



Renewable Energy Seminar

**How Going Green Can Benefit:
Residential Builders and their customers**

What is a tax credit?

You don't receive an income tax credit when you buy the product, like an instant rebate. You claim the credit on your federal income tax form at the end of the year. The credit then increases the tax refund you receive or decreases the amount you have to pay.

Tax credits vs. tax deductions:

In general, a *tax credit* is more valuable than a similar *tax deduction*. A tax credit reduces the tax you pay, dollar-for-dollar. Tax deductions – such as those for home mortgages and charitable giving – lower your taxable income. If you are in the highest 35-percent tax bracket, the income tax you pay is reduced by 35 percent of the value of a tax deduction. But a tax credit reduces your federal income tax by 100 percent of the amount of the credit.

Tax form 5695 can be found at:

<http://www.irs.gov/pub/irs-pdf/f5695.pdf>

Energy-Efficient New Homes Tax Credit for Home Builders

The federal Energy Policy Act of 2005 established tax credits of up to \$2,000 for builders of all new energy-efficient homes, including manufactured homes constructed in accordance with the Federal Manufactured Homes Construction and Safety Standards

Energy Saving Requirements

Site-built homes qualify for a \$2,000 credit if they are certified to reduce heating and cooling energy consumption by 50% relative to the International Energy Conservation Code standard and meet minimum efficiency standards established by the Department of Energy. Building envelope component improvements must account for at least one-fifth of the reduction in energy consumption.

Energy-Efficient New Homes Tax Credit for Home Builders continued:

There is no limit to the number of \$2,000 tax credits a builder can receive. This means that a builder who is constructing 100 new homes in one year could theoretically claim a credit of \$200,000.

Homes that have been substantially reconstructed or rehabilitated also qualify for the credit.

What can a Builder do for a home owner?

- **30% Federal Tax Credit on Energy Efficient Built Homes (with No limits)**
- **25% SC State Tax Credit on a renewable energy property (with Credit Limits)**

What tax credits are available for residential renewable energy & efficiency?

- **The Federal Tax Credit**
- **South Carolina Tax Credit**
- **Federal energy-efficiency tax credit**

Federal Tax Credit for Renewable Energy

The Federal government offers a 30% tax credit for solar equipment, small wind-energy systems and geothermal heat pumps.

- No Cap on solar-electric systems.
- Geothermal heat pumps are now eligible for this credit up to \$2,000
- Wind is eligible at \$500 per .5kW up to \$4,000
- Tax credits are now able to be taken against Alternative Minimum Tax (ATM)

South Carolina Tax Credit for Renewable Energy

South Carolina offers a tax credit of 25% of the purchasing and installing a (certified) solar-energy system for heating water, space heating, air conditioning or generating electricity in a building owned by the taxpayer.

- Maximum credit per year is \$3,500 for each facility or 50% of the tax payers liability for that taxable year, whichever is less.
- Unused credit, or credit that exceeds the annual cap, may be carried over for 10 years.

Credit applies to systems certified by the Solar Rating and Certification Corporation (SRCC) or a comparable entity endorsed by the SC Energy Office. <http://www.energy.sc.gov>

The federal tax credit for energy-efficient home improvements

Taxpayers who purchase qualified residential energy-efficient property are eligible for a 30% tax credit up to \$1,500. The credit may also be applied to labor costs for assembly and original installation of eligible property.

The following types of equipment are available:

<u>Central Air Conditioner:</u>	<i>Split Systems:</i> EER ≥ 13 and SEER ≥ 16 <i>Package systems:</i> EER ≥ 12 and SEER ≥ 14
<u>Air source Heat Pump:</u>	<i>Split systems:</i> HSPF ≥ 8.5 and EER ≥ 12.5 and SEER ≥ 15 <i>Package Systems:</i> HSPF ≥ 8 and EER ≥ 12 and SEER ≥ 14
<u>Natural Gas or Propane Furnace:</u>	AFUE ≥ 95
<u>Oil Furnace:</u>	AFUE ≥ 90
<u>Gas, Propane, or Oil Water Boiler:</u>	AFUE ≥ 90
<u>Gas, Oil, Propane Water Heater:</u>	Energy Factor ≥ 0.82 or a thermal efficiency of at least 90%
<u>Electric Heat Pump Water Heater:</u>	Same criteria as ENERGY STAR: Energy Factor of greater than or equal to 2.0
<u>Ground Source Heat Pump:</u>	Same criteria as ENERGY STAR. Ground Source Heat Pumps are now included in the Federal Renewable Energy Tax Credit.

