

TAXES AND SUSTAINABILITY

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INTRODUCTION

For several decades, we have periodically seen concern expressed about our environment and energy usage. The supply and cost of oil, the “hole” in the ozone layer, and various forms of pollution have at times also caught the attention of legislators and government officials who shape our laws. The U.S. Department of the Interior was created in 1949, and the first federal clean air act was enacted in 1955. In 1970, President Nixon formed the Environmental Protection Agency (EPA), and the first celebration of Earth Day was April 22, 1970. States have also enacted various laws over the years in efforts to reduce pollution.

In considering ways to achieve a cleaner environment, it is not uncommon for policymakers to use tax laws to encourage environmentally-friendly behavior as well as to discourage activities that harm the environment. Increased attention to climate change in the past few years has heightened attention on the need to change our practices that lead to greenhouse gas emissions. The tax law is frequently suggested and used as a tool for helping to change behavior and reach certain environmental goals. For example, tax credits are available for certain hybrid cars, favorable tax rules exist for the production of some biofuels, and a few countries, as well as Boulder, Colorado, impose a carbon tax to help address climate change concerns.

This article focuses on tax provisions for encouraging sustainable, environmentally-friendly building practices, both residential and commercial. While the federal government and several states have energy-saving tax incentives for individuals, such as tax credits for installing solar energy devices in their homes, tax provisions applicable to builders is the focus of this article. The rationale for using the tax law for influencing environmental behavior is covered along with examples of some current federal and state tax rules pertinent to builders. Given the inherent complexity of taxation, there are many cautions to be exercised in pursuing the use of favorable tax provisions and these cautions are covered as well. Finally, this article explores what we might expect from legislators going forward as more state and local governments impose greenhouse gas emission reduction targets and the federal government considers its role in addressing climate change and energy sources.

SUSTAINABILITY AND THE TAX LAW

Tax Terminology

A discussion of special tax rules requires an understanding of some basic tax terms. To begin, consider that a taxpayer’s tax liability for any type of tax is based on the following formula:

$$\text{Base} \times \text{rate} = \text{gross tax liability}$$

$$\text{Gross tax liability less tax credits} = \text{net tax liability}$$

The “base” is what is subject to tax. For an income tax, it is taxable income. Taxable income is income

less allowable exclusions and deductions. An exclusion is an item of income, such as municipal bond interest, which although income, is specifically excluded by law from the tax base. Deductions reduce income to derive taxable income, whereas tax credits reduce gross tax liability to derive net tax liability (the amount owed).

Income tax rules have another layer of complexity in that in addition to the regular tax calculation, there is also an alternative tax calculation. This additional calculation is called the Alternative Minimum Tax or AMT. This represents the minimum amount

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of income tax the government believes a taxpayer should pay. It exists because while each exclusion, deduction, and credit exists for a particular purpose, a taxpayer might be able to use a combination of these preferential rules to reduce his or her regular income tax below a perceived minimum. The AMT addresses this concern by using a tax calculation formula that omits specific exclusions, deductions, and credits that are available for computing regular tax liability. Generally, tax credits may not be used to reduce a taxpayer's AMT liability.

Preferential rules or incentives can also be built into the rules for other types of taxes. For example, a sales tax law can exempt or exclude certain items, such as solar energy devices, from sales tax. Property tax rules can impose a lower rate on certain property or a more favorable valuation formula to calculate the tax base. The term *incentives* is commonly used to describe special exclusions, exemptions, deductions, and tax credits that reduce a taxpayer's tax liability.

Tax Policy

The primary purpose of a tax system is to raise revenues for government operations. A tax system should follow principles of good tax policy such as simplicity, certainty, transparency, convenience of payment, equity (fairness), and neutrality. The neutrality principle provides that the effect of the tax law on decision-making should be kept to a minimum.¹ However, lawmakers frequently and intentionally bypass the neutrality principle by creating rules that use the tax law to encourage and discourage certain behavior.

Lawmakers use the tax law to modify behavior because taxes can be a powerful tool for doing so. Lawmakers typically also find that such rules may provide a benefit to society. For example, in 2005 Congress created tax incentives for buyers of certain hybrid fuel vehicles.² The incentive is intended to encourage more people to purchase such vehicles by reducing their cost via a reduction in the buyer's federal income tax liability. Congress viewed the benefit to society and the environment of having more fuel efficient cars on the road (and thus, fewer fuel-inefficient cars) as important enough to override the neutrality principle. In addition, such a credit can stimulate the market for such cars and the increased production may result in decreased production costs

for manufacturers such that a tax credit will only be needed for a few years.

Lawmakers can also use the tax law to discourage certain behavior. For example, in 1989 Congress enacted the ozone-depleting chemical tax.³ The purpose of this tax was to address concerns over depletion of the planet's ozone layer. The U.S. was also part of an international agreement to reduce the manufacturing and use of ozone-depleting chemicals. Congress believed that imposing a tax to increase the cost of such chemicals would provide an incentive to reduce their usage and encourage production and use of alternative chemicals. Congress also justified the new tax based on the need to address large budget deficits.

There is economic justification for the use of taxes as incentives ("carrots") and as penalties ("sticks"). The hybrid car tax credit and the ozone-depleting chemical tax use market forces to modify supply and demand. Benefits and costs to society are not always included in pricing. For example, the owner of a hybrid fuel car is benefiting society by using less fuel and producing fewer emissions. However, the owner is not compensated for that and may even have to pay more for the car because manufacturer costs may be high due to low demand. The government can remedy this pricing problem. In 2005, Congress did so by providing a tax credit to buyers of certain hybrid cars. Alternatively, Congress could have provided a tax break to manufacturers to reduce their costs, such as accelerated depreciation on manufacturing equipment. Or Congress could provide a direct subsidy to buyers, such as issuing them a check rather than having them claim the benefit on their tax returns.

The tax law can also be used to ensure that polluters pay all or a portion of the costs of the pollution that would otherwise be borne by all of society. Such taxes are referred to as *polluter-pays* taxes. The ozone-depleting chemical tax is an example of such a tax. Another example is a carbon tax used by several countries. A carbon tax could be imposed based on the carbon content of certain fuels. Users of such fuels would then be charged based on their energy usage (the tax might be included on a utility bill or added to the price of gasoline at the pump). Such a tax not only leads those causing a pollution problem to help fund its clean-up, but also provides an incentive to change behavior. That is, to reduce their taxes, they reduce the activity, such as buying less gasoline.

Taxes and Sustainability

To encourage sustainable or green practices among consumers, builders, transportation providers, and others, policymakers can use either incentives or polluter-pays taxes or both. In 2005, Congress increased the incentives available to builders who follow energy efficient practices (discussed later). While not currently in use at the federal level, polluter-pays taxes can also be used. For example, if a certain type of insulation results in poor energy usage in a structure, lawmakers could impose a tax on it to discourage its use. Revenues generated from polluter-pays taxes can be used for environmental research or clean-up projects, to reduce other taxes (a “tax shift”), or to address other spending or deficit reduction needs.

