make rules establishing criteria, procedures, priorities, and conditions for the award of loans from the Energy Efficiency Fund.

R638-3-3. Definitions

A. "Board" means the Board of the Utah Geological Survey.

B. "Energy" means, for the purposes of this rule, electricity, natural gas or other methane, fuel oil, coal, or propane that is used by a school district to operate a building's electrical devices, lighting, heating and cooling systems, and other equipment necessary for the building's operation.

C. "Energy cost payback" means the period of time, generally expressed in years, that is needed for the energy cost savings of an energy efficiency project to equal the cost of the energy efficiency project. It does not include the time-value of money and is sometimes referred to as simple payback.

D. "Energy cost savings" means the value to a school district of the energy that is saved or is not consumed as a result of an energy efficiency project and is generally stated on an annual cost savings basis. This value is measured based upon the current cost per unit of the energy source or sources used by the building at which an energy efficiency project is to take place.

E. "Energy efficiency project" means

1. For existing buildings, a retrofit to improve energy efficiency; or

2. For new buildings, an enhancement to improve energy efficiency beyond the minimum required by the energy code.

3. It does not mean

a.. The repair of existing buildings or equipment;

b. Projects that save money through the switching of fuels, energy sources, or vendors;

c. Projects or measures intended to save money by changing the time of day or year at which energy is consumed; or

d. Upgrades to non-fixed appliances or equipment within a building such as computers, copiers, and other systems.

F. "Energy savings" means the source thermal value (British thermal units or Btu's) of energy saved or not consumed as a result of an energy efficiency project. For purposes of this rule, the following conversion factors are used in converting energy units saved by a project into source Btus's when evaluating loan applications:

1. Electricity – One kilowatt hour = 10,495 Btu's.

2. Natural gas or methane – One therm = 100,000 Btu's.

3. Natural gas or methane – One cubic foot = 1,030 Btu's.

4. Fuel oil – One gallon = 138,690 Btu's.

5. Coal – One pound = 11,580 Btu's.

6. Propane – One gallon = 91,333 Btu's.

G. "Fund" means the Energy Efficiency Fund established by Utah Code Section 53A-20c-102.

H. "Utah Energy Code" means the most-recent edition of the International Energy Conservation Code currently in effect within the State of Utah and as incorporated and amended by Utah Rule 156.56 (Utah Uniform Building Standard Act Rules).

"Quarter" means a three month period beginning with one of the following dates: January 1, April 1, July 1, and October 1.

I. "SEP" means the State Energy Program, a subdivision of the Utah Geological Survey, which is required by Utah Code 53A-20c-102 to serve as staff to the revolving loan program associated with the Energy Efficiency Fund.

J. "UGS" means the Utah Geological Survey.

R638-3-4. Eligibility of Projects for Loans

A. Eligibility for loans from the Fund is limited to school districts within the state of Utah.

B. Loans may be used only by school districts to fully or partially finance energy efficiency projects within buildings owned and operated by the school district.

C. For energy efficiency projects involving renovation, upgrade, or improvement of existing buildings, the following project measures are eligible for loan financing from the Fund:

1. Building shell improvements;
2. Increase or improvement in building insulation;
2. Fenestration upgrades;
3. Lighting upgrades;
4. Lighting delamping;
5. Heating, ventilation, and air conditioning (HVAC) replacements or upgrades;
6. Improvements to energy control systems;
7. Other energy efficiency projects that a district can demonstrate will result in a significant reduction in the consumption of energy within a building.

D. An energy efficiency project can be eligible as part of a new building construction if the following conditions are met:

1. The building measure or system for which a loan is sought must surpass the minimum prescriptive requirements of the Utah Energy Code; and
2. The completed building must exceed the minimum energy performance standards of the Utah Energy Code for its building type by at least 10%.

E. There is no limit to the total number of loans a single district may receive from the Fund, however, no district may receive a loan that would cause the sum of its outstanding loan balances to exceed \$500,000.

F. An energy efficiency project is eligible for a loan only if the energy cost payback of the project is more than two and less than twelve years.

R638-3-5. Eligible Costs

A. This section defines the specific costs incurred by an energy efficiency project that are eligible for financing from the Fund.

B. The following direct costs of an energy efficiency project may be eligible for financing, subject to the remaining conditions of this section:

1. Building materials;
2. Doors and windows;
3. Mechanical systems and components including HVAC and hot water;
4. Electrical systems and components including lighting and energy management systems.
5. Labor necessary for the construction or installation of the energy efficiency project;

6. Design and planning of the energy efficiency project;
7. Energy audits that identify measures that are included in the energy efficiency project;
8. Inspections or certifications necessary for implementing the energy efficiency project.

C. The following costs are not eligible for financing from the Fund:

1. The costs of a construction or renovation project that are not directly related to energy efficiency measures;
2. Costs incurred for the acquisition of financing for the project;
3. Costs for equipment or systems that reduce energy costs without also resulting in reductions in the use of energy.