Dollar Impact of Investing in a Geothermal System

Typical 1,600 SQ Ft. Home

Present Utility Bills

Electric	\$ 960
Natural Gas	\$ 1,400
Total	\$ 2,400

Typical Geothermal System

Investment	\$ 17,000
Fed. Tax Credit	-\$ 5,100
Net Cost	\$ 11,900

Typical Energy Consumption

Home Heating @ 50%	= \$ 1,200
Water Heating @ 20%	= \$ 480
Other @ 30%	

Geothermal Savings

60%	= \$ 720
55%	= \$ 264
Total Savings =	\$ 984 / year

ROI (Return on Investment): \$11,900 ÷ \$ 984 = 12 Year Return

INITIAL INVESTMENT ÷ SAVINGS PER YEAR

Dollar Impact of Investing in a Geothermal System continued:

A Geothermal systems life expectancy is 18-20 years. So you could expect up to 8 more years of service after the initial return.

$$\text{\$ 984} \times \text{8 years} = \text{\$ 7,872 of additional ROI}$$

After 20 year life expectancy, replacement of existing Geothermal system will cost substantially less because well system will not have to be replaced.

Most Geothermal systems include a manufacturer warranty of 40 – 100 years.

Dollar impact of Investing in Solar Thermal Water & Space Heating

Typical 1,500 SQ Ft. Home

Present Utility Bills

Electric	\$ 960
Natural Gas	\$ 1,400

Total \$ 2,400

Typical Geothermal System

Investment	\$ 14,000
Fed. Tax Credit	-\$ 4,200
SC Tax Credit	\$ 3,500

Net Cost \$ 6,300

Typical Energy Consumption

Home Heating @ 50%	=	\$ 1,200
Water Heating @ 20%	=	\$ 480
Other @ 30%		

Geothermal Savings

25%	=	\$ 300
80%	=	\$ 384
Total Savings	=	\$ 684 / year

ROI (Return on Investment): \$ 6,300 ÷ \$ 684 = 9.2 Year Return

INITIAL INVESTMENT ÷ SAVINGS PER YEAR

Dollar impact of Investing in Solar Thermal Water & Space Heating continued:

For every \$ 1.00 saved each year on Energy Consumption through Renewable Energy Saving Technologies increases your home value by \$ 12.00

EXAMPLE:

$$\text{\$ 684} \times \text{\$ 12} = \text{\$ 8,208 (Gain in Home Value)}$$

SAVINGS PER YEAR

Additional Savings: (Yearly Savings x 10 years)

$$\text{\$ 684} \times \text{10 years} = \text{\$ 8,208 (Tax Free)}$$

SAVINGS PER YEAR

Dollar impact of **NOT** Investing in Solar Thermal

Typical 1,500 SQ Ft. Home

Extra donations you will have made to the utility companies:

over 15 years without a solar thermal system:

15 (years) x \$ 684 (Loss in savings per year)	=	\$ 10,260
Federal Gift Lost	=	\$ 4,200
State Gift Lost	=	\$ 3,500
15-year total dollars lost	=	\$ 17,960

Dollar impact of Investing in Solar Thermal

(Local 15 YR old **5,500** Sq. Ft. Contemporary Home)

Present Utility Bills

Propane \$ 3,800

Total \$ 3,800

Typical Geothermal System

Investment \$ 14,000

Fed. Tax Credit -\$ 4,200

SC Tax Credit \$ 3,500

Net Cost \$ 6,300

Typical Energy Consumption

Home Heating = \$ 3,000

Water Heating = \$ 800

Geothermal Savings

25% = \$ 750

80% = \$ 640

Total Savings = \$ 1,390 / year

ROI (Return on Investment): \$ 6,300 ÷ \$ 1,390 = 4.5 Year Return

INITIAL INVESTMENT ÷ SAVINGS PER YEAR

Dollar impact of Investing in Solar Thermal continued:

5,500 Sq. Ft. Contemporary Home)

For every \$ 1.00 saved each year on Energy Consumption through Renewable Energy Saving Technologies increases your home value by \$ 12.00

EXAMPLE:

$$\text{\$ 1,390} \quad \times \quad \text{\$ 12} \quad = \quad \text{\$ 16,680 (Gain in Home Value)}$$

SAVINGS PER YEAR

Additional Savings: (Yearly Savings x 10 years)

$$\text{\$ 1,390} \quad \times \quad \text{10 Years} \quad = \quad \text{\$ 13,900 (Tax Free)}$$

SAVINGS PER YEAR

Dollar impact of **NOT** Investing in Solar Thermal (5,500 Sq. Ft. Contemporary Home)

Extra donations you will have made to the utility companies:
over 15 years without a solar thermal system:

15 (years) x \$ 1,390 (loss in savings per year)	=	\$ 20,850
Federal Gift Lost	=	\$ 4,200
State Gift Lost	=	\$ 3,500
15-year total dollars lost	=	\$ 28,850

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