The tax laws also provide “hidden” subsidies (or penalties) when rules have unintended consequences. For example, under the federal income tax, the value of employer-provided free parking is not taxable to employees. This may cause employees with free parking to prefer driving to work rather than car-pooling or taking public transportation. As lawmakers continue to look at how the tax law can promote sustainable practices, they will also consider how some existing rules may need to be modified so that they do not unintentionally promote practices that are detrimental to the environment.

Practical Challenges

It is no secret that tax laws are complex. The use of tax systems to promote sustainable practices is no exception. On the surface, an incentive may sound quite straightforward. For example, buy a hybrid car and get a tax credit that reduces your tax bill. However, the “devil” is certainly in the many details. Special tax incentive rules usually include expiration dates, numerous requirements that must be satisfied to obtain the benefit, recordkeeping requirements, and the need for positive taxable income. Also, generally, tax credits may not be used to reduce AMT thus making the credit of little benefit to some taxpayers.

Some incentives provide an annual benefit while others may provide a lifetime maximum benefit. Some incentives interact with other provisions to reduce the possible maximum benefit. For example, some tax credits require that the basis of the related property be reduced, which reduces depreciation de-

ductions and increases the potential gain (or decreases the potential loss) when the property is disposed of.

These challenges are discussed in more detail later. What cannot be stressed enough is the importance of obtaining assistance of a knowledgeable tax professional in determining what incentives might be available and what is required to obtain the benefit. A cost-benefit analysis should also be performed prior to pursuing a tax benefit. One size does not fit all. The effect of tax incentives will depend on business practices and a builder’s estimated taxable income and tax rate. What might be a great tax incentive for one builder might not be the best tax strategy for another builder.

NON-TAX APPROACHES TO SUSTAINABILITY

While the emphasis of this article is on tax incentives that promote sustainable building practices, other approaches exist as well, and the ongoing efforts to promote sustainable practices may utilize these, perhaps in combination with tax incentives. Also, tax reform efforts may lead lawmakers to avoid using the tax law to encourage sustainable and green activities. Some members of Congress, as well as President Bush and the U.S. Treasury Department, have expressed concern over the complexity of the law. One approach to simplify the tax law would be to eliminate incentives and lower the tax rate.⁴ If this direction is pursued, it would require lawmakers to utilize other techniques for encouraging sustainable building practices. Some of these techniques are explained next.

Command and Control

Existing environmental laws that mandate certain approaches and impose penalties for failure to comply can be expanded to require environmentally sustainable practices. For example, builders and manufacturers could be required to use or not use certain materials. A disadvantage of this approach is the cost to the government of enforcing the rules. Also, these rules can be difficult to write, leading to loopholes that reduce the overall effectiveness of the rules. An advantage of the regulatory approach is that the government can force people to “do the right thing” (such as not dumping toxic wastes) even if people are not inclined to do so on their own.

Incentives

In addition to tax rules, incentives can be provided in other forms as well. As with favorable tax rules, these approaches typically modify the market mechanism in some way to reward or encourage certain behavior. For example, individuals might enjoy more than tax incentives for owning a hybrid car. Some states and cities allow free public parking and use of carpool lanes. Some insurance companies offer lower rates to owners of hybrid cars and some employers provide perks such as favorable parking or even cash awards.

Similarly, many utility companies provide rebates for the purchase of energy-efficient household appliances, windows, or solar energy devices. Governments can similarly offer cash payments to users of environmentally-friendly devices or practices. However, governments typically prefer to use the tax law with specified requirements that must be met for taxpayers to qualify for a credit or special deduction. Doing so uses a money transfer scheme already in place, and individuals and businesses are motivated to keep their taxes low and, thus, tend to pursue the use of credits and special deductions.

Incentives that offer cash either directly or indirectly (such as through a price rebate) pose tax issues. For income tax purposes, income is defined broadly to include income from any possible source.⁵ There are some exceptions, known as *exclusions*, where the law specifically provides that a particular income source is not taxable. An exclusion is provided for certain energy conservation subsidies provided by public utility companies that are used in a dwelling.⁶ If no exclusion applies, the benefit received is likely included in taxable income.

Allowance or “cap and trade” programs are also a type of market-based incentive mechanism. For example, to reduce greenhouse gas emissions, the government determines a “cap” on emissions and then issues certificates to companies indicating how much they are allowed to emit for the year. The certificates can be bought and sold among owners. If a company thinks it can reduce its emissions below what it is allowed, it will sell the extra certificates. A company that does not have enough certificates can decide if it is more cost effective to change its practices or purchase additional certificates from others.

An emission trading allowance program has been in place in the U.S. for sulfur dioxide emissions

since 1995. A carbon allowance trading program trial is underway in Europe and being considered by some states.

Another type of certificate system involves RECs—Renewable Energy Credits (or Certificates). RECs exist in some states to help fund the production of renewable energy. A credit (not a tax credit) equals one megawatt hour of electricity generated from a renewable energy source, such as solar. The purchaser of a REC is treated as having generated the renewable energy. Companies subject to renewable energy usage requirements or that want to voluntarily reduce their carbon emissions may be able to use RECs to achieve an environmental goal in a cost-effective manner.

Education

Better information can also help consumers and businesses make decisions that will best protect the environment. Examples include energy information labels on appliances, as well as specially designed curriculum for K–12. Education alone is unlikely to solve environmental problems although it may work well in conjunction with regulatory and incentive programs.

CONSIDERATIONS (CAUTIONS) IN USING TAX INCENTIVES

Overview

Economic and tax incentives generally fall into two “buckets”—statutory incentives (generally, tax credits) and negotiated incentives. The most common statutory tax incentives are investment credits, jobs/employment credits, R&D credits, and energy credits. Some common incentives that are negotiated by companies include training grants, sales/use tax incentives, property tax abatements, utility rate reductions, and assistance with infrastructure. Tax increment financing (TIFs), industrial revenue bonds, and discretionary funds are sometimes included in larger negotiated packages in such instances where a company locates a headquarters or other large facility in a particular jurisdiction.

In general, most incentives that relate to green building, energy efficiency, and renewable energy are of a statutory nature, meaning if a taxpayer (a company or the end user) engages in an activity and fulfills the necessary requirements (including filing the necessary paperwork) the incentive can be claimed.

Common Challenging Features of Tax Incentives

As mentioned earlier, credits and other incentives are often enacted by the federal and state legislatures as a means to encourage taxpayers to engage in specific activities. As with most tax laws there is an inherent political nature to the enactment of tax credits. Oftentimes a credit is enacted and heavily publicized in a community, only to find that reading of the fine print makes it very difficult for the average taxpayer to qualify for the benefit.