D. In cases for which the school district receives a financial incentive or rebate from a utility or other third party for undertaking some or all of the measures in an energy efficiency project, such incentives or rebates are to be deducted from the costs that are eligible for financing from the Fund. No loans made from the Fund may exceed the final cost incurred by the district for the project after third party financing.

E. For an energy efficiency project undertaken as part of a new building construction, only the incremental cost of the project is eligible. For purposes of this section, incremental cost means the portion of the overall cost of a measure or system that exceeds the cost that would have been incurred by meeting the minimum prescriptive requirements of the Utah Energy Code.

F. For an energy efficiency project undertaken as part of the renovation of an existing building, building components or systems that are covered by the prescriptive requirements of the Utah Energy Code must exceed the minimum Utah Energy Code requirements in order for their costs to be eligible for a loan from the Fund.

R638-3-6. Loan Application Process

A. The Board shall receive and evaluate applications for loans from the Fund no fewer than three times per year. Notice of due dates for applications will be made available to school districts no less than three months in advance of the next scheduled Board meeting at which applications will be evaluated.

B. School districts interested in applying for a loan should first contact SEP. SEP staff will consult or meet with district staff to make an initial assessment of the strength or weakness of a proposed project. SEP staff may also choose to conduct a site visit of the proposed project location prior an application. SEP staff may assist districts in evaluating potential project measures and in preparing an application.

C. Applications for loans will be made using forms developed by SEP. Application forms shall require that the following information be provided by the district:

1. Name and location of the district;
2. Name and location of the building or buildings where the energy efficiency project will take place;
3. A description of the building or buildings, including what the building is used for, seasonal variations in use, general construction of the building, and square footage;
4. A description of the current energy usage of the building, including types and quantities of energy consumed, building systems, and their age and condition;
5. A description of the energy efficiency project to be undertaken, including specific measures to be undertaken, the cost or incremental cost of each measure, and the equipment or building materials to be installed;
6. Projected or estimated energy savings that result from each measure undertaken as part of the project;
7. Projected or estimated energy cost savings from each measure undertaken as part of the project;
8. District funds expended per pupil in the district's most recent completed budget year;
9. A description of any additional community or environmental benefits that may result from the project.

D. Applications shall be received for the Board by the SEP which will conduct an initial review of each application. This initial review will be for the purpose of determining the completeness of the application,

whether additional information is needed, whether proposed projects, measures, and costs are eligible for loan financing, and to assist the loan applicant in improving its application.

E. The Board shall establish a Review Committee to provide in-depth evaluation of loan applications. The Committee must consist of at least the following:

1. The SEP Manager;
2. An SEP technical specialist chosen by the SEP Manager;
3. The UGS Associate Director;
4. One member of the Board selected by the Board for a two year renewable term;
5. A representative of the Utah Office of Education approved by the Board for a two year renewable term.

Other members may be designated at the discretion of the Board.

F. When SEP has deemed that an application is complete and that the proposed project complies with this rule, the application will be forwarded to the Review Committee for its evaluation. The Review Committee shall provide an opportunity for applicants to make presentations on their projects to the Committee before it has evaluated pending applications.

G. The Review Committee will review and discuss the merits of each application in light of the application provided by the applicant, presentations made by the applicant, and technical analysis undertaken by SEP staff. After discussion of each application, Review Committee members will evaluate each according to the following criteria and scoring:

1. The feasibility and practicality of the project (maximum 30 points);
2. The projected energy cost payback period of the project (maximum 20 points);
3. The energy cost savings attributable to the project (maximum 10 points);
4. The energy savings attributable to the project (maximum 20 points);
5. The financial need of the district for the loan including its financial condition, expenses per pupil, and the availability of other grants, rebates, or low-interest loans for the project (maximum 10 points);
6. The environmental and other benefits to the state and local community attributable to the project (maximum 10 points).

A separate score sheet will be completed by each Review Committee member for each application under consideration.

H. The Review Committee will compile the scores of each of its members for each application. Based upon the compiled scores of all members, the Committee will make recommendations to the Board for the funding of energy efficiency projects. For applications that receive an average score of less than 70 points, the Review Committee shall recommend that the Board not provide a loan from the Fund. Applications receiving an average score over 70 will normally be recommended for funding. However, if the current balance of the fund does not permit for the funding of all projects with an average score over 70, the Review Committee will recommend, beginning with the highest scoring application and working downward in score, those applications that may be funded given the current balance of the Fund.

I. The Review Committee provides advice and recommendations to the Board. It is not vested with the authority to make decisions regarding the public's business in connection with the Fund. The Board is the decision making authority with regard to the award of loans from the Fund.

