SOLAR ENERGY
INDUSTRIES
ASSOCIATION

Guide to
Federal Tax Incentives for Solar Energy

VERSION 1.2

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VERSION GUIDE

The revenue code is a perpetually moving target, and future rulings and code adjustments by the IRS, DOE or Congress may alter the interpretation of the credit. We endeavor to ensure that this document is up to date at the time of printing; make sure that you have the latest copy.

1.0 – Released January 27, 2006

Initial interpretation of the code is based on legislative language and intent, and existing precedent, especially for the commercial tax credit. Includes existing tax forms as a guide only.

1.1 – Released March 10, 2006

- Includes improved explanation of acquisition vs. construction for solar equipment.
- Incorporates new state taxation office interpretation of commercial solar installations under the Hawaii state tax credit.
- Includes new discussion of model homes.
- Typographical correction in Commercial Tax Credit Section 11, Example # 3

We do not anticipate that the IRS will issue specific regulations on the solar tax credits in the near term. SEIA will monitor this situation closely and will offer an updated version of this guide, with current and valid IRS forms, if the IRS does develop rules for implementing the solar tax credit.

1.2 – Released May 26, 2006

- Reflects new legislative changes to the Hawaii state tax credit.
- Reflects new information on utility eligibility for credits.

January 27, 2006

To the Solar Energy Industry and Users:

The passage of the solar tax credits in the Energy Policy Act of 2005, which created the first residential tax credit in 20 years and expanded the commercial tax credit, was an historic moment for solar energy development in the United States. Already, the tax credits are encouraging states and private industry to invest in solar power. To ensure that the tax credits are fully utilized by the industry to the letter of the law, SEIA contracted with Chadbourne & Parke, LLP to create this tax manual. This guide, paid for by the members of Solar Energy Industries Association, will enable companies and individuals to utilize the federal incentives to their full and legal benefit in conjunction with state and utilities incentives, thus avoiding potential tax errors or abuses. SEIA encourages you to review this document fully and to consult a tax attorney for specific project questions.

Under the Energy Policy Act of 2005, consumers can claim the 30 percent tax credit for only two years – 2006 and 2007. Those in the solar industry know that having a two-year window for the tax credit is not long enough to substantially grow manufacturing and installations. A long-term credit is needed for realistic business planning and growth. Furthermore, as the U.S. becomes mired in an intractable energy crisis that is already having a significant economic drain on the country, Congress needs to develop long-term energy solutions that deliver immediate results. And solar power, which reduces peak energy demand and achieve energy savings for consumers, must be part of the solution.

Accordingly, SEIA will be working this year with Congress to extend the tax credits for the next decade. But we cannot do this alone, so we call on all companies in the industry to join us in this effort, and to become SEIA members.

Sincerely,

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EXECUTIVE SUMMARY

In the Energy Policy Act of 2005, Congress created federal income tax credits for solar energy projects. There are separate incentives for solar equipment depending on whether it will be put to use on a commercial or residential property. For businesses, when combined with incentives for accelerated depreciation of solar equipment, these credits help reduce the capital cost of new solar energy equipment by up to 60%. For homeowners, these credits provide the first federal incentives for solar power since 1985.

The **SEIA Guide to Federal Tax Credits for Solar Energy** provides comprehensive information as to how the incentives for both commercial and residential applications may be claimed. Key considerations in calculating the value of federal incentives for a solar project include:

- What types of solar equipment constitute “eligible property” for each of the incentives;
- Amount of the incentives;
- Conditions for a system to meet the definition of “put in service” (for example, the taxpayer must have taken legal title and control of the equipment);
- The value of the “tax credit basis”;
- Project timing issues arising from the tax credit window;
- Ownership structure of the project; and
- The effect of rebates, state tax credits, and other subsidies on the federal tax credits.

Since there exists a wide variety of state incentives and policies that may impact the value of the tax credit, this manual categorizes different types of incentives and discusses their impact on the tax credit basis. For example, the IRS has ruled that subsidized loans (known as “tax-exempt financing” or "subsidized energy financing") and at-risk limitations on financing as a result of non-recourse type lending do reduce the tax basis for determining the value of the tax credit. Accordingly, this manual demonstrates how such rules apply to solar projects and how to calculate the reduction of the tax basis for the federal credit. Examples are also given as to how to calculate turnkey costs on projects eligible for both state and federal income tax credits.

The manual is organized in two sections. The first section covers general project issues, as well as issues that are unique to the commercial credit. The second section covers issues specific to the residential credit. However, it is recommended that readers who intend only to take the residential credit still read through the first section on the commercial credit.

At the end of each section, the guide provides workbook examples for calculating the value of the residential and commercial tax credits under different project conditions.