Some credits are specific to an industry. For instance, Missouri's Wood Energy Production Credit provides a tax credit for individuals or businesses processing Missouri forestry industry residues into fuels. The credit equals \$5.00 per ton of processed material.⁷ (One might argue whether this is in fact a "green credit" or a credit enacted to stimulate the state's timber industry.) In fact, sometimes a detailed reading of a statute's enacting legislation might indicate that a particular credit is tailor-made for a specific company with a specific fact pattern.

Oftentimes, tax incentives are temporary. For example, the federal R&D credit expires regularly and must be renewed by Congress almost annually. Or a credit may expire (sometimes referred to as "sunset") under a specific set of circumstances. For instance, the California Manufacturers' Investment Credit (MIC), enacted in 1994, expired in 2003 after the state's overall employment in the manufacturing sector decreased below acceptable levels as delineated in the statute.⁸ The tie between employment levels and the continuation of the credit was part of the credit provision. It was intended to prevent companies from purchasing equipment to displace people. As a result of the economic downturn in 2001 and 2002, many companies reduced their workforces, particularly in the technology industry. While the overall decrease in manufacturing sector jobs had nothing to do with replacing people with machinery, the MIC statute terminated and was not renewed. So, during a sluggish economy, California lost an investment credit that would likely have boosted spending on capital equipment.

Many tax incentives are cumbersome to claim and track. For some benefits, companies must obtain pre-certification. And taxpayers must be ready to compile and retain substantiating documentation. Further, there are often deadlines which must be met in order

for a benefit to be claimed. Missing a deadline for pre-certification might mean that a taxpayer must wait until the following year to claim a credit.

On the other hand, many statutory tax credits may be claimed on properly filed amended tax returns. Thus a taxpayer may be able to take advantage of an incentive several years after original tax returns were filed. Unless a specific election or pre-certification was required for the benefit, taxpayers can amend tax returns for periods which are open under the statute of limitations (generally three or four years) and request refunds or document credit carry-forwards to be utilized later.

Some incentives are limited to a maximum amount for all taxpayers per year. For instance, in Pennsylvania the total annual R&D credit available to all taxpayers is limited to \$40 million—at least \$8 million of which is earmarked for smaller companies. Taxpayers must submit an application to the Department of Revenue on a timely basis before a credit can be claimed, so it pays to get applications in early.⁹ That means that taxpayers must learn about the credit, determine their qualification, and then submit their paperwork quickly to be able to claim their portion.

Another issue for some taxpayers is that most credits are non-refundable. That is, if the credit is greater than the tax owed, the excess credit is not usable that year. However, many tax credits carry forward for some period of time. Companies in start-up mode may have the fact patterns to qualify for a credit, but may be unable to benefit from it due to significant tax net operating losses that result in zero tax liability. Most credits do not carry forward indefinitely.

For taxpayers that do have taxable income (and thus tax liability), their credit utilization may be limited due to the alternative minimum tax (AMT). For federal and state tax purposes, most tax credits may not be applied against AMT.

Businesses that qualify for credits without sufficient tax liability to use them may consider partnering with another party to generate the credit together. Other businesses may be willing to partner with a builder in order to obtain returns on the deal including a share of the tax credit generated. Builders may benefit as the arrangement may provide low-cost funds for construction. Caution must be exercised in such arrangements to be sure that all parties qualify for the credit and the entity formed for the project is appropriate.

Some states may allow taxpayers to sell credits they generate. For example, the Oregon Business Energy Tax Credit may be sold by a taxpayer. Additional paperwork and requirements must be satisfied to transfer the credit.¹⁰

Negotiated incentives, as opposed to statutory incentives, have a different set of issues. Taxpayers must be prepared to spend a lot of time and energy to obtain benefits. The negotiation process can be very time consuming. Depending on the amounts and mix of incentives applied for, a taxpayer might be dealing with various local government bodies such as city councils, county boards of supervisors, property taxing agencies, etc. Patience tends to be a virtue. And a company might spend time and money to negotiate with elected officials, only to find that they do not get the deal they had hoped for. Further, negotiated incentives often have “claw-back” provisions, meaning that if a taxpayer does not fulfill all of the obligations of the credit or incentive, the entity may have to pay back the value of the incentive to the state or municipality several years later.

Finally, documenting one’s qualifications for the benefit and maintaining the proper records to support claiming the benefit are crucial. Also, it is important for taxpayers to keep all paperwork and supporting documentation for several years, so that they can substantiate their benefits under audits by state or federal agencies.

In summary, there are many statutory and negotiated tax incentives available. Some are more lucrative than others, and some are simply not worth pursuing (based on a cost/benefit analysis). So, it is important to check the fine print and truly understand all of the requirements for claiming the credit or taking the benefit. It is important to perform a cost benefit analysis before pursuing the incentive. Most taxpayers claiming significant credits and incentives hire consultants specializing in these areas to assist them in maximizing the credits and in making certain that all the requisite substantiating documentation is in order. Before engaging a consultant, a company should ask about the consultant’s track record in defending the credit on audit and understand the long-term cost/benefit ramifications.

Financial Statement Impact

In today’s regulatory environment, companies must also consider the impact of significant tax credits and

their effect on published financial statements. This is particularly true of public companies.

Many credits are large enough to make a difference to a company’s earnings per share, whether currently utilized or not. Independent auditors now regularly review the viability of tax credits (both those currently claimed and those that carry forward to future years) and often apply valuation reserves against them.

FEDERAL INCENTIVES

Overview

The federal tax law includes a broad array of environmental incentives. These include expensing (rather than capitalizing) certain environmental remediation costs, shorter depreciation lives for some energy-efficient equipment, tax credits for certain alternative fuel vehicles and qualified fuel cell property, and tax credits for individuals for specified solar equipment. The Energy Policy Act of 2005 (P.L. 109-58; 8/8/06) expanded the list of incentives available for certain environmentally-friendly activities, although primarily on a temporary basis. The basics of two of the incentives most pertinent to builders are explained below. It is important to note that these incentives are not permanent provisions; guidance from the IRS is still incomplete, which may leave some builders with questions as to the application of the incentives. Builders should always consult with their tax adviser to best ensure that they are qualified for the incentive and complete all of the requirements to claim the benefit.

To provide a sense of the complexity that often exists in tax incentives, many of the details are provided for the two federal incentives described below. It is important to note, however, that not all of the details have been included and that the statute and IRS guidance should be reviewed in considering the particular incentive.

