State and Federal Incentives for Small Power and Direct-Use Geothermal Production

By Dan Jennejohn

Photo: Workers install a Pratt and Whitney Power Systems 280 kW PureCycle geothermal unit at the Oregon Institute of Technology.

Geothermal Energy Association
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Table of Contents

PLEASE NOTE: Statements made in this document should not be used as tax or investment advice. Readers are advised to seek professional counsel regarding specific provisions or projects, and to check current state and federal laws and regulations regarding the specifics of any provision and any changes that may have occurred to them. While GEA staff has sought to be accurate in their descriptions, these are summaries of complex laws and regulations that are subject to change. We apologize for any errors or omissions.

1. Introduction

The 2009 American Recovery and Reinvestment Act (ARRA) provided billions of dollars in funding to the renewable energy industry in the form of tax credits, federal grants, and loans. For geothermal activities at DOE alone, ARRA allocated some $400 million in stimulus funding. With thousands of megawatts of geothermal resources in different stages of development[1] industry developers are eager to take advantage of government incentives as a means by which to supplement private sector financing prospects for their projects. The federal Production Tax Credit (PTC) as well as the federal Investment Tax Credit (ITC) and the alternative U.S. Treasury Department Renewable Energy Grant have all captured the attention of geothermal developers in recent months because they potentially provide geothermal companies with significant financial incentives.

Other federal incentives beyond the PTC, ITC, and cash grant are available for the development of domestic geothermal resources. In a review conducted by the Geothermal Energy Association (GEA) no less than 12 federal incentives for the production of geothermal energy were identified. Out of these federal incentives 12 are provided for the production of electricity from geothermal resources and 4 are provided for the development of geothermal direct-use projects. While some of the federal incentives have been in existence for some time (the PTC was enacted in 1992) many of the federal incentives have been enacted within the last four years or have been applied to geothermal energy only recently. Additionally, older incentives have been modified by more recent legislation (again the option of taking the ITC or grant instead of the PTC being a recent example).

While federal financial policies may provide valuable catalysts to the production of geothermal resources there are significant incentives coming from state governments as well. Indeed, many state policies provide substantial incentives for geothermal development. For example, California's feed-in tariff for renewable electricity generation provides a guaranteed purchase price of approximately 9¢ to 11¢ per kWh for power produced from small renewable generators. In a review of the energy policies of states

[1] Slack, Kara. GEA. *U.S. Geothermal Power Production and Development Update.* March, 2009.

with identified geothermal resources (Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Washington) the GEA identified no less than 38 incentives promoting the development of geothermal resources. Out of these state policies 35 incentives are provided for the production of electricity from geothermal operations and 6 incentives are provided for the production of direct-use geothermal energy.[2] A number of incentives were less specific about what types of renewable energy technologies would be eligible for state and/or local assistance.

[2] Geothermal direct-use operations utilize geothermal fluid directly, without involving a power plant or heat pump, for a variety of applications such as space heating, food preparation, bathing and spas, agriculture, aquaculture, greenhouses, and industrial processes. U.S. installed capacity for direct-use systems is approximately 470 MW. Blodgett, Leslie. Slack, Kara. GEA. *Geothermal 101: Basics of Geothermal Energy Production and Use.* February, 2009. Page 8.

2. State Incentives

A large number of state as well as the federal governments have enacted policies promoting the development of in-state renewable energy resources. While the increase in state legislative activity promoting renewable energy is welcome, it has also produced a network of policies and programs that can be difficult to navigate. In order to help geothermal companies and developers better navigate the patchwork of state and local-level incentives promoting the development geothermal resources, the GEA has conducted a review of the current policies.

The most common state-level incentives for the development of geothermal energy were tax incentives. As seen in Table 1, there are no less than 27 tax-based incentives for the development of geothermal resources. The tax-based incentives fall under the different categories of personal, corporate, sales, and property taxes with property tax-based incentives being the most common. Loans for the development of geothermal energy are also common (no less than 6 are provided).

State incentives were initially reviewed via the Department of Energy's (DOE)'s DSIRE Database of State Incentives for Renewable Energy and Efficiency. Aggregated information was then separated by state and sent to respective state energy departments, offices, authorities, etc. for review. As state energy representatives provided feedback it became apparent that the DSIRE database, while useful and comprehensive, failed to capture all available incentives for the development of geothermal resources and had some errors. This is especially true in regards to geothermal direct-use incentives. Some states that were not listed in the DSIRE database as having direct-use incentives indicated they were indeed provided when contacted directly by GEA.

Table 1: Overview of State-Level Geothermal Incentives

State	Personal Tax	Corporate Tax	Sales Tax	Property Tax	Rebates	Grants	Loans	Industry Support	Bonds	Production Incentives
Federal	-	+3	-	-	-	+3	+4	+	-	+
Alaska	-	-	-	-	-	+	-	-	-	-
Arizona	-	-	-	+	+3	-	-	-	-	-
California	+	-	-	-	-	-	-	-	-	+
Colorado	-	-	+2	+2	-	+	+	-	-	-
Hawaii	-	-	-	-	-	-	-	+	-	-
Idaho	-	-	+	+	-	-	-	-	+	-
Montana	-	+	-	+3	-	-	-	-	-	-
Nevada	-	-	+	+3	-	-	-	-	-	-
New Mexico	-	+	-	+	-	-	-	+	-	+
Oregon	-	+	-	+	-	-	+	-	-	-
Utah	+	+	+	-	-	-	-	+	-	-
Washington	-	-	+	-	-	-	-	-	-	+
Total	2	7	6	12	3	5	6	4	1	4

Legend:
- absence of that particular incentive in the respective state
+ presence of one particular incentive/program within the state.
+# more than one incentive of that particular type are available within the respective state

Source: U.S. Department of Energy, GEA.

As indicated in Table 2, every state reviewed provides incentives for the production of electricity from geothermal resources (indirect use) and all but two provide incentives for the implementation of geothermal heat pumps.[3] Most of the incentives provided for indirect-use projects do not have a level of minimum production capacity. Those that do set the level quite low (around 1 kW) and some even have a low maximum capacity level (see section 2.3., California Feed-in Tariff). Thus significant incentives for small power production are prevalent. Direct-use incentives, on the other hand, are less common.

[3] Geothermal Heat Pumps (GHP) are used to heat or cool buildings. GHPs circulate water or other fluids through pipes buried in a continuous loop and at depths of 10 to 300 ft. Using the relatively constant temperature of the earth's crust GHPs provide heat by pulling from the earth via a working fluid and distributing it to a building through a conventional duct system. For cooling, the process is reversed; the system extracts heat from the building and transfers it into the earth via the buried loop. Blodgett, Leslie. Slack, Kara. GEA. *Geothermal 101: Basics of Geothermal Energy Production and Use.* February, 2009. Page 8.

Table 2: State Incentives for Geothermal Indirect-Use, Direct-Use, and Heat Pump Incentives

State	Indirect-Use (power) Incentive	Direct-Use Incentive	Heat Pump Incentive
Federal	Yes	Yes	Yes
Alaska	Yes	Yes	No
Arizona	Yes	No	Yes
California	Yes	No	No
Colorado	Yes	No	Yes
Hawaii	Yes	No	Yes
Idaho	Yes	No	Yes
Montana	Yes	No	Yes
Nevada	Yes	Yes	Yes
New Mexico	Yes	No	Yes
Oregon	Yes	Yes	Yes
Utah	Yes	Yes	Yes
Washington	Yes	No	Yes

Source: U.S. Department of Energy, GEA.

It should be noted that not all incentives within a given state are provided by the state itself. In certain states (i.e. Arizona) the majority of incentives provided for the development of geothermal resources are provided by utilities, usually in the form of utility rebate programs. Also, certain incentives, while enacted by the state through legislation, are administered on a local level by municipalities or cities (see section 2.4., Colorado's Clean Energy Districts program for an example).

2.1. Alaska

Incentive: Alaska Energy Authority – Renewable Energy Grant Program

Type: State Grant Program

Eligible Technologies: Geothermal Electric, Geothermal Direct Use

Eligible Sectors: Commercial, Local Government, Utility, Tribal Government, Only Available for In-State Projects.

Requirements: project location within Alaska.

Summary: The grant program provides assistance to utilities, independent power producers, local governments, and tribal governments for feasibility studies, reconnaissance studies, energy resource monitoring, and work related to the design and construction of eligible facilities.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=AK12F&re=1&ee=1

2.2. Arizona

- **Incentive: Property Tax Assessment for Renewable Energy Property**

Type: Property Tax Assessment

Eligible Technologies: Non-petroleum renewable resources

Eligible Sectors: Utility, other entities that generate, transmit or distribute – but do not use – eligible electricity.

Requirements:

Summary: Renewable energy equipment that is owned by utilities and other entities operating in Arizona is assessed at 20% of its depreciated cost for the purpose of determining property tax. The expiration date of the incentive is extended through December 31, 2040.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=AZ30F&re=1&ee=1

- **Incentive: APS Renewable Incentive Program**

Type: Utility Rebate Program

Eligible Technologies: Geothermal Electricity, Geothermal Heat Pumps

Eligible Sectors: Commercial, Residential

Requirements: No size restrictions for grid-connected systems specified, less than 5 kW for off-grid systems.

Summary: Arizona Public Service (APS) offers customers who install geothermal electricity systems and geothermal heat pumps (as well as other renewables) the opportunity to sell renewable energy credits to APS. The amount of credits that can be sold to APS will be based upon system performance.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=AZ04F&re=1&ee=1

- **Incentive: TEP - Renewable Energy Credit Purchase Program**

Type: Utility Rebate Program

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Residential

Requirements: Minimum size is 1.2 kW.

Summary: Technologies eligible for credit-funding through Tucson Electric Power's (TEP) program are those that qualify as renewable resources under Arizona's renewable energy standard (RES). Incentives are offered in exchange for renewable energy certificates generated. Incentives for eligible geothermal systems are based upon performance.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=AZ15F&re=1&ee=1

- **Incentive: UES – Renewable Energy Credit Purchase Program**

Type: Utility Rebate Program

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Residential

Requirements:

Summary: UniSource Energy Services (UES) offers customers who install geothermal electricity systems and geothermal heat pumps (as well as other renewables) the opportunity to sell renewable energy credits to UES. The amount of credits that can be sold to UES will be based upon system performance.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/index.cfm?re=1&ee=1&spv=0&st=0&srp=1&state=AZ

2.3. California

- **Incentive: California Feed-in Tariff**

Type: Production Incentive

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Residential

Requirements: Eligible unit capacity < 1.5 MW

Summary: The feed-in tariff allows eligible customer generators to enter into 10-, 15-, or 20-year contracts with their utilities to sell electricity produced by small renewable energy systems with capacities up to 1.5 MW. The tariff is offered at time differentiated market-based prices. These prices typically range from an average of 9 to 11 cents per kWh. Attributed associate with the generation of

renewable electricity (such as credits) are transferred to the utility along with the sale of the electricity. Customer generators who sell to their utility cannot participate in other state programs.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA167F&re=1&ee=1

- **Incentive: Local Option – Property Tax Financing Authorization**

Type: Property Tax Financing Authorization

Eligible Technologies: Locally determined

Eligible Sectors: Commercial, Industrial, Residential, Multi-Family Residential, Agricultural

Requirements:

Summary: The state of California has authorized cities, counties, and areas within cities to provide financing for the installation of renewable energy systems via property tax financing. The amount that is borrowed from the state is repaid by the property owner through an increased property tax assessment over a period of years.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CA198F&re=1&ee=1

2.4. Colorado

- **Incentive: Clean Energy Fund – New Energy Economic Development Grant Program**

Type: State Grant Program

Eligible Technologies: Renewable distributed generation technologies

Eligible Sectors: Commercial, Industrial, Residential

Requirements:

Additional Details: Money from the Clean Energy Fund is appropriated through the Governors Energy Office for the purposes of advancing renewable energy and energy efficiency throughout the state. The New Energy Economic Development (NEED) program receives its funding from the clean energy fund, and provides grants, loans, and other financial incentives to attract manufacturers of renewable energy and energy efficiency products to the state.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO145F&re=1&ee=1

- **Incentive: Renewable Energy Property Tax Assessment**

Type: Property Tax Assessment

Eligible Technologies: Geothermal Electricity

Eligible Sectors: Commercial

Requirements:

Additional Details: Property tax assessment varies depending on rate set annually by the Division of Property Taxation.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO46F&re=1&ee=0

- **Incentive: Local Option – Clean Energy Finance Districts**

Type: Property Tax Financing Authorization

Eligible Technologies: Geothermal Electricity, Geothermal Heat Pumps

Eligible Sectors: Commercial, Industrial, Residential, Multi-Family Residential, Low income Residential, Agricultural, Institutional

Requirements:

Summary: Allows property owners to obtain financing for energy improvements and the amount borrowed is repaid through an increased property tax assessment over a period of years. Clean energy districts are established via voter approval and so may not be found all throughout the state of Colorado. Participating districts can create funds using money from bonds, financing agreements, contracts, agreements, gifts, grants, donations, and/or revenues from public utilities and financed projects.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO161F&re=1&ee=1

- **Incentive: Local Option – Sale and Use Tax Exemption for Renewable Energy Systems**

Type: Sales Tax Exemption

Eligible Technologies: Geothermal Electric, Other Renewables (not specified)

Eligible Sectors: Commercial, Residential, General/Public Consumer

Requirements:

Summary: The state of Colorado has authorized counties and municipalities to offer property or sales tax rebates or credits to residential and commercial property owners who install renewable energy systems on their property. The incentive would be administered at the local level by individual cities or counties.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO50F&re=1&ee=1

- **Incentive: Sales and Tax Use Exemption for Renewable Energy Equipment**

Type: Sales Tax Exemption

Eligible Technologies: Geothermal Electric, Other Renewables (not specified)

Eligible Sectors: Commercial, Industrial, Residential, General Public/Consumer, Non-Profit, Local Government, State Government, Agricultural, Institutional, Retail Supplier.

Requirements:

Summary: Colorado exempts all sales, storage, and use of components used in the production of renewable energy from its sales and use tax. The exemption applies only to state sales and use classes.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO160F&re=1&ee=1

- **Incentive: Gunnison County Electric – Renewable Energy Resource Loan**

Type: Utility Loan Program

Eligible Technologies: Renewable energy projects as approved by the board

Eligible Sectors: Commercial, Residential

Requirements:

Summary: Gunnison County Electric Association (GCEA) offers loans to renewable energy projects in the GCEA service territory. A loan of up $25,000 over 10 years is available to qualifying participants.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=CO08F&re=1&ee=1

2.5. Hawaii

- **Incentive: High Technology Business ITC**

Type: Industry Recruitment/Support

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Industrial

Requirements:

Summary: The State of Hawaii offers a tax credit on equity investment in a qualified high technology business (QHTB). A QHTB is a company that conducts more than 50% of its activities in qualified research, including researching and developing clean energy technologies. There are aggregate and periodic caps on the amount of credit a taxpayer can receive. Beginning on May 1, 2009, the State of Hawaii Department of Taxation will provide credit allotments to QHTBs on a first-to-apply basis. When applying for a credit allotment, a business must provide documentation regarding the investment for which the allocation is being sought. The maximum credit available to taxpayers investing in any single QHTB over five years, with investments made on or after May 1, 2009 and before January 1, 2011, is $10,000,000.

For investments made prior to May 1, 2009, the credit is as follows:

1) 35% in the year the investment was made (maximum credit of $700,000).
2) 25% in the first year following the year in which the investment was made (maximum credit of $400,000).
3) 20% in the second year following the year in which the investment was made (maximum credit of $400,000).
4) 10% in the third year following the year in which the investment was made (maximum credit of $200,000).
5) 10% in the fourth year following the year in which the investment was made (maximum credit of $200,000).

For investments made on and after May 1, 2009 and before January 1, 2011, the credit is as follows:

1) 20% in the year the investment was made (maximum credit of $400,000).
2) 20% in the first year following the year in which the investment was made (maximum credit of $400,000).
3) 20% in the second year following the year in which the investment was made (maximum credit of $400,000).
4) 20% in the third year following the year in which the investment was made (maximum credit of $400,000).
5) 20% in the fourth year following the year in which the investment was made (maximum credit of $400,000).

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=HI12F&re=1&ee=1

2.6. Idaho

- **Incentive: Property Tax Exemption for Wind and Geothermal Energy Producers**

Type: Property Tax Exemption

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial

Requirements:

Additional Details: Geothermal energy producers, excluding those regulated by the Idaho Public Utilities Commission, are exempt from paying taxes on real estate, fixtures or property related to renewable energy production. Geothermal producers must instead pay a tax of 3% of their gross energy earnings.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=ID34F&re=1&ee=1

- **Incentive: Renewable Energy Equipment Sales Tax Refund**

Type: Sales Tax Refund

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Residential

Requirements: Equipment must serve a facility capable of generating 25 kW.

Additional Details: Purchasers of equipment and machinery used in the generation of renewable electricity from geothermal and other resources can qualify for a sales-and-tax rebate.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=ID08F&re=1&ee=1

- **Incentive: Renewable Energy Project Bond Program**

Type: State Bond Program

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, (Independent Power Producer)

Requirements:

Additional Details: Independent (non-utility) developers of renewable energy can request financing from the Idaho Energy Resources Authority, a state bonding authority created in March 2005.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=ID06F&re=1&ee=1

2.7. Montana

- **Incentive: Alternative Energy ITC (Corporate)**

Type: Corporate Tax Credit

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements:

Additional Details: Commercial and net-metering alternative energy investments of $5,000 or more are eligible for a tax credit of up to 35% against individual or corporate tax on income generated by the investment. Credit is applied only against taxes due as a consequence of taxable or net income produced by one of the following:

- A manufacturing plant that is located in Montana and that produces alternative energy generating equipment.
- A new business facility or the expanded portion of an existing business facility for which the alternative energy generating equipment supplies, on a direct contract sales basis, the basic energy needed, or
- The alternative energy generating equipment in which the investment was made, for the credit being claimed.

The credit is available to taxpayers purchasing a new facility as well as to those building a new facility.

The tax credit must be taken the year the equipment is placed in service; however, any portion of the tax credit that exceeds the amount of tax to be paid may be carried over and applied against state tax liability for the following 7 years.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MT07F&re=1&ee=0

- **Incentive: Corporate Property Tax Reduction for New/Expanding Generating Facilities**

Type: Property Tax Assessment

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements: Facilities must have a capacity of at least 1 MW.

Additional Details: Renewable electricity generating plants are eligible for the new or expanded industry property tax reduction on the local mill levy during the first 9 years of operation. The facility is taxed at 50% of its value during the first 5 years of operation, after which the percentage is increased by equal percentages until the full taxable value is attained in the tenth year.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.

http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MT22F&re=1&ee=1

- **Incentive: Generation Facility Corporate Tax Exemption**

Type: Property Tax Exemption

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements: Less than 1-MW nameplate capacity.

Additional Details: New electricity generating facilities that produce renewable energy (< 1 MW) in Montana are exempt from property taxes for 5 years after operations begin. Taxable value of the property will vary according to property ownership and class.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MT20F&re=1&ee=1

- **Incentive: Renewable Energy Systems Exemption**

Type: Property Tax Exemption

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Industrial, Multi-Family Residential, Agricultural

Requirements:

Additional Details: Property tax exemption may be claimed for 10 years after installation of the property. Exemptions are allowed for single-family residential dwellings up to $20,000 in value and for multi-family residential dwellings or a non-residential structure up to $100,000 in value. This property is class 4 property and otherwise would be taxed 3.01 of assessed value.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=MT03F&re=1&ee=1

2.8. Nevada

- **Incentive: Renewable Energy Sales and Use Tax Abatement**

Type: Sales Tax Exemption

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Utility, Agricultural (Renewable Energy Power Producers)

Requirements: Systems must have a generating capacity of at least 10 MW.

Job creation/quality requirements

- Specific number of full-time employees (a certain percentage of whom must be NV residents) must be employed during construction.
- Hourly wage paid to facility employees and construction workers must be a certain percentage higher than the state-wide average hourly wage.
- Capital investment of a specific amount must be made in NV.
- Provide construction workers with health insurance.

Additional Details: Qualifying facilities for the generation of electricity from geothermal resources will receive for three (3) years a partial abatement of local sales and use tax in excess of 6.0% and state sales and use taxes are capped at 2.6%.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NV22F&re=1&ee=0

- **Incentive: Renewable Energy Producers Property Tax Abatement**

Type: Property Tax Assessment

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Utility, (Renewable energy producers)

Requirements: Minimum 10-MW capacity

Summary: New or expanded businesses in Nevada may apply to the Director of the State Office of Energy for a property tax abatement of up to 55% for up to 20 years for property used to generate electricity from renewable resources.

Job creation/quality requirements

- Specific number of full-time employees (a certain percentage of whom must be NV residents) must be employed during construction.
- Hourly wage paid to facility employees and construction workers must be a certain percentage higher than the state-wide average hourly-wage.
- Capital investment of a specific amount must be made in NV.
- Provide construction workers with health insurance.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NV01F&re=1&ee=0

- **Incentive: Renewable Energy Systems Property Tax Exemption**

Type: Property Tax Exemption

Eligible Technologies: Geothermal Electric, Geothermal Direct Use, Geothermal Heat Pumps.

Eligible Sectors: Commercial, Industrial, Residential

Requirements:

Summary: Any value added by a qualified renewable energy system is subtracted from the assessed value of any residential, commercial, or industrial building for property tax purposes. There is no MW limit or threshold and the exemption applies to all years following approval.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NV02F&re=1&ee=0

- **Incentive: Local Option – Special Improvement Districts**

Type: Property Tax Financing Authority

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Industrial, Residential, Multi-Family Residential

Requirements:

Summary: Property tax financing allows property owners to borrow money to pay for energy improvements. The amount borrowed is repaid through an increased property tax assessment over the period of years. Local governments have bee authorized by the state of Nevada to create and manage "special improvement districts" to provide financing for renewable energy improvements. Contact you local government to find out if this incentive is offered in your area.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NV23F&re=1&ee=0

2.9. New Mexico

- **Incentive: Advanced Energy Tax Credit (Corporate)**

Type: Corporate Tax Credit

Eligible Technology: Geothermal Electric

Eligible Sector: Commercial

Requirements: 1 MW or greater generating capacity

Summary: Geothermal power plants are eligible for 6% tax credit against gross receipts, compensating, withholding, personal, or corporate taxes. The tax credit amount is capped at $60 million. Unused credit may be carried forward for up to 5 years.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NM20F&re=1&ee=1

- **Incentive: Alternative Energy Product Manufacturers Tax Credit**

Type: Industry Recruitment/Support

Eligible Technology: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements:

Summary: The tax credit may be claimed for manufacturing alternative energy products and components such as those used in renewable geothermal energy systems. The total amount of the credit will not exceed 5% of the taxpayer's qualified expenditures.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NM19F&re=1&ee=1

- **Incentive: El Paso Electric Company – Small System Renewable Energy Certificate Purchase Program**

Type: Production Incentive

Eligible Technologies: Distributed Generation Technologies

Eligible Sectors: Residential

Requirements:

Summary: El Paso Electric purchases renewable energy certificates from its customers who produce renewable energy systems that are connected to the utility's grid and are net metered. The utility purchases the REC's at a rate of $0.13 per kWh for a 12-year period.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NM26F&re=1&ee=1

- **Incentive: Local Option – Renewable Energy Improvement Special Assessments**

Type: Property Tax Financing Authorization

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Residential

Requirements:

Summary: Allows property owners to borrow money to pay for energy improvements. Amount borrowed is repaid through an increased property tax assessment over a period of years. The state of New Mexico allows local governments to offer property tax financing. Financing will not exceed 40% of the assessed value of the property.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=NM28F&re=1&ee=1

2.10. Oregon

- **Incentive: Oregon Department of Energy – Small Scale Energy Loan Program (SELP)**

Type: State Loan Program

Eligible Technologies: Geothermal Electricity, Direct Use, Geothermal Heat Pump

Eligible Sectors: Individuals, businesses, schools, cities, counties, special districts, state and federal agencies, public-corporations, cooperatives, tribes and non-profit organizations

Requirements: Eligible projects must be in Oregon and generally fall into one of the following categories:

1) Energy Conservation
2) Producing energy from renewable resources
3) Using recycled materials to create new products producing or using alternative fuels

Summary: Began in 1980. A loan may range from $20,000 to $20 million with 5- to 20+- year terms. Loans come with an application fee as well as a 1% loan fee. Loans also have low fixed rates over a 15 period of 7–8% for taxable entities and 6–7% for tax-exempt entities. Rates are subject to bond sale timing. Loans may not exceed project lifetime. Organizations that qualify for SELP often qualify for the Business Energy Tax Credit (BETC). To date the program has distributed $24,173,083 to 76 projects.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=OR04F&re=1&ee=1

- **Incentive: Business Energy Tax Credit (BETC)**

Type: Corporate Tax Credit

Eligible Technologies: Geothermal Electric, Geothermal Direct Use, Geothermal Heat Pump

Eligible Sectors: Commercial, Industrial, Builder/Developer, Multi-family Residential, Agricultural, Equipment Manufacturers.

Requirements: System size not specified but must pass preliminary and final certification of the ODOE review process.

Summary: The BETC provides a 50% tax credit spread out over five years for electricity and direct heat generation. It also provides a 35% tax credit over the course of 5 years for ground source heat pumps. Eligible project costs are limited to $20 million. Also, the costs of constructing facilities to manufacture renewable energy systems and components are eligible for the increased tax credit for renewable energy with a cap of $40 million. Applies to projects constructed or installed after January 1, 2007.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=OR03F&re=1&ee=1

- Incentive: Renewable Energy Systems Exemption

Type: Property Tax Exemption

Eligible Technologies: Geothermal Electric, Geothermal Heat Pump

Eligible Sectors: Commercial, Industrial, Residential

Requirements:

Summary: The state of Oregon has determined that the added value to property from the installation of a qualifying renewable energy system may not be included in the assessment of the property's value for tax purposes. Exemption is intended for end users and does not apply to property owned by anyone directly or indirectly involved in the energy industry.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy.
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=OR01F&re=1&ee=1

- **Incentive: Community Renewable Energy Feasibility (CREF) Program:**

Eligible Technologies:

Eligible Sectors:

Requirements: Studies must be focused on developing a renewable energy construction project for the purpose of generating electricity, heat and/or fuel. For electricity production, studies are limited to development projects that aim for capacity of more than 25kW and a maximum of 10MW.

Summary: Designed to promote feasibility studies for community renewable energy projects. By offering support to promising development projects early in the feasibility assessment, the CREF program will promote sound financial and engineering analysis for project development. The Program will minimize the financial insecurity faced by project developers who may be reluctant to invest in a feasibility study. CREF awards will not have to be repaid if the project is not determined to be feasible. Projects that would qualify as "Renewable Resource Project" under Oregon's Business Energy Tax Credit (BETC) or State Energy Loan Program (SELP) may be considered for CREF funds. Maximum award amount is $50,000.

For additional information please visit the Oregon Department of Energy web page at:
http://www.oregon.gov/ENERGY/RENEW/CREF.shtml

2.11. Utah

- **Incentive: Renewable Energy Systems Tax Credit**

Type: Corporate Tax Credit

Eligible Technologies: Geothermal Electric, Direct Use Geothermal, Geothermal Heat Pumps.

Eligible Sectors: Commercial, Residential, Builder/Developer, Installer/Contractor, Multi-Family Residential.

Requirements: System must be in compliance with all applicable performance and safety standards and must obtain certification from the State Energy Program. Individuals who wish to design their own system may be exempt from certain system requirements.

Summary: Utah offers an individual income tax credit for renewable geothermal energy systems installed for residential and commercial applications. The tax credit has bee extended through 2012 when it will be reviewed for further application.

Tax credits for commercial systems are structured as refundable and are 10% of the installed costs up to a maximum of $50,000 per property for geothermal electric systems with a capacity less than 660 kW. For commercial geothermal electric systems with a capacity greater than 660 kW the credit is $0.0035 per kWh for four years. The credit may not be carried forward or back. A business entity that leases a commercial system is also eligible for the credit. Eligible commercial systems include direct-use geothermal, geothermal electricity, and geothermal heat pumps.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=UT01F&re=1&ee=1
and the Utah Geological Survey web page at: http://geology.utah.gov/sep/

- **Incentive: Renewable Energy Development Incentive**

Type: Industry Recruitment/Support

Eligible Systems: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements:

Summary: This is an incentive offered by the Governors Office of Economic Development (GOED) in collaboration with local governments to provide incentives for renewable energy developers and manufacturers to locate projects within Utah. On a case-by-case basis the GOED offers the Renewable Energy Development Incentive (REDI) as a post performance refundable tax credit for up to 100% of new state tax revenues (including state, corporate, sales, and withholding taxes) over the life of the project.

Projects must be located within a registered within a renewable energy development zone. Eligible projects include the construction of electricity generating facilities or the manufacturing of equipment used directly in the production of electricity from geothermal resources. Projects must generate additional state revenue and jobs, and must involve the significant capital investment, the creation of high paying jobs, or significant purchases from Utah vendors and providers.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=UT32F&re=1&ee=1
and the Utah Geological Survey web page at: http://geology.utah.gov/sep/

- **Incentive: Renewable Energy Systems Tax Credit (Personal)**

Type: Individual Tax Credit

Eligible Systems: Geothermal Electric, Direct Use Geothermal, Geothermal Heat Pumps.

Eligible Sectors: Commercial, Residential, Multi-family Residential

Requirements: No size requirement specified. System must be in compliance with all applicable performance and safety standards and must obtain certification from the State Energy Program. Individuals who wish to design their own system may be exempt from certain system requirements.

Summary: Utah offers and individual income tax credit for renewable geothermal energy systems installed for residential and commercial applications. The tax credit has bee extended through 2012 when it will be reviewed for further application.

The individual income tax credit for residential systems is 25% of the installed system cost up to a maximum of $2,000 per residential unit. The residential credit is non-refundable but unused credit may be carried over up to four years. Non-

business entities that lease residential systems are eligible for the credit and may use the credit for no more than seven years from the initiation of the lease. Builders can also take a tax credit for the installation of a renewable energy system on a residential unit. Active residential systems include direct-use geothermal systems and geothermal heat pumps.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=UT03F&re=1&ee=1
and the Utah Geological Survey web page at: http://geology.utah.gov/sep/

- **Incentive: Renewable Energy Sales Tax Exemption**

Type: Sales Tax Exemption

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Utility

Requirements: 20 kW or greater, or for expansions of 1 MW or greater as a result of machinery or equipment.

Summary: The state of Utah exempts the sale or lease of equipment used to generate electricity from geothermal resources from the state sales tax. Purchases or leases must be made after July 1, 2004 and before June 30, 2019. Leases must be made for 7 years.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=UT09F&re=1&ee=1
and the Utah Geological Survey web page at: http://geology.utah.gov/sep/

2.12. Washington

- **Incentive: Renewable Sales and Use Tax Exemption**

Type: Sales Tax Exemption

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Residential, General Public/Consumer

Requirements: System must generate more than 1 kW.

Additional Details: Tax does not apply to the sales of equipment used to generate electricity using geothermal resources as well as other renewables. The tax exemption applies to labor and services related to the installation of the equipment, as well as to the sale of equipment and machinery. Purchasers of these systems may claim an exemption in the form of a remittance. The 100% exemption for the purchase of systems will last until June 30, 2011 after which a 75% exemption will be available until June 30, 2013.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=WA04F&re=1&ee=1

- **Incentive: Chelan County PUD – Sustainable Natural Alternative Power (SNAP) Producers Program**

Type: Production Incentive

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Residential, Schools, Local Government, State Government, (All Chelan County PUD Customers)

Requirements: Maximum size of 25 kW.

Additional Details: SNAP encourages PUD customers to install small renewable power generators and connect them to the districts electrical distribution system. Incentives are offered based on the systems production. The amount paid per kWh cannot exceed $1.50. Current 2009 payment is $0.22 per kWh.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=WA07F&re=1&ee=1

3. Federal Incentives

The American Recovery and Reinvestment Act (ARRA) of 2009 provided and/or extended a number of federal incentives for the development and production of geothermal energy. ARRA extended the PTC for new geothermal power plants to 2013. ARRA also allows for geothermal developers to take up to a 30% ITC in place of the PTC. Also, developers can opt to receive the ITC in the form of a cash grant. Lastly, ARRA provides loan guarantees for debt funding of renewable energy projects, geothermal included.

The mechanics of how the incentives provided by ARRA are made available to the geothermal industry can be inexplicably complex. For example, only indirect-use projects are eligible for the PTC. However, if a developer opts for the ITC then they can apply that incentive to direct-use as well as indirect-use projects. At the same time, if the developer opts to take the ITC in the form of a cash grant then they cannot receive the grant for a direct-use project.

While the workings of federal incentives provided by ARRA are complex, as indicated in Table 3, there are other federal incentives provided for the production of both indirect and direct-use geothermal energy production. The Tribal Energy Grant Program provides incentive to produce geothermal electricity on tribal lands. The U.S. Department of Agricultures Renewable Energy for America Program (REAP) provides federal grants and loans to help finance the development of geothermal energy resources in rural communities. Additional information regarding these and other significant and helpful federal incentives are found below.

Table 3: Overview of Federal Incentives Provided by ARRA

State	Personal Tax	Corporate Tax	Sales Tax	Property Tax	Rebates	Grants	Loans	Industry Support	Bonds	Production Incentives
Federal	-	+3	-	-	-	+3	+4	+	-	+
Alaska	-	-	-	-	-	+	-	-	-	-
Arizona	-	-	-	+	+3	-	-	-	-	-
California	+	-	-	-	-	-	-	-	-	+
Colorado	-	-	+2	+2	-	+	+	-	-	-
Hawaii	-	-	-	-	-	-	-	+	-	-
Idaho	-	-	+	+	-	-	-	-	+	-
Montana	-	+	-	+3	-	-	-	-	-	-
Nevada	-	-	+	+3	-	-	-	-	-	-
New Mexico	-	+	-	+	-	-	-	+	-	+

Oregon	-	+	-	+	-	-	+	-	-	-
Utah	+	+	+	-	-	-	-	+	-	-
Washington	-	-	+	-	-	-	-	-	-	+
Total	2	7	6	12	3	5	6	4	1	4

Legend:
- absence of that particular incentive in the respective state
+ presence of one particular incentive/program within the state.
+# more than one incentive of that particular type are available within the respective state

Source: U.S. Department of Energy, GEA.

3.1. Federal Tax Incentives

- **Incentive: Renewable Energy PTC**

Type: Corporate Tax Credit

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial

Requirements:

Summary: The PTC is a per-kilowatt-hour tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year. For geothermal energy the credit amount is 2.1¢ per kWh and the in-service deadline is December 31, 2013. The duration of the credit is generally 10 years after the facility is placed in service. However, for geothermal facilities placed in service after October 22, 2004, and before the enactment of the *Energy Policy Act of 2005*, on August 8, 2005, are only eligible for the credit of a five year period. Also, the PTC is reduced for projects already receiving other federal tax credits, grants, tax-exempt financing, or subsidized energy financing. Companies taking the PTC are not eligible for the federal ITC.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F&re=1&ee=0

For more information on Treasury initiatives under ARRA, go to:
http://www.treas.gov/recovery/

- **Incentive: Business Energy ITC**

Type: Corporate Tax Credit

Eligible Technologies: Geothermal Electric, Geothermal Direct Use, Geothermal Heat Pumps.

Eligible Sectors: Commercial, Industrial, Utility

Requirements:

Summary: For geothermal systems the credit is equal to 10% of expenditures, with no maximum credit limit stated. Eligible geothermal property is equipment used to produce, distribute or use energy derived from the geothermal deposits but not geothermal heat pumps.

Original use of the equipment must begin with the taxpayer, or the system must be constructed by the taxpayer. The energy property must be operational within the first year in which the credit is taken.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F&re=1&ee=0

ARRA modified the ITC but only for federal taxpayers who are eligible for the federal renewable energy PTC to take the 30% federal business energy ITC or to receive a grant from the U.S. Treasury Department instead of taking the PTC. The law also allows taxpayers eligible for the ITC to take a grant from the Treasury instead of taking the ITC. In June 2009 the Treasury issued Notice 2009-52, giving some guidance on how to take the Treasury grant in place of the ITC. More extensive guidance is expected from the Treasury in the near future. Companies taking the ITC are not eligible for the federal PTC.

For more information on Treasury initiatives under ARRA, go to:
http://www.treas.gov/recovery/

- **Incentive: Modified Accelerated Cost Recovery System (MACRS) + Bonus Depreciation (2008 – 2009)**

Type: Corporate Depreciation

Eligible Technologies: Geothermal Electric, Geothermal Direct Use, Geothermal Heat Pumps.

Eligible Sectors: Commercial, Industrial

Requirements:

1) Property must have a recovery period of 20 years or less under normal federal tax depreciation rules.
2) The original use of the property must commence with the taxpayer claiming the deduction.
3) The property generally must have been acquired during 2008 or 2009.
4) The property must have been placed in service during 2008 or 2009.

Summary: MACRS allows businesses to recover investments in certain property through depreciation deductions. MACRS establishes a set of class lives for different types of property, ranging from 3 to 50 years, over which the property may be depreciated. A number of renewable energy technologies are classified as five year property under MACRS, which refers to the ITC to define eligible property.

The Federal Economic Stimulus Act of 2008 included a 50% bonus depreciation provision for eligible renewable systems acquired and place in service in 2008. Through the ARRA the provision was extended to the entire 2009 tax year.

If the property meets the above requirements the owner is able to deduct 50% of the adjusted basis of the property in 2008 and 2009. The remaining 50% of the adjusted basis of the property is depreciated over the ordinary depreciation schedule. Bonus depreciation rules do not override the depreciation limit applicable to projects qualifying for the federal business energy tax credit. Before calculating depreciation for such a project, including any bonus depreciation, the adjusted basis of the project must be reduced by one-half of the amount of the energy credit for which the project qualifies.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US06F&re=1&ee=0

For more information on Treasury initiatives under ARRA, go to:
http://www.treas.gov/recovery/

3.2. Federal Grants

- **Incentive: U.S. Department of Treasury – Renewable Energy Grants**

Type: Federal Grant Program

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Industrial, Agricultural

Requirements:

Summary: The ARRA created a renewable energy grant program administered by the U.S. Department of Treasury. The cash grant may be taken in lieu of the ITC. Grants are available to eligible property placed in service in 2009 or 2010, or placed in service by the specific credit termination date, if construction begins in 2009 or 2010. For geothermal the grant is equal to 30% of the eligible expenditure.

Guidelines provided by the Treasury define the beginning of construction as the point where the applicant has incurred at least 5% of the total cost of the property, excluding land and preliminary planning activities. Only tax paying entities are eligible for the grant.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US53F&re=1&ee=0

For more information on Treasury initiatives under ARRA, go to:
http://www.treas.gov/recovery/

- **Incentive: Tribal Energy Program Grant**

Type: Federal Grant Program

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Tribal Government

Requirements:
Summary: The U.S. DOE's Tribal Energy Program provides financial assistance, technical assistance, education and training to tribes for the evaluation and development of renewable energy resources.

The program consists of management through DOE headquarters, program implementation and project management through DOE field offices, and technical support through DOE laboratories. Program management is carried out by DOE's Weatherization and Intergovernmental Program. Field offices, specifically Golden, CO, issue solicitations and manage resulting projects.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US07F&re=1&ee=0

- **Incentive: USDA – Rural Energy for America Program (REAP) Grants**

Type: Federal Grant Program

Eligible Technologies: Geothermal Electric, Geothermal Direct Use, Geothermal Heat Pumps.

Eligible Sectors: Rural Small Business (a private entity in accordance with Small Business Administration's (SBA) Small Business Size Standards by North American Industry Classification System (NAICS) found in 13 CFR part 121. A private entity may be a sole proprietorship, partnership, corporation, cooperative, or electric utility (including governmental utility)), Agricultural (>50% of income from production of agricultural products)

Requirements:

Summary: REAP (administered by the U.S. Department of Agriculture) promotes energy efficiency and renewable energy for agricultural producers and rural small businesses through grants and loan guarantees for energy efficiency improvements and renewable energy systems as well as grants for energy audits and renewable energy development assistance. Congress has allocated funding for the program for: 2009 ($55 million), 2010 ($60 million), 2011 ($70 million), and 2012 ($70 million).

Grants for energy efficiency improvements and renewable energy systems are limited to 25% of the proposed project cost. The minimum and maximum grant amounts are $2,500 and $500,000 respectively. The combined amount of a grant and a loan guarantee may not exceed 75% of a projects cost. This component of REAP makes up for approximately 96% of available funding. The USDA will announce availability of funding for this component through a Notice of Funds Availability (NOFA). The most recent solicitation closed July 31, 2009.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US05F&re=1&ee=0

3.3. Federal Loans

- **Incentive: USDA Rural Development for America Program (REAP) Loan Guarantees**

Type: Federal Loan Program

Eligible Technologies: Geothermal Electric, Direct-Use Geothermal, Geothermal Heat Pumps

Eligible Sectors: Rural Small Business (a private entity in accordance with Small Business Administration's (SBA) Small Business Size Standards by North American Industry Classification System (NAICS) found in 13 CFR part 121. A private entity may be a sole proprietorship, partnership, corporation, cooperative, or electric utility (including governmental utility)), Agricultural (>50% of income from production of agricultural products)

Requirements:

Summary: REAP (administered by the U.S. Department of Agriculture) promotes energy efficiency and renewable energy for agricultural producers and rural small businesses through grants and loan guarantees for energy efficiency improvements and renewable energy systems as well as grants for energy audits and renewable energy development assistance. Congress has allocated funding for the program for: 2009 ($55 million), 2010 ($60 million), 2011 ($70 million), and 2012 ($70 million).

Grants for energy efficiency improvements and renewable energy systems are limited to 25% of the proposed project cost. Minimum and maximum loan guarantee amounts are $5,000 and $25 million respectively. The combined amount of a grant and a loan guarantee may not exceed 75% of a projects cost. This component of REAP makes up for approximately 96% of available funding. The USDA will announce availability of funding for this component through a Notice of Funds Availability (NOFA). The most recent solicitation closed July 31, 2009.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US46F&re=1&ee=1

- **Incentive: Clean Renewable Energy Bonds (CREBs)**

Type: Federal Loan Program

Eligible Technologies: Geothermal Electric

Eligible Sectors: Local Government, State Government. Tribal Government, Municipal Utility, Rural Electric Cooperative.

Requirements:

Summary: CREBs may be used by entities – primarily in the public sector – to finance renewable energy projects. CREBs may be issued by electric cooperatives, government entities (states, cities, counties, territories, Indian tribal governments or any political subdivision thereof), and by certain lenders. CREBs are designed to be issued with a 0%

interest rate, with the borrower paying back only the principal of the bond, and the bondholder receives federal tax credits in lieu of traditional bond interest.

The Energy Improvement and Extension Act of 2008 (EIEA) allocated $800 million for clean energy CREBs. The ARRA allocated $1.6 billion for new CREBs, for a new total of $2.4 billion available in CREBs. EIEA also extended the deadline for previously reserved allocations ("old CREBs) to December 31, 2009.

Participants must first apply to the Internal Revenue Service (IRS) for a CREBs allocation, and then issue the bonds within a specific time period. The recent IRS solicitation for applications requires that bonds be sold within 3 years of the applicant being notified of an approved allocation. Public power providers, governmental bodies, and electric cooperatives are each reserved an equal share (33.33%) of the new CREBs allocation. The tax-credit rate is set by the U.S. Treasury Department. Under the new CREBs allocation the credit has been reduced to 70% of what it would have been otherwise.

CREBs are different from tax-exempt bonds in that tax credits issued via CREBs are treated as taxable income for the bondholder. The tax credit may be taken each year the bondholder has a tax liability as long as the credit amount does not exceed the limits established by the *Energy Policy Act of 2005*.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US45F&re=1&ee=0

- **Incentive: Qualified Energy Conservation Bonds (QECBs)**

Type: Federal Loan Program

Eligible Technologies: Geothermal Electric

Applicable Sectors: State Government, Local Government, Tribal Government

Requirements:

Summary: The ARRA expanded the allowable bond volume of QECBs to $3.2 billion. In April 2009 the IRS issued Notice 2009-29 providing interim guidance on how the program will operate and how the bond volume will be allocated.

QECBs operate in much the same way as CREBs do. However, a significant difference is that QECBs are not subject to a Treasury application and approval process. Bond volume is instead allocated to each states percentage of the U.S. population as of July 1, 2008. States then allocate bonds to large local governments according to their respective population sizes.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US51F&re=1&ee=0

- **Incentive: U.S. Department of Energy Loan Guarantee Program**

Type: Federal Loan Program

Eligible Technologies: Geothermal Electric

Eligible Sectors: Commercial, Industrial, Non-profit, Schools, Local Government, State Government, Agricultural, Institutional, Any Non-Federal Entity.

Requirements:

Summary: DOE has been authorized by congress to issue loan guarantees for projects that "avoid, reduce or sequester air-pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." The program is authorized to provide more than $10 billion in loan guarantees for energy efficiency, renewable energy and advanced transmission and distribution projects.

DOE promotes projects in the categories of: 1) manufacturing projects, 2) stand-alone projects, and 3) large-scale integration projects. The loan guarantee program does not generally support research and development projects.

The DOE issued a new solicitation for loan applications in July, 2009. The solicitation provides for a total of $8.5 billion in funding and is to remain open until that amount is fully obligated. The initial due date for applicants is September 14, 2009.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US48F&re=1&ee=0

ARRA added to the DOE loan guarantee provisions originally enacted in 2005 a new section, Section 1705, which provides for loan guarantees for commercial renewable projects. Guidance and regulations regarding this new program are expected to be published in the coming months.

For information on the DOE Loan Guarantee Programs go to:
http://www.lgprogram.energy.gov/

3.4. Other Federal Incentives

- **Incentive: Renewable Energy Production Incentive (REPI)**

Type: Production Incentive

Eligible Technologies: Geothermal Electric

Eligible Sectors: Local Government, State Government, Tribal Government, Municipal Utility, Rural Electric Cooperative, Native Corporations

Requirements:

Summary: REPI provides incentive payments for electricity generated and sold by new qualifying renewable energy facilities. Qualifying systems are eligible for annual incentive payment of up to 1.5¢ per kWh (in 1993 dollars) for the first 10-year period of their operation. REPI was designed to compliment the PTC which is only available to federal tax payers.

Payments may be made only for electricity generated from an eligible facility first used before October 1, 2016. Appropriations have been authorized for fiscal years 2006 through 2026.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US33F&re=1&ee=0

- **Incentive: Qualifying Advanced Energy Project ITC**

Type: Industry Recruitment/Support

Eligible Technologies: Geothermal Electric, Geothermal Heat Pumps

Eligible Sectors: Commercial, Industrial, Manufacturing

Requirements:

Summary: The ARRA provides an ITC to encourage the development of a U.S.-based renewables manufacturing sector. The ITC is equal to 30% of the qualified investment required for an advanced energy project that establishes, reequips, or expands a manufacturing facility that produces any of the following:

1) Equipment and/or technologies used to produce energy from geothermal as well as other renewable resources.
2) Other criteria not very applicable to geothermal

Qualified investments usually include personal tangible property that is depreciable and required for the production process. Other tangible property may be considered an investment only if it is an essential part of the facility, excluding buildings and structural components.

The U.S. Treasury Department will issue certifications for qualified investments eligible for credits to qualifying advanced energy project sponsors. In total, $2.3 billion worth of credits may be allocated under the program. The application has one year after the certification has been granted to show additional evidence that the requirements of the certification have been met and three years to put the project in service.

For additional information please visit the DOE's DSIRE Database of State Incentives for Renewable Energy:
http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US52F&re=1&ee=0

In addition to the tax and loan incentives, the stimulus legislation provided $400 million in new funding for the U.S. Department of Energy's (DOE) Geothermal Technologies Program (GTP) to implement a wide range of research, development, demonstration, and deployment activities. The new funding provided through DOE offers important and unique opportunities. The DOE GTP initiatives will spur not only new jobs but also the development and deployment of new technology as well as growth in new applications for the geothermal marketplace.

For more information on Treasury initiatives under ARRA, go to:
http://www.treas.gov/recovery/

- **DOE Geothermal Technology Program Funding**

ARRA provided the Department of Energy with $400 million for geothermal energy research, development, demonstration and deployment activities. DOE announced a series of specific solicitations targeting key areas for near-term and long-term industry and technology advancement. Through the stimulus bill, the DOE GTP will be funding:

- Geothermal Demonstration Projects ($140 Million) – Funding will support demonstrations of cutting-edge technologies to advance geothermal energy in new geographic areas, as well as geothermal energy production from oil and natural gas fields, geopressured fields, and low- to moderate-temperature geothermal resources.

- Enhanced Geothermal Systems Technology Research and Development ($80 Million) – Funding will support research of enhanced geothermal systems (EGS) technology to allow geothermal power generation across the country. Conventional geothermal energy systems must be located near easily accessible

geothermal water resources, limiting its nationwide use. EGS makes use of available heat resources by technologically engineering reservoirs so they are capable of producing electricity in otherwise untappable areas. While the long-term goal of EGS is to generate cost-competitive clean electricity, enabling research and development is needed to demonstrate the technology's readiness in the near term.

- Innovative Exploration Techniques ($100 Million) – Funding will support projects that include exploration, siting, drilling, and characterization of a series of exploration wells utilizing innovative exploration techniques. Funding the exploration of geothermal energy resources can carry a high upfront risk. By investing in and validating innovative exploration technologies and methods, DOE can help reduce the level of upfront risk for the private sector, allowing for increased investment and discovery of new geothermal resources.

- National Geothermal Data System, Resource Assessment, and Classification System ($30 Million) – The long-term success of geothermal energy technologies depends on a detailed characterization of geothermal energy resources nationwide. In 2008, the United States Geological Survey (USGS) conducted an assessment of high-temperature resource potential in the Western U.S. To fully leverage new low-temperature, geopressured, co-production, and EGS technologies, DOE will support a nationwide assessment of geothermal resources, working through the USGS and other partners. Second, DOE will support the development of a nationwide data system to make resource data available to academia, researchers, and the private sector. Finally, DOE will support the development of a geothermal resource classification system for use in determining site potential.

- Geothermal Heat Pump Deployment ($50 million) -- Funding will increase national GHP deployment and help address current market barriers and opportunities.

The closing date for applications under these DOE solicitations have passed and DOE expects to announce the decisions on awards in the coming months.

The funding for these DOE initiatives was included in the federal stimulus legislation, and it is not clear whether these programs will be authorized and funded to provide additional rounds of support in future fiscal years.