TABLE OF CONTENTS

Section 1. Commercial Solar Tax Credit in Detail

1. Eligible Property

1.1 Types of Eligible Property 1
1.1 (a) Photovoltaics and Concentrating Solar Power Plants 1
1.1 (b) Solar Thermal Systems 1
1.1 (c) Solar Lighting 2
1.1 (d) Passive Solar Systems 2

1.2 Age of Eligible Property 2
1.3 Use of Eligible Property 2
1.4 OEM and Integrated Equipment 3

2. Placed in Service

2.1 General Requirements 3
2.2 New Businesses 4
2.3 Power Plants 4
2.4 “Daily operation” as a condition for meeting the requirement 4

3. Tax Credit Basis

3.1 Normally Deductible Expenses 5

4. Effect of Rebates, Buydowns, Grants and Other Incentives

4.1 Incentives That Do Reduce the Tax Credit Basis 6
4.2 Incentives That Do Not Reduce the Tax Credit Basis 6
4.3 Subsidized Loans and Financing 9
4.3 (a) Calculation Method 9
4.3 (b) Tax–Exempt Financing 9
4.3 (c) Subsidized Energy Financing 9
4.3 (d) Subsidized Energy Financing and Depreciation 10

4.4 At-Risk Limitations on Financing 10

5. Project Timing Issues

5.1 Transition Issues for Projects Starting Before 2006 or Ending After 2007 **11**

5.1 (a) Self-Constructed Projects **11**
5.1 (b) Acquired Projects **12**

5.2 Progress Expenditures **12**

6. Project Ownership Considerations

6.1 Sale-Leasebacks **13**
6.2 Allocation of Commercial Solar Tax Credits Among Partners **14**
6.3 Regulated Utilities **14**
6.4 Model Homes **14**

7. Applying the Credit to Taxes

7.1 Alternative Minimum Taxes and Floor **14**
7.2 Carryback and Carryforward of Credits **15**

8. Recapture of Credit Taken in Prior Years

8.1 General Recapture Rules **15**
8.2 Recapture Rules for Nonrecourse Financed Projects **16**
8.3 Recapture Rules for Partnerships **16**

9. Impacts of Credits on Depreciation Calculations **17**

10. Claiming the Credit and IRS Forms **17**

11. Commercial Solar Tax Credit Examples **18**

Section 2. The Residential Solar Tax Credit in Detail

1. Eligible Property

1.1 Types of Eligible Property 20
1.2 Certification Requirement for Solar Water Heaters 21
1.3 Age of Eligible Property 21
1.4 Use of Eligible Property 21
1.5 Eligibility of Property that is a Structural Component of a Roof 21

2. Amounts and Cap

2.1 Cooperatives 22
2.2 Condominiums 22

3. Placed in Service Requirement 22

4. Tax Credit Basis 22

4.1 Effect on calculating tax basis of the home 23

5. Effect of Loans, Grants, and Rebates on the Credit Amount 23

6. Project Timing Issues, Transition Issues, Progress Expenditures 24

7. Carryforward and Carryback of Unused Credits 24

8. Special Rules

8.1 Occupancy Restriction 24
8.2 Business Use 24

9. Residential Credit Examples 25

Section 3. State Tax Considerations

Explanation of Interaction of State and Federal Credits 27

Biography of the Author

Section 1. The Commercial Solar Tax Credit in Detail

The commercial solar tax credit is covered under section 48(a)(3) (Investment Credit: Energy Credit) of the IRS tax code.

The commercial solar tax credit is 30% of the "tax credit basis" that a company has invested in “eligible property” that is “put into service” during 2006 and 2007. It is 10% of tax credit basis for property put into service in other years. A tax credit is a dollar for dollar reduction of an entity’s Federal tax burden.

Determining what constitutes “eligible property”, when it is “put into service”, and what is the value of the “tax credit basis” are among the keys to calculating the value of the commercial solar tax credit. Each of these items, along with additional special considerations, is discussed in detail in the following paragraphs.

1. Eligible Property

1.1 Types of Eligible Property

The commercial solar tax credit may be claimed for spending on two types of equipment:

1. "[E]quipment which uses solar energy to generate electricity, to heat or cool (or provide hot water for use in) a structure, or to provide solar process heat, excepting property used to generate energy for the purposes of heating a swimming pool," and

2. "[E]quipment which uses solar energy to illuminate the inside of a structure using fiber-optic distributed sunlight."

1.1 (a) Photovoltaics and Concentrating Solar Power Plants - All equipment associated with a photovoltaic or concentrating solar power system is eligible property for the credit. The commercial solar tax credit can only be claimed on the equipment in a solar power plant up to the transmission stage. Thus, no credit can be claimed on a radial line or substation to move the electricity from the power plant to the grid.

1.1 (b) Solar Thermal Systems - To qualify for the credit, equipment must be an integral part of the solar heating or cooling system. All equipment associated with a solar thermal system is eligible property for the credit except that which is designed for the use of non-solar power (e.g. a natural gas furnace that is used to augment the solar thermal system). However, pipes and ducts that are used to convey steam, hot water or heat from a furnace or hot water heater qualify for the credit if solar energy is the source of more than 75% of the steam, hot water or heat carried through them in the year the pipes and ducts are put into service. The test is done

by looking at solar energy as a percentage of total energy used to generate the steam, hot water, or heat conveyed by the pipes and ducts.

There must be an allocation. Thus, for example, if 10% other energy is used in the year the pipes and ducts are first put into service, then the solar tax credit can be calculated on 90% of their cost. However, a dip in the solar energy use below 90% in any of the next four years would lead to the IRS' recapturing the tax credit claimed. (See section 8 for more on recapture.)

1.1 (c) Solar Lighting -All equipment associated with fiber-optic solar lighting systems qualify only if put into service during 2006 or 2007. Solar tube-type systems do not.

1.1 (d) Passive Solar Systems - Passive solar systems do not qualify. IRS regulations define passive solar systems as ones that use "conductive, convective, or radiant energy transfer." The IRS gives as examples of such systems greenhouses, solariums, roof ponds, glazing, and mass or water Trombe walls. In systems that include both eligible property and passive solar equipment, the credit can only be claimed on portion of total spending associated with the eligible property.

1.2 Age of Eligible Property

The equipment must be new to qualify for a commercial solar tax credit. A company that buys a used solar installation may be able to treat it as new if it puts enough money into upgrading it after the purchase. The Internal Revenue Service applies an "80-20 test" to determine whether equipment has been so extensively modified that it is essentially a different piece of equipment. The test is A + B, where A is the value of the used parts retained from the original equipment and B is the cost of the improvements. If B is more than 80% of the total A + B, then the equipment will be considered brand new.

1.3 Use of Eligible Property

Equipment must be used in the United States to qualify for a commercial solar tax credit. In addition, commercial solar tax credits cannot be claimed on equipment that is "used" by someone who is not subject to US income taxes.

Thus, use of the equipment by a government agency, by a foreign company (unless more than half the income earned from use of the equipment is subject to US tax), or by a university, charity or other tax-exempt organization (unless the equipment is used in a taxable side business) will rule out a credit on the equipment. Deals, however, can be structured where a non-profit can potentially benefit from the tax credit through a sale-leaseback structure. (See section 6.1 and consult a tax attorney for project specific applications.)

An example of "use" is where equipment is leased to such a person. However, a lease with a term of less than six months does not count as a "use." The credit is calculated in the year equipment is first put into service. Ineligible use of the equipment at any time during the first 5 years would cause part of the tax credit claimed to be recaptured (see section 8.)

1.4 OEM and Integrated Equipment

The entire cost of solar-powered devices such as a billboard or highway warning sign does not qualify for the credit, although the allocable cost of a distinct device that generates electricity from sunlight to illuminate the sign would qualify. Similarly, a livestock pump would not qualify, but a PV attachment designed to drive the pump would; a careful and conservative allocation of the division between solar and non-solar equipment must be made.

In all cases, the credit belongs to the customer who places the equipment in service, not to the manufacturer or integrator of the final device.

2. Placed in Service

2.1 General Requirements

Equipment is considered "placed in service" in the year it is capable of being used by the taxpayer for its intended purpose. Four things must ordinarily have happened for this to be true:

- The equipment must have been delivered and physical construction or installation on site must have been completed, although contractor personnel can still be at the site in support of startup and maintenance and completion of minor tasks like painting and attending to punchlist items.
- The taxpayer must have taken legal title and control of the equipment.
- The taxpayer must have the licenses and permits needed to operate it.
- Pre-operational tests must have demonstrated that the equipment can serve its intended function. (Other testing to determine whether the equipment can operate at the design capacity and to identify and eliminate defects can occur after the equipment is in service.)
- **Equipment bought off the shelf is usually assumed to be in workable condition**. Solar equipment sold in a ready – to – use state (solar-powered warning devices, pumps, etc.,) as opposed to that which is constructed on – site (as with a typical solar rooftop system) is considered to be placed in service immediately upon purchase.

2.2 New Businesses

The “placed in service” requirement is different for a taxpayer entering a new business than for a taxpayer already in that business. In the case of someone going into a new business, the courts have held that he or she must actually have put the equipment to use - it is not enough merely show it was capable of operating.[1]

2.3 Power Plants

Solar power plants that will sell electricity via the utility grid also must meet a more stringent definition of “placed in service” than others. In this case, the solar generating facility must have been synchronized to the grid, and it must be in “daily operation.”

2.4 “Daily operation” as a condition for meeting the requirement

The IRS takes the position that equipment must also be in "daily operation."[2] "Daily operation" is not defined in these rulings. However, in a technical advice memorandum in 1993, the IRS said a power plant "is considered in daily operation when it is routinely operating to supply power to the transmission grid for sale to customers."[3] The real issue is whether the equipment is capable of being used for its intended purpose.

Other case law and IRS regulations have determined that:

- All parts of an "integrated facility" must be installed and be in operable condition before any part is considered in service.[4]
- Equipment is part of an integrated facility "if it is used directly in the activity and is essential to the completeness of the activity."[5]

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[1] See, e.g., Piggly Wiggly Southern, Inc. v. Commissioner, 84 TC 739 (1985) (refrigerators installed in new stores not in service until the stores opened to customers); General Counsel Memorandum 37449 (March 6, 1978) (taxpayer already in the trade or business does not have to use equipment before it is deemed in service, unlike taxpayers entering a new business).

[2] See, e.g., Private Letter Ruling 9529019 (April 24, 1995) (landfill gas facility not in service for purposes of section 29 credits until it is in "daily operation"); PLR 9627022 (April 9, 1996) (same statement); PLR 9831006 (April 23, 1998) (same statement).

[3] See Technical Advice Memorandum 9405006 (October 15, 1993)

[4] See, e.g., Hawaiian Independent Refinery v. U.S., 697 F.2d 1063 (Fed. Cir. 1983) (refinery, tanker mooring facility, and pipelines to bring petroleum to land from tankers were all part of an integrated facility with the result that all had to be operating before facility in service).

[5] Treas. Regs. § 1.48-1(d)(4)

- Serious mechanical problems later may prevent equipment from being in service.[6]

3. Tax Credit Basis

A company's "tax credit basis" is the portion of its investment in eligible property upon which the commercial solar tax credit can be claimed. For eligible property placed in service in 2006 or 2007, the “tax credit basis” is the amount that is multiplied by 30% to determine the value of the tax credit. In the simplest case, this is the amount the company paid to purchase and install for the eligible property. A variety of factors that can influence the tax credit basis are discussed in the following paragraphs.

3.1 Normally Deductible Expenses

Sales tax and interest paid on debt to acquire assets are normally deductible. However, an election can be made under section 266 of the tax code to fold them into the tax credit basis, in which case these expenditures would have to be deducted over time through depreciation, but they would enter into calculation of the commercial solar tax credit.

4. Effect of Rebates, Buydowns, Grants and Other Incentives on the Amount of the Tax Credit

State rebates, buydowns, grants or other incentives do not decrease the amount eligible for the federal investment tax credit if the company is required to pay federal income tax on the incentive. The majority of incentives represent income on which federal income taxes are paid and therefore do not decrease the basis for the federal investment tax credit. There is a limited class of incentives, however, that are not taxable; for these incentives the tax credit basis must be reduced prior to calculating the commercial solar tax credit amount.

The following tables describe different types of incentives and their impact on the tax credit basis. If you are uncertain which category your particular rebate program falls under, we urge you to get in touch with the state or utility energy program contacts listed at www.dsireusa.org, or contact a tax attorney for project specific clarification.

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[6] In Oglethorpe Power Corporation v. Commissioner, 60 TCM 850 (1990), a power plant had to be shut down four months after it was first synchronized into the utility grid so that part of the plant could essentially be rebuilt. The smokestacks vibrated so violently that workers became nauseated if they were in the area more than about two minutes. See also Consumers Power Company v. Commissioner, 89 TC 710 (1987) (pumped-storage hydroelectric facility built, tested, synchronized and sold 4,447 MWhs of electricity during 1972, but not in service until 1973 after an accident in December 1972 forced a one-month shut-down and resynchronization).

4.1 Incentives that Reduce the Investment Tax Credit Basis

Type of Incentive	Comment
Nontaxable Rebates from a Utility (Note: most utility rebates are taxable - see below.)	A rebate from a utility should always be considered taxable, except if a rebate is paid by a utility to a commercial customer with a dwelling unit (e.g., a property with rental apartments). Then the tax credit falls under section 136 as tax exempt energy efficiency rebates, and the basis must be reduced by the amount of the rebate.

4.2 Incentives that Do Not Reduce the Tax Credit Basis

Type of Incentive	Comment
Taxable State or Nonprofit Grants, Rebates, or Buy downs	If you pay federal income tax on money received from a grant program, you need not reduce the tax credit basis of your system. The tax code is unclear as to whether or not state government incentives are taxable for businesses. But a company will enjoy a greater tax advantage by claiming a rebate or grant as taxable income. The conference report on the Crude Oil Windfall Profits Tax Act of 1980 states plainly that the normal income taxation of grants received serves as sufficient offset: "Grants which are taxable are not taken into account under these rules because their taxation serves as a partial