New Energy Efficient Home Credit (IRC Section 45L)

The New Energy Efficient Home Credit (Section 45L) was added to the federal income tax law in 2005. It offers homebuilders a \$2,000 credit per home, as well as a credit of either \$2,000 or \$1,000 per home for producers of manufactured homes. To receive the credit, the builder or producer must have certification from an eligible certifier that specified energy saving requirements were satisfied for the

home (that it is an “energy efficient home” as defined by law). The credit is effective for U.S. homes where the construction is substantially completed after December 31, 2005 and that are purchased for use as a residence after that date but before January 1, 2009.¹¹

The home must be certified that its annual energy consumption for heating and cooling is at least 50% below that of a comparable home in the same climate zone that is built per the chapter 4 standards of the 2003 International Energy Conservation Code in effect on August 8, 2005 (including supplements). Also, the heating and cooling equipment efficiencies must tie to the minimum allowed under Department of Energy regulations established per the National Appliance Energy Conservation Act of 1987 in effect at the time the construction is completed. In addition, at least one-fifth of the 50% savings must come from the building envelope component improvements (that is, such improvements must provide for energy consumption that is at least 10% below that of a comparable home). The IRS defines the “building envelope components” as “basement walls, exterior walls, floor, roof, and any other building element that encloses conditioned space, including any boundary between conditioned space and unconditioned space.”¹²

In addition to meeting the standard for constructed homes, a manufactured home must also conform to the Federal Manufacturer Home Construction and Safety Standards to be eligible for the credit. A manufactured home that meets a lesser energy efficiency level may qualify for a reduced credit (\$1,000) if it conforms to the Federal Manufactured Home Construction and Safety Standards and meets the requirements noted earlier but with 30% substituted for 50% and one-third substituted for one-fifth. Alternatively, the manufactured home must meet the requirements set by the Administrator of the EPA under the Energy Star Labeled Homes program to obtain the lesser credit amount.

The certification must be in writing and list the energy efficient building envelope components used in the home and the energy performance rating for each component (per section 401.3 of the 2004 IECC Supplement). It must also list the energy efficient heating and cooling equipment that was installed in the home and the energy efficiency performance of each (per applicable test procedures of the Department of Energy Appliance Standards).

The certification must also note the contact information of the certifier and the address of the home. The IRS, as required by Congress, has provided detailed guidance on how a contractor or producer obtains the necessary certification to show that the home is an energy efficient home. This IRS maintains a public list of the approved software programs for providing the necessary documentation on the energy savings required for the credit.¹³ This guidance should be consulted, along with the language of Section 45L, prior to design and construction of the home to ensure that all of the requirements for the credit are satisfied.

Additional considerations for the new energy efficient home credit:

- The comparable home’s air conditioners must have a Seasonal Energy Efficiency Ratio (SEER) of 13, heat pumps with a SEER of 13 and a Heating Seasonal Performance Factor (HSPF) of 7.7.
- The certifier must not be related to the contractor and must be accredited or authorized such as by the Residential Energy Services Network (RESNET) to use the energy performance measurement methods that are approved by RESNET or an equivalent rater.
- Homebuilders constructing at least 85 homes per year or constructing subdivisions with the same floor plan using the same subcontractors, are allowed to have the certifier use the sampling protocol specified in the “ENERGY STAR[®] for Homes Sampling Protocol Guidelines” rather than having each home inspected.
- The term “construction” as used for this credit also includes “substantial reconstruction and rehabilitation.”
- The basis of the home must be reduced by the amount of the credit claimed.
- The credit is a “general business credit” subject to the grouping, limitation, and carryover rules of IRC Section 38. Thus, the credit must be combined with other general business credits, such as the low-income housing and work opportunity credits, in determining how much credit may be used for the year. General business credits are not usable when a taxpayer owes AMT. Unused credits may be carried back one year and forward 20 years, subject to the AMT limitation each year.

The credit may not be carried back to a year that ends on or before August 8, 2005.

- The credit is reported on Form 8908, *Energy Efficient Home Credit* (included in this article).

While the IRS has issued two notices on how to obtain the necessary certification, it has not yet issued regulations covering all of the Section 45L definitions and requirements. For now, the notices provide some definitions and details on the certification requirement and should be consulted in order to properly claim the credit.

At least one industry organization has expressed concern over the documentation burden and cost associated with claiming the credit. The National Association of Home Builders (NAHB) notes that the costs of complying with the certification requirements can easily bring the value of the credit to below \$1,000 per energy efficient home. The NAHB advocates modification of the rules to allow for more competition in the certification field. The NAHB also suggests that the credit be increased to \$5,000 to provide a better incentive given the cost of meeting the energy efficiency standards for the credit and complying with the required certification and documentation. The NAHB notes that per RESNET, less than 10,000 homes were certified to qualify for the credit in 2006 (less than 1% of new homes).¹⁴

Energy Efficient Commercial Buildings Deduction (IRC Section 179D)

Another tax benefit relevant to builders, added by the Energy Policy Act of 2005, is the Energy Efficient Commercial Buildings Deduction (Section 179D). This provision gives taxpayers a deduction for the cost of “energy efficient commercial building property” installed in or on a building. The deduction is available to the owner or lessee of a commercial building who installs energy efficient property as specified in Section 179D.

The deduction is claimed in the year the property is placed in service. The deduction in any year may not exceed \$1.80 per square foot of the building less prior Section 179D deductions taken with respect to the building. If more than one taxpayer installs energy efficient commercial building property in or on a particular building, the maximum deduction applies to the taxpayers’ combined costs.¹⁵ For buildings

with energy efficient property that only partially meets the energy efficiency standard, a deduction of up to \$.60 per square foot may be allowed. The Section 179D Deduction applies to qualified property placed in service after December 31, 2005 and before January 1, 2009.¹⁶

As with the New Energy Efficient Home Credit, the required energy efficiency benefits are specific and must be certified. Also, while the IRS has not yet issued regulations explaining all of the detailed terminology and requirements, it has issued limited guidance to explain the certification process and who is qualified to provide the certification.¹⁷

“Energy efficient commercial building property” is defined as property that is:

1. depreciable
2. installed in a building that is (a) located in the U.S. and (b) within the scope of Standard 90.1-2001 of the American Society of Heating, Refrigerating, and Air Conditioning Engineers and the Illuminating Engineering Society of North America (as in effect on April 2, 2003)
3. installed as part of either (a) the interior lighting system, (b) the heating, cooling, ventilation, and hot water systems, or (c) the building envelope
4. certified by a qualified individual¹⁸ as required per Section 179D as “being installed as part of a plan designed to reduce the total annual energy and power costs with respect to the interior lighting systems, heating, cooling, ventilation, and hot water systems of the building by 50 percent or more in comparison to a reference building which meets the minimum requirements of Standard 90.1-2001” per methods specified by the IRS to calculate and verify energy and power consumption and cost using the 2005 California Nonresidential Alternative Calculation Method Approval Manual¹⁹

The calculation of the energy efficiency costs must be made using qualified computer software. The Department of Energy maintains a list of such software.²⁰ The only efficiencies relevant in measuring for the 50% requirement are in the systems noted above. Energy efficiencies from other property, such as elevators, are ignored in determining if the 50% level is met.²¹

Additional considerations for the energy efficient commercial buildings deduction:

- Special standards and rules exist for lighting systems.²²
- Certifications must also include an explanation to the owner of the building as to the energy efficiency features of the buildings and the expected annual energy costs.
- For energy efficient commercial building property installed in or on property owned by the government (such as a school building), the IRS is to provide regulations that allow the allocation of the Section 179D deduction to the person who is primarily responsible for the design of the property (rather than the government owner of the building).²³

The Section 179D deduction is basically an accelerated depreciation deduction for qualified property. The deduction reduces the basis of the “energy efficient commercial building property.” Should the Section 179D deduction be less than the cost of the property, the excess cost is depreciable under the normal depreciation rules. In addition, when the property is sold, the Section 179D deduction is “recaptured” as ordinary gain (assuming the property generates a gain when sold) under the depreciation recapture rules.²⁴

Section 45L Credit versus Section 179D Deduction

The two energy savings provisions described above—the New Energy Efficient Home Credit (Section 45L) and the Energy Efficient Commercial Buildings Deduction (Section 179D), have a common purpose of encouraging energy efficiencies in residential and commercial buildings. They are also both directed at businesses. While they have similarities in specifying energy efficiencies to be achieved and requiring detailed certifications, there are significant differences in the measurement approach and the tax effect. The Section 45L credit is based on achieving efficiencies in energy *consumption* while the Section 179D deduction is based on achieving efficiencies in energy *costs*.

The tax effect of the two provisions is different due to one being a tax credit and the other a tax deduction. A tax credit provides the same dollar-for-dollar benefit to all taxpayers regardless of their tax bracket. That is, a \$2,000 credit is worth \$2,000 both to a taxpayer in a 15% tax bracket and one in a 35%

tax bracket. On the other hand, a \$2,000 deduction is worth more to a taxpayer in a higher tax bracket. For a taxpayer in a 15% tax bracket, the deduction produces a tax savings of \$300 (\$2,000 x 15%). On the other hand, the tax savings is \$700 for the taxpayer in the higher bracket (\$2,000 x 35%). In addition, as is often the case, the Section 45L credit may not be applied to reduce AMT, while the Section 179D deduction is allowed in computing alternative minimum taxable income. Thus, a taxpayer who owes AMT will get immediate benefit of the deduction, but not the credit.

STATE INCENTIVES

Overview – General Nature

There are several incentives available at the state levels for energy efficiency and renewable energy. The types of incentives fall into several categories. Many, such as rebates sponsored by local utility companies, are “end user credits” for consumers. Almost all states have a utility company that offers some incentives. And several states offer some form of personal tax credit for taxpayers purchasing energy efficient housing or materials. A few states have enacted specific corporate tax benefits for green building/energy efficiency. (Note that the following summaries are provided without all the pertinent detail about limitations, certifications, and rules for utilization. Builders must evaluate their specific tax situation with their tax advisor to determine the viability of pursuing these incentives.)

For instance, Maryland’s Corporate Income Tax Credit for Green Buildings provides tax credits for the incremental cost of adding photovoltaic, wind turbines, and fuel cells to newly constructed or rehabilitated buildings. Taxpayers wishing to claim the credit must pre-apply to the Maryland Energy Administration.²⁵

Oregon’s Business Energy Credit includes investments in energy conservation, recycling, renewable energy resources, or less polluting transportation fuels. It was expanded in July 2007 to new home builders installing renewable energy systems in their construction projects. The credit is subject to a maximum of \$9,000 per single family home and \$12,000 if the systems are installed on a certified high performance home.²⁶

Form 8908 (Rev. December 2006) Department of the Treasury Internal Revenue Service	Energy Efficient Home Credit ▶ Attach to your tax return.	OMB No. 1545-1979 Attachment Sequence No. 153
Name(s) as shown on return		Identifying number
1a Enter the total number of qualified energy efficient homes meeting the 50% standard that were sold during the tax year (see instructions)		
	1a	
b Multiply line 1a by \$2,000		
		1b
2a Enter the total number of qualified energy efficient manufactured homes meeting the 30% standard that were sold during the tax year (see instructions)		
	2a	
b Multiply line 2a by \$1,000		
		2b
3 Energy efficient home credit from partnerships and S corporations		
		3
4 Add lines 1b, 2b, and 3. Partnerships and S corporations, report this amount on Schedule K; all others, report this amount on the applicable line of Form 3800 (e.g., line 1t of the 2006 Form 3800)		
		4

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

What's New

- Taxpayers other than partnerships or S corporations, whose only source of this credit is from a pass-through entity, are not required to complete or file this form. Instead, they can report this credit directly on line 1t of Form 3800.
- The IRS will revise this December 2006 version of the form only when necessary. Continue to use this version until a new revision is issued.

Purpose of Form

Eligible contractors use Form 8908 to claim a credit for **each** qualified energy efficient home sold during the tax year. The credit (\$2,000 or \$1,000) is based on the energy saving requirements of the home.

The energy efficient home credit is part of the general business credit. No portion of the unused credit may be carried back to any tax year ending before 2006. If you cannot use all of the credit this year because of the tax liability limit, you may carry the unused credit forward up to 20 years. See *Carryback and Carryforward of Unused Credit* in the instructions for Form 3800, General Business Credit.

See section 45L for more information.

Who May Claim the Credit

Eligible contractors may claim the credit for new energy efficient homes that are substantially completed after August 8,

2005, and acquired by an individual from that contractor during the tax year for use as a residence.

Definitions

Eligible Contractor

An eligible contractor is:

- The person who constructed the qualified new energy efficient home or
- For manufactured homes, the person who manufactured the home.

Qualified New Energy Efficient Home

A qualified new energy efficient home is a dwelling unit located in the United States, whose construction is substantially completed after August 8, 2005, and sold after 2005 but before 2009. The home is also required to be certified and meet certain energy saving requirements. Construction includes substantial reconstruction and rehabilitation.

Energy Saving Requirements

The amount of the credit is based on the extent to which each new energy efficient home meets the energy saving requirements discussed below.

50% energy efficient standard. The credit is \$2,000 for a dwelling unit that is **certified** to have an annual level of heating and cooling energy consumption at least 50% below the annual level of heating and cooling energy consumption of a *comparable dwelling unit* and has building envelope component improvements that account for at least 1/5 of the 50% reduction in energy consumption. A manufactured home

meeting the requirements described above and the Federal Manufactured Home Construction and Safety Standards (FMHCSS) requirements (see 24 C.F.R. section 3280) is also eligible for the \$2,000 credit.

Comparable dwelling unit. A comparable dwelling unit:

- Is constructed in accordance with the standards of chapter 4 of the 2004 Supplement to the 2003 International Energy Conservation Code,
- Has air conditioners with a Seasonal Energy Efficiency Ratio (SEER) of 13, measured in accordance with 10 C.F.R. 430.23(m), and
- Has heat pumps with a SEER of 13 and a Heating Seasonal Performance Factor (HSPF) of 7.7, measured in accordance with 10 C.F.R. 430.23(m).

