



FEDERAL TAX INCENTIVES

For Commercial Geothermal Heat Pumps

Benefits of Tax Credit:

- 10% of total system cost with no limit
- 10% grant available in lieu of tax credit
- Combine with solar and wind tax credits

Tax Deductions:

Up to \$1.80 per Sq. Ft.
(for Energy Efficient Commercial Building)

Property Tax Deduction
(combine with other Qualified Section 179)

Real Property Tax deductions

Accelerated Depreciation:

100% Bonus Depreciation in first year
(10/2010 to 1/1/2012)

50% Bonus Depreciation in first year and a
5 year MACRS depreciation on the balance
(1/1/2012 to 12/31/2012)

Eligibility:

Building located in U.S.

Original use begins with taxpayer
(Installed between 10/3/2010 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. After equipment is “placed in service” 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. 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 10/2010 and 1/1/2012 is eligible for a special 100% first year depreciation. When placed in service between 1/1/2012 and 12/31/2012, the Energy Property qualifies for a 50% first year “bonus” depreciation and 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 \$500,000 for 2010. Conventional heating and cooling systems aren’t eligible for bonus depreciation nor the section 179 deduction. IRS Form 4562 and 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 2016. A check is written from the government to the building owner within 60 days of completion. This option is provided as an 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, and (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. Or deductions of \$0.60 per square foot are available for 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 2012 (3rd quarter). 40% tax bracket when state income tax is included.

2012 Tax Credit:	$\$2,000,000 \times 10\% \text{ Credit}$	= \$200,000
Depreciable Basis:	$\$2,000,000 - (\$200,000/2)$	= \$1,900,000
2012 Bonus Tax Benefit:	$\$1,900,000 \times 50\% \text{ bonus} \times 40\% \text{ tax rate}$	= \$380,000*
<small>*If placed in service in 2011: Tax Credit = $\\$2,000,000 \times 10\% = \\$200,000$ 100% Depreciation in 2011: $\\$1,900,000 \times 40\% \text{ tax rate} = \\$760,000$ Total Tax Savings \$960,000</small>		
2012 MACRS Tax Benefit:	$\$190,000 \times 40\% \text{ tax rate}$	= \$76,000
2013	$\$304,000 \times 40\% \text{ tax rate}$	= \$121,600
2014	$\$182,400 \times 40\% \text{ tax rate}$	= \$72,960
2015	$\$109,440 \times 40\% \text{ tax rate}$	= \$43,776
2016	$\$109,440 \times 40\% \text{ tax rate}$	= \$43,776
2017	$\$54,720 \times 40\% \text{ tax rate}$	= \$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 2012 (3rd quarter). 40% tax bracket when state income tax is included.

2012 Tax Credit:	$\$1,000,000 \times 10\%$	= \$100,000
Depreciable Basis:	$\$1,000,000 - (\$100,000 / 2)$	= \$950,000
2012 Bonus Tax Benefit:	$\$950,000 \times 50\% \text{ bonus} \times 40\% \text{ tax rate}$	= \$190,000*
<small>*If placed in service in 2011: Tax Credit = $\\$1,000,000 \times 10\% = \\$100,000$ 100% Depreciation in 2011: $\\$950,000 \times 40\% \text{ tax rate} = \\$380,000$ Total Tax Savings \$480,000</small>		
2012 MACRS Tax Benefit:	$\$95,000 \times 40\% \text{ tax rate}$	= \$38,000
2013	$\$152,000 \times 40\% \text{ tax rate}$	= \$60,800
2014	$\$91,200 \times 40\% \text{ tax rate}$	= \$36,480
2015	$\$54,720 \times 40\% \text{ tax rate}$	= \$21,888
2016	$\$54,720 \times 40\% \text{ tax rate}$	= \$21,888
2017	$\$27,360 \times 40\% \text{ tax rate}$	= \$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 2012 (3rd quarter). 40% tax bracket when state income tax is included.

2012 Tax Credit:	$\$250,000 \times 10\%$	= \$25,000
Depreciable Basis:	$\$250,000 - (\$25,000 / 2)$	= \$237,500
2012 Bonus Tax Benefit:	$\$118,750 \times 40\% \text{ tax rate}$	= \$47,500*
<small>*If placed in service in 2011: Tax Credit = $\\$250,000 \times 10\% = \\$25,000$ 100% Depreciation in 2011: $\\$237,500 \times 40\% \text{ tax rate} = \\$95,000$ Total Tax Savings \$120,000</small>		
2012 MACRS Tax Benefit:	$\$23,750 \times 40\% \text{ tax rate}$	= \$9,500
2013	$\$38,000 \times 40\% \text{ tax rate}$	= \$15,200
2014	$\$22,800 \times 40\% \text{ tax rate}$	= \$9,120
2015	$\$13,680 \times 40\% \text{ tax rate}$	= \$5,472
2016	$\$13,680 \times 40\% \text{ tax rate}$	= \$5,472
2017	$\$6,840 \times 40\% \text{ tax rate}$	= \$2,736

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



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