J. Based upon the Review Committee's evaluations and recommendations, SEP will prepare a memorandum for the Board that will

1. Provide a brief description of each project reviewed by the Review Committee;
2. List the energy savings, energy cost savings, and cost payback for each project as estimated by the applicant;
3. List the energy savings, energy cost savings, and cost payback for each project as estimated by the SEP technical specialist for the program;

4. List the aggregated total score and scores in each evaluation criterion for each application;
5. Specify projects recommended for funding and those not recommended for funding;
6. Provide a brief explanation of the Review Committee's rationale for each application that is not recommended for funding.

This memorandum is to be provided to each member of the Board no less than one week prior to the next scheduled Board meeting at which applications will be evaluated.

K. At its next scheduled meeting after the Review Committee has met, the Board will consider pending applications for loans from the Fund and will review the Review Committee's recommendations for each project. The Board will then vote on each application. Applications receiving a majority of votes for approval from members that are present will be awarded loans from the Fund.

L. When considering Loan applications, the Board may modify the dollar amount or project scope for which a loan is awarded if the Board determines that individual measures included in a project do not meet the requirements of this rule, are not cost effective, or that funds could better be used for funding of other projects.

R638-3-7. Loan Terms

A. The maximum amount that may be approved by the Board for any single energy efficiency project is \$250,000. The minimum amount that may be approved is \$5,000.

B. No district may receive a loan that would cause the sum of its outstanding loan balances to exceed \$500,000.

C. The amount of a loan award approved by the Board represents a maximum approved project cost. The final value of any loan may vary from the Board-approved amount according to the actual incursion of costs by the school district. In cases where costs have exceeded those presented in the initial application, a district may request that the Board increase its loan award, subject to the limitations of subsections (A) and (B) above.

D. After approval of a loan application by the Board, a school district has one year in which to complete the energy efficiency project. If at the end of one year a school district is unable to meet this time limitation, it may request an extension from the Board of no more than six additional months.

E. Loan amounts from the Fund will be disbursed only upon the completion of an energy efficiency project.

F. Once a project has been completed, the school district shall provide to SEP documentation of actual costs incurred, such as invoices from contractors, as well as information on any third party financial incentives received. SEP will use this information to determine the actual cost of the project measures approved by the Board.

G. The final loan amount will be equal to actual costs incurred for the project minus the value of any third party incentives received unless

1. This amount exceeds \$250,000, in which case the amount of the loan will be set at \$250,000; or
2. This amount exceeds the amount approved by the Board, in which case the loan amount will be set at the amount originally approved by the Board; or
3. This amount exceeds the amount approved by the Board and the Board increases the loan award at the request of the school district.

H. No interest will be charged to school districts receiving loans for energy efficiency projects from the Fund.

I. A small administrative fee may be charged to loan recipients to defray the cost of servicing loan accounts. The fee will be no less than \$100 and no more than \$200 per year of the loan's term.

J. Loan repayment periods will be set to be approximately equal to the energy cost payback of each loan. The loan repayment period for a specific energy efficiency project begins with the first day of the next quarter after loan funds have been disbursed.

K. Loan repayments will be due at the beginning of each quarter.

L. Loan repayment amounts will be calculated as follows:

$((\text{Final loan amount} + \text{administrative fee}) / \text{cost payback period}) / 4$

M. School districts that are approved for a loan award will enter into a contract with SEP that specifies all terms applying to the loan, including the terms specified in this rule and standard contract terms for contracts and loans currently in effect for the State of Utah.

R638-3-8. Reporting and Site Visits

A. In the period between Board approval and project completion, the school district shall complete and provide to SEP a report at the beginning of each quarter. The report shall include information on the district's progress in completing the energy efficiency project, its most-current estimate for the time of project completion, and any notable problems or changes in the project since Board approval such as construction delays or cost overruns.

B. After loan funds have been disbursed, the school district shall complete and provide to SEP annual reports due at the beginning of the calendar quarter in which the anniversary of the loan disbursement occurs. This report shall include the following:

1. A description of the performance of the building and of the performance of the measures included in the energy efficiency project;
2. A description of any notable problems that have occurred with the building or the project;
3. A description of any notable changes to the building or to its operations that would cause a significant change in its energy consumption;
4. Copies of energy bills incurred for the building during the prior year such as electric and utility bills or shipping invoices for fuels such as fuel oil or propane;
5. Documentation of energy consumed by the building in the prior year.

Annual reports shall be provided for either the first four years after project completion or for each year of the repayment period, whichever is longer.

C. If a schools district fails to submit the annual reports described in subsection (B) above, the Board may bar the district from eligibility for future loans from the Fund

D. Approximately one year after project completion, SEP staff will conduct a site visit to the location of the energy efficiency project to verify project completion and assess the success of the project. Additional site visits may also be conducted by SEP staff during the repayment period. Loan recipients will assist SEP with such site visits, including providing access to all components of the energy efficiency project.