30% energy efficient standard. The credit is \$1,000 for a manufactured home that does not meet the 50% energy saving requirement but is **certified** to have an annual level of heating and cooling energy consumption at least 30% below the annual level of heating and cooling energy consumption of a *comparable dwelling unit* (discussed above) and:

- Meets FMHCSS requirements, and
- Has building envelope component improvements that account for at least 1/3 of the 30% reduction in energy consumption, or
- Meets the current requirements established by the Administrator of the Environmental Protection Agency under the Energy Star Labeled Homes program.

For Paperwork Reduction Act Notice, see page 2.

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Heating and cooling energy and cost savings must be calculated using the procedures described in either Residential Energy Services Network (RESNET) Publication 05-001 or RESNET Publication 06-001. You may access RESNET publications at <http://www.resnet.us/standards/taxcredits/procedures.pdf>.

Certification

An eligible contractor must obtain a certification that the dwelling unit meets the requirements of section 45L from an eligible certifier before claiming the section 45L credit. The certification will be treated as satisfying the requirements of section 45L if all the construction has been performed in a manner consistent with the design specifications provided to the eligible certifier and the certification contains all of the information required by Section 3 of Notice 2006-27, or, for manufactured homes, Section 3 or section 4 of Notice 2006-28.

Specific Instructions

Note. If you only have a credit allocated to you from a partnership or S corporation, skip lines 1 and 2, and go to line 3.

Line 1

For each home substantially completed after August 8, 2005, and sold during the tax year, that meets the 50% energy efficient standard, the allowable credit is \$2,000.

Reduce the expenses incurred in the construction of each new home by the amount of the credit. Expenses taken into account for either the rehabilitation or energy components of the investment tax credit may not again be considered in determining the energy efficient home credit. See section 45L(e).

Line 2

For each manufactured home substantially completed after August 8, 2005, and sold during the tax year, that meets the 30% energy efficient standard, the allowable credit is \$1,000.

Reduce the expenses incurred in the construction of each new home by the amount of the credit. Expenses taken into account for either the rehabilitation or energy components of the investment tax credit may not again be considered in determining the energy efficient home credit. See section 45L(e).

Line 3

Enter the amount of credit allocated to you as a shareholder or partner.

Paperwork Reduction Act Notice. We ask for the information on this form to carry out the Internal Revenue laws of the United States. You are required to give us the information. We need it to ensure that you are complying with these laws and to allow us to figure and collect the right amount of tax.

You are not required to provide the information requested on a form that is subject to the Paperwork Reduction Act unless the form displays a valid OMB control number. Books or records relating to a form or its instructions must be retained as long as their contents may become material in the administration of any Internal Revenue law. Generally, tax returns and return information are confidential, as required by section 6103.

The time needed to complete and file this form will vary depending on individual circumstances. The estimated burden for individual taxpayers filing this form is approved under OMB control number 1545-0074 and is included in the estimates shown in the instructions for their individual income tax return. The estimated burden for all other taxpayers who file this form is shown below.

- Recordkeeping** 2 hr., 9 min.
- Learning about the law or the form** 12 min.
- Preparing and sending the form to the IRS** 14 min.

If you have comments concerning the accuracy of these time estimates or suggestions for making this form simpler, we would be happy to hear from you. See the instructions for the tax return with which this form is filed.

In early 2007, New Mexico established a credit for both commercial and residential sustainable buildings. Qualifying commercial buildings must have been registered and certified by the U.S. Green Building Council at LEED Silver or higher, and include new construction, existing buildings, core and shell, or commercial interiors. The credit varies according to the square footage of the building and the level of certification achieved. Various certifications must be obtained in order to claim the credit on the company's tax return.²⁷

Several states have enacted credits specifically for companies or individuals purchasing and installing equipment for renewable energy, such as solar water heating and wind turbines. As a general rule, many of these tax credits are limited to a maximum benefit that can be claimed per taxpayer. Also, most require either pre-approval or certification from the local department of energy or department of commerce. For example, beginning January 1, 2006, South Carolina offers a credit of 25% of the cost of purchasing and installing a certified solar energy system, but limits it to the lesser of \$3,500 or 50% of a taxpayer's tax liability.²⁸ Arizona's credit for installation of solar energy devices is limited to a maximum of \$25,000 per taxpayer for any one building during a year and \$50,000 in total per taxpayer during a year. Credits not utilized can be carried forward for not more than five years. To qualify, the business must submit an application for pre-approval.²⁹

In addition, some states offer sales tax exemptions, property tax exemptions, or reductions for certain energy equipment. For example, Iowa provides a sales tax exemption for certain equipment producing energy from wind or solar. Iowa also excludes from property tax assessment the value added to a building by solar energy equipment for the first five years.³⁰

Additional Incentives to Consider

In addition to incentives related to green building and renewable energy, builders and contractors might also qualify for other business tax credits. Many states have designated enterprise zones or other economic development areas that permit credits for capital investment or hiring. For instance, California's EZ Hiring Credit and Sales/Use Tax credits are among the best in the country. The Hiring Credit can be worth over \$35,000 per qualified employee over a five-year period. California's program is different from many

states because it is not based upon an overall increase in headcount, but focuses on the characteristics of the individual employee hired.³¹ Arizona, by comparison, offers a three-year Enterprise Zone Hiring Credit, but employers must show a net increase in employment. The benefits are a maximum of \$500, \$1,000, and \$1,500, per employee, per year of employment.³² (Note that for both the California and Arizona credits mentioned, there are several steps required to qualify the individuals and substantiate qualification for the credit.) Many other states offer jobs tax credits for headcount increases. And, as mentioned above, benefits can vary significantly.

How to Find Out What is Available

With so many jurisdictions (federal, state, local) enacting incentive legislation (particularly in the area of "green"), it can be difficult to determine all the different incentives available. Also, information changes frequently as some incentives expire or are renewed, modifications are made, additional guidance is issued, and new incentives are created. Incentives run the gamut from company-based tax credits and incentives to those allowed for individual consumers.

The best initial place to look to get a general sense of what is available currently is the Internet. There are several web sites that explain incentives in general terms. For companies interested in a particular state's incentives, a good place to start can be the state's general site, under economic development or business opportunities. A specific site discussing myriad green incentives is www.dsireusa.org—a database of state incentives for renewables and efficiency. The web site compiles information from many different sources, including federal and state taxing entities, contacts with state energy offices, public utility commissions, and renewable energy organizations. As with any reference site, this site is a good place to begin general research about an incentive and to narrow the search. The site also provides links to more information about the specific credit or incentive. However, it is highly recommended to always double-check the accuracy and timeliness of the particular incentive you are interested in pursuing, as information is updated regularly, and general information on web sites can be incomplete or misleading.

Builders and contractors should also consult with their local utility commissions, utility companies, and

other “interested parties” for the current local benefits available. Where specific corporate or personal tax incentives are concerned, consultation with a knowledgeable CPA is recommended, and possibly an incentives consultant, as to the utilization of the benefits. As with other business matters, the larger the potential benefit (or risk of loss), the greater the benefit of hiring a specialized consultant. Once a business gets to the point where it needs specific information about how to take full advantage of a particular incentive, often the best route is to hire a consultant that specializes in the area.

LOOKING FORWARD

Today’s increased focus on climate change, energy conservation, and sustainability will most likely lead policymakers to give greater consideration to how the tax law can be used as a tool to meet environmental goals. This focus will likely include changing existing tax rules that directly or indirectly harm the environment as well as adding or modifying rules to encourage environmentally-friendly behavior.

The building industry helped promote enactment of new energy efficiency provisions in 2005.³³ Their efforts to improve the existing provisions may lead to even better incentives for builders of both residential and commercial properties.

Proposals and Possibilities

Examples of some of the proposals to expand or modify tax incentives (or remove tax disincentives) for energy efficiency and sustainability are summarized below. Also listed are examples of greenhouse gas emission reduction legislation that may require tax law changes to help jurisdictions meet the targets.

Modification of the Section 45L Credit and Section 179D Deduction. Several bills have been introduced in the 110th Congress to extend the termination dates for these provisions. H.R. 2776, passed in the House on August 4, 2007, would extend the Section 179D deduction through 2013. H.R. 1385 and S. 822 propose to extend the Section 45L credit through 2011 and the Section 179D deduction through 2014. These bills would also increase the maximum deduction to \$2.25 per square foot (from \$1.80 per square foot) and add a new deduction for energy efficient low-rise buildings. H.R. 2947 would extend the

Section 45L credit through 2013 and raise the credit amount from \$2,000 to \$4,500. It would also extend the Section 179D deduction through 2013 and raise the maximum deduction to \$2.75 per square foot.

Limitations on Deductions Related to Energy-Inefficient Buildings. In October 2007, Congressman Dingell (D-MI) introduced his tax plan to address climate change. The package includes a carbon tax, increased gasoline excise tax, and a phase-out of the mortgage interest deduction on homes that are over 3,000 square feet in size. The rationale for the home mortgage interest deduction modification is that large homes generate greater greenhouse gas emissions. An exemption from the home mortgage interest phase-out is proposed for homeowners who buy carbon offsets or own homes that are certified as carbon neutral. Funds generated from the tax increase would be used to provide tax relief to low-income individuals, and fund conservation and renewable energy research projects.³⁴

Studies. H.R. 2776 calls for a review of the federal tax law to identify the rules that have the most significant effects on the emission of greenhouse gases and for the magnitude of such effects to be estimated (a “carbon audit”). Examples of such rules might include favorable depreciation lives for equipment that emits greenhouse gases, incentives for the production of oil and gas, and the tax-free treatment of employer-provided parking.

Greenhouse Gas Emission Reduction Targets. Some states and cities have passed resolutions or laws to reduce their greenhouse gas emissions. For example, in 2003 Maine passed legislation to reduce greenhouse gas emissions including reducing them to 1990 levels by 2010.³⁵ California passed legislation in 2006 that calls for the state to reduce greenhouse gas emissions by 25% by 2020.³⁶ In early 2007 the governors of the western states entered into an agreement—the Western Climate Initiative—to work together as a region to address climate change issues. The province of British Columbia also joined the Initiative. This group will also create a market-based mechanism, such as emissions permit trading, to help reduce greenhouse gas emissions.³⁷

Several U.S. cities belong to the International Council for Local Environmental Initiatives’ (ICLEI)

Cities for Climate Protection® (CCP) Campaign which helps cities find ways to reduce greenhouse gas emissions and improve air quality and sustainability.³⁸ In 2002, New York City not only joined the CCP, but also created the Mayor's Office of Long-Term Planning and Sustainability, which among other activities will propose a plan for reducing the city's greenhouse gas impact.³⁹ In November 2006, the citizens of Boulder, Colorado became the first in the U.S. to do what some European countries do. They implemented a carbon tax imposed on utility bills.⁴⁰

Given the ambitious nature of the goals local and state governments are setting for reducing greenhouse gas emissions, it is quite likely that they will look to their tax laws to help them achieve these goals. Such actions may include "polluter-pays" taxes, as well as tax incentives to encourage behavior that reduces greenhouse gas emissions. Such approaches can also help both individuals and businesses to be more aware of the causes and issues of climate change and which of their actions and behaviors produce greenhouse gas emissions. Thus, it would not be surprising to see more state and local jurisdictions use the tax

law as a market mechanism to change behavior to help the environment.

CONCLUSIONS

The U.S. is presently at what is likely just the beginning stage of serious efforts to motivate individuals, businesses, and governments to engage in sustainable practices that protect and preserve the environment. An array of federal and state tax incentives to encourage environmentally-friendly practices was enhanced at the federal level in 2005, but on a temporary basis. It is likely that these provisions will be extended and new ones added at the federal, state, and even local government levels. In addition, policymakers will likely identify tax provisions that harm the environment and take action to eliminate or modify them.

Environmental tax provisions are a rapidly changing area. The provisions are complex, yet should not be ignored as tax incentives present opportunities to generate additional funds for building. It is vitally important to obtain expert tax assistance in utilizing incentives due to the complexity and temporary nature of many of the provisions. Table 1 summarizes

TABLE 1. Checklist for Utilizing Sustainable Building Tax Incentives

1. Search widely to find out what incentives are available. Sources include:
 - a. tax professionals;
 - b. industry associations;
 - c. state economic development, environmental, and tax agency web sites;
 - d. Internet searches.
2. Obtain a copy of the statute, regulations, and other government guidance. Do not rely solely on summaries prepared by non-government sources.
3. Determine if there are limitations on the incentive that may preclude its use, such as age of the taxpayer, type of entity, and lifetime or annual maximum benefits.
4. Review the law for the incentive and perform an initial cost-benefit analysis to determine if further time is warranted in pursuing the credit. The review should consider:
 - a. the maximum possible benefit available;
 - b. the taxpayer's tax situation (operating loss, AMT, etc.);
 - c. how the incentive affects other tax deductions, credits, or basis of assets;
 - d. the costs to comply.
5. Before starting the building or installation project, identify all of the requirements that must be satisfied to obtain the benefit. Consider documentation requirements, achievement levels, effective dates, limitations, whether pre-certification is required, and whether there are any maximum limits provided per taxpayer or per all taxpayers.
6. Create a timeline to ensure that required tasks, such as certification, are completed at the proper time and in sufficient time to file the tax return on which the benefit is claimed.
7. Be sure that all parties involved in project decision-making are familiar with the requirements of the incentive.
8. Implement a documentation and recordkeeping system.
9. Maintain supporting documentation of the incentives for the statute of limitations period for the tax return on which the incentive was claimed (typically four years).

key actions to take in effectively identifying and using environmental tax incentives. This checklist will help builders in working with their tax advisers.

Builders will want to keep abreast of developments and perhaps even get involved in promoting the enactment of effective incentives. Policymakers benefit from a better understanding of building practices, energy saving devices, construction timelines, costs, and business parameters that must be considered to create effective incentives.

RESOURCES

Commercial Building Tax Deduction Coalition; <http://www.efficientbuildings.org/index.html>.
 Database of State Incentives for Renewables & Efficiency; <http://www.dsireusa.org/>.
 Department of Energy, Section 179D Qualified Software List; http://www.eere.energy.gov/buildings/info/qualified_software/.
 Energy Star Program of the U.S. Environmental Protection Agency and U.S. Department of Energy; <http://www.energystar.gov/>.
 Environmental Protection Agency, Funding Resources; <http://www.epa.gov/chp/funding/index.html>.
 IRS, *Commercial Property Owners and Leaseholders Qualify for Energy Efficiency Tax Deduction*; <http://www.irs.gov/businesses/small/industries/article/0,,id=160505,00.html>.
 IRS, *Energy Efficient Home Credit IRC Sec. 45L and List of Eligible Software Programs for Certification*; <http://www.irs.gov/businesses/small/industries/article/0,,id=155445,00.html>.
 IRS, Form 8908, *Energy Efficient Home Credit*; <http://www.irs.gov/pub/irs-pdf/f8908.pdf>.
 Joint Committee on Taxation, report on the Energy Tax Incentives Act of 2005 (JCX-60-05; 7/28/05) available at <http://www.house.gov/jct/x-60-05.pdf>; and estimated budget effects (JCX-59-05; 7/27/05) available at <http://www.house.gov/jct/x-59-05.pdf>.

NOTES

1. For more information on principles of good tax policy, see AICPA, *Guiding Principles of Good Tax Policy: A Framework for Evaluating Tax Proposals* (2001); available at <http://ftp.aicpa.org/public/download/members/div/tax/3-01.pdf>.
2. Internal Revenue Code (IRC) Section 30B, added by the Energy Policy Act of 2005 (P.L. 109-58; 8/8/05).
3. IRC Section 4681, added by the Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239; 12/19/89).
4. For example, in July 2007 the Treasury Department held a conference and issued a background paper, *Business Taxation and Global Competitiveness*, highlighting the economic distortions that exist in the federal income tax and the benefits that might ensue by removing most of them. Available at <http://www.treasury.gov/press/releases/hp500.htm>.
5. IRC Section 61 - "gross income means all income from whatever source derived."
6. IRC Section 136, Energy conservation subsidies provided by public utilities.

7. Missouri Rules of Department of Natural Resources, <http://www.sos.mo.gov/adrules/csr/current/10csr/10c140-4.pdf>.
8. California Franchise Tax Board, Manufacturers' Investment Credit References, <http://www.ftb.ca.gov/businesses/credits/mic/references/index.shtml>.
9. Pennsylvania Department of Revenue, <http://www.revenue.state.pa.us/revenue/site/default.asp>.
10. Oregon Department of Energy, <http://www.oregon.gov/ENERGY/TRANS/hybridcr.shtml>.
11. The New Energy Efficient Home Credit of IRC Section 45L was originally set to expire at the end of 2007. It was extended one year by the Tax Relief and Health Care Act of 2006 (P.L. 109-432; 12/20/06).
12. Notice 2006-27, 2006-11 IRB 626.
13. The guidance for builders of energy efficient homes is in Notice 2006-27, 2006-11 IRB 626. The guidance for producers of manufactured homes is in Notice 2006-28, 2006-11 IRB 628. Also see IRS Announcement 2006-88, 2006-46 IRB 910. The Internal Revenue Bulletins (IRB) that include these notices can be found at <http://www.irs.gov/businesses/lists/0,,id=98230,00.html>. The IRS web site with the list of eligible software programs for certification is at <http://www.irs.gov/businesses/small/industries/article/0,,id=155445,00.html>.
14. NAHB letter to the Departments of Energy and Treasury dated 8/31/07; http://www.nahb.org/fileUpload_details.aspx?contentID=81736.
15. Notice 2006-52, 2006-26 IRB 1175, §2.02(b)(2).
16. The Energy Efficient Commercial Buildings Deduction of IRC Section 179D was originally set to expire at the end of 2007. It was extended one year by the Tax Relief and Health Care Act of 2006 (P.L. 109-432; 12/20/06).
17. Notice 2006-52, supra.
18. IRC Section 179D(d)(6) and Notice 2006-52, supra, §5.05 define "qualified individual" for certification purposes.
19. IRC Section 179D(c)(1)(D).
20. The Department of Energy's list of Section 179D qualified software can be found at http://www.eere.energy.gov/buildings/info/qualified_software/.
21. Notice 2006-52, supra, §2.02(1)(c).
22. IRC Section 179D(f) and Notice 2006-52, supra.
23. IRC Section 179D(d)(4).
24. IRC Sections 179D(e), 168, 1245(a).
25. Comptroller of Maryland, <http://business.marylandtaxes.com/taxinfo/taxcredit/greenbldg/default.asp>.
26. Oregon Department of Energy, <http://www.oregon.gov/ENERGY/CONS/BUS/BETC.shtml>.
27. New Mexico Energy, Minerals and Natural Resources Department, <http://www.emnrd.state.nm.us/ecmd/NMSustainableBuildingTaxCredit.htm>.
28. South Carolina Department of Revenue, <http://www.sctax.org/default.htm>.
29. Arizona Credit for Solar Energy Devices, Form 336, <http://www.azdor.gov/Forms/2006/336%20instructions.pdf>.
30. Iowa Code 423.3(54) and (90), Iowa Code, Title X, Subtitle 2, Chapter 441.21 and <http://www.iowadnr.com/energy/>.
31. California Franchise Tax Board, <http://www.ftb.ca.gov/>.
32. Arizona Department of Revenue, <http://www.azdor.gov/>.

33. For example, the National Electrical Manufacturers Association (NEMA) notes on its web site that it “backed and advocated” the Section 179D deduction; <http://www.nema.org/gov/efficientbuildings/>.
34. Dingell, Summary of Draft Carbon Tax Legislation, <http://www.house.gov/dingell/carbonTaxSummary.shtml>.
35. LD 845 (Chapter 237).
36. AB 32 (Chapter 488), the Global Warming Solutions Act of 2006. Also see Climate Action Team information at <http://www.climatechange.ca.gov/index.html>.
37. Western Climate Initiative, <http://www.westernclimateinitiative.org/>.
38. ICLEI Cities for Climate Protection Campaign, <http://www.iclei.org/index.php?id=800>.
39. Information on PlaNYC can be found at <http://www.nyc.gov/html/planyc2030/html/home/home.shtml>.
40. City of Boulder, “Boulder voters pass first energy tax in the nation,” 11/8/06; http://www.ci.boulder.co.us/index.php?option=com_content&task=view&cid=6136&Itemid=169.