



## FEDERAL TAX INCENTIVES

For Commercial Geothermal Heat Pumps

### Benefits of Tax Credit:

- 10% of total system cost with no limit
- Use credit to offset AMT tax
- Use credit over multiple years
- 10% grant available in lieu of tax credit
- Combine with solar and wind tax credits
- Combine with energy-efficient building deduction

### Accelerated Depreciation:

- 5 year MACR depreciation on entire system
- 50% first-year bonus depreciation for 2008 - 2009

### Eligibility:

- Building located in U.S.
- Original use begins with taxpayer
- Installed between 10/3/2008 and 12/31/2016

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## The Energy Credit

In October 2008, geothermal heat pumps were included to the definition of “energy property” under section 48(a) of the Internal Revenue Code. This created a 10% tax credit for costs associated with geothermal equipment “placed in service” (defined by the IRS as made ready and available for use) through the end of 2016.

Geothermal equipment is classified as 5-year depreciable property under section 168(e)(3)(B)(vi)(I) of the Internal Revenue Code and can be deducted on an Modified Accelerated Cost Recovery System (MACRS) basis. The basis must be reduced by one half of the tax credit for depreciation purposes. For a corporation in a 35% tax bracket, the MACRS depreciation provides additional tax savings equal to 33.25% of the energy property spending within the first 5 years, with the greatest tax benefit at the beginning. Conventional heating and cooling systems, by comparison, usually depreciate over a 39-year straight line basis and would only provide 4.5% in tax savings over the first 5 years.

## Who’s Eligible

Equipment that uses the ground or ground water as an energy source for heating and cooling a building is eligible for the tax credit. The structure must be located in the United States and only its owner can claim tax credits or depreciation deductions. The taxpayer must take legal title of the equipment and have all necessary licenses and permits needed for its operation. If an owner can’t use the tax credits, other options exist such as sale-leasebacks, partnership “flip” structures, or energy purchase contracts.

## Who’s Not

The credit can’t be claimed for spending on equipment used for a purpose other than space conditioning, on previously used equipment, or on equipment that’s used by tax exempt organizations like schools, government agencies, or charities. This also precludes tax-exempt entities from leasing energy property.

## How to claim the Credit

Use IRS Form 3468 to claim the Energy Credit. Please note that as of March 2009, this form has not yet been updated to reflect the October 2008 changes. The tax credit can be used to offset both regular income taxes and alternative minimum taxes (AMT). If the tax credit exceeds the income tax liability, the loss can be carried back one taxable year and the remaining balance can be carried into future years.

## Accelerated Depreciation Benefits

Under The American Recovery and Reinvestment Act of 2009, businesses have the ability to enhance tax savings by accelerating depreciation on a geothermal system. Energy property placed in service between 2008 and 2009 is eligible for a special 50% first-year “bonus” depreciation. The remaining depreciation follows the 5-year MACRS schedules. Energy property may also be eligible for the section 179 deduction, which allows small businesses to write-off 100% of the purchase price the year it was bought, to a maximum of \$250,000 for 2009. Conventional heating and cooling systems aren’t eligible for bonus depreciation nor the section 179 deduction. IRS Publication 946 provides guidance on how to depreciate property and the section 179 deduction.

## Grant money as an alternative

All commercial and private buildings are eligible for a 10% grant in lieu of tax credit for geothermal projects started between 2009 and the end of 2010. A check is written from the government to the building owner within 60 days of completion. This option is provided as alternative in order to improve cash flow. Eligibility requirements for the grant are the same as requirements for the credit.

## Energy Efficient Commercial Buildings Tax Deduction

A tax deduction of \$1.80 per square foot is available to building owners of new or existing buildings who install (1) interior lighting; (2) building envelope, or (3) heating, cooling, ventilation, or hot water systems that reduce the building’s total energy and power cost by 50% or more in comparison to minimum requirements set by ASHRAE Standard 90.1-2001. Deductions of \$0.60 per square foot are available for lighting, building envelope, or heating and cooling systems that provide at least 1/3 of the 50% savings target. Energy savings must be calculated using software approved by the IRS.

While deductions are available primarily to building owners, tenants may be eligible if they make construction expenditures. In the case of energy efficient systems installed on or in government property, tax deductions will be given to the person primarily responsible for the systems’ design. Deductions are taken in the year when construction is completed.

## New Construction

\$2,000,000 spent to install geothermal heat pump systems in a new construction. Building occupied August 2009. 40% tax bracket when state income tax is included.

|                         |  |               |
|-------------------------|--|---------------|
| 2009 Tax Credit:        | $\$2,000,000 \times 10\% \text{ Credit}$                             | = \$200,000   |
| Depreciable Basis:      | $\$2,000,000 - (\$200,000/2)$  | = \$1,900,000 |
| 2009 Bonus Tax Benefit: | $\$1,900,000 \times 50\% \text{ bonus} \times 40\% \text{ tax rate}$ | = \$380,000   |
| 2009 MACRS Tax Benefit: | $\$190,000 \times 40\% \text{ tax rate}$                             | = \$76,000    |
| 2010                    | $\$304,000 \times 40\% \text{ tax rate}$                             | = \$121,600   |
| 2011                    | $\$182,400 \times 40\% \text{ tax rate}$                             | = \$72,960    |
| 2012                    | $\$109,440 \times 40\% \text{ tax rate}$                             | = \$43,776    |
| 2013                    | $\$109,440 \times 40\% \text{ tax rate}$                             | = \$43,776    |
| 2014                    | $\$54,720 \times 40\% \text{ tax rate}$                              | = \$21,888    |

**Total tax savings including 10% credit: \$960,000**

## Retrofit Example

\$1,000,000 spent to remove boilers, install geothermal loops, and upgrade existing heat pumps to geothermal equipment. Completed August 2009. 40% tax bracket when state income tax is included.

|                         |  |             |
|-------------------------|--|-------------|
| 2009 Tax Credit:        | $\$1,000,000 \times 10\%$  | = \$100,000 |
| Depreciable Basis:      | $\$1,000,000 - (\$100,000 / 2)$                                    | = \$950,000 |
| 2009 Bonus Tax Benefit: | $\$950,000 \times 50\% \text{ bonus} \times 40\% \text{ tax rate}$ | = \$190,000 |
| 2009 MACRS Tax Benefit: | $\$95,000 \times 40\% \text{ tax rate}$                            | = \$38,000  |
| 2010                    | $\$152,000 \times 40\% \text{ tax rate}$                           | = \$60,800  |
| 2011                    | $\$91,200 \times 40\% \text{ tax rate}$                            | = \$36,480  |
| 2012                    | $\$54,720 \times 40\% \text{ tax rate}$                            | = \$21,888  |
| 2013                    | $\$54,720 \times 40\% \text{ tax rate}$                            | = \$21,888  |
| 2014                    | $\$27,360 \times 40\% \text{ tax rate}$                            | = \$10,944  |

**Total tax savings including 10% credit: \$480,000**

## Replacement Example

\$250,000 spent to replace existing geothermal heat pumps with new geothermal units. Completed August 2009. 40% tax bracket when state income tax is included.

|                         |  |             |
|-------------------------|--|-------------|
| 2009 Tax Credit:        | $\$250,000 \times 10\%$                  | = \$25,000  |
| Depreciable Basis:      | $\$250,000 - (\$25,000 / 2)$             | = \$237,500 |
| 2009 Bonus Tax Benefit: | $\$118,750 \times 40\% \text{ tax rate}$ | = \$47,500  |
| 2009 MACRS Tax Benefit: | $\$23,750 \times 40\% \text{ tax rate}$  | = \$9,500   |
| 2010                    | $\$38,000 \times 40\% \text{ tax rate}$  | = \$15,200  |
| 2011                    | $\$22,800 \times 40\% \text{ tax rate}$  | = \$9,120   |
| 2012                    | $\$13,680 \times 40\% \text{ tax rate}$  | = \$5,472   |
| 2013                    | $\$13,680 \times 40\% \text{ tax rate}$  | = \$5,472   |
| 2014                    | $\$6,840 \times 40\% \text{ tax rate}$   | = \$2,736   |

**Total tax savings including 10% credit: \$120,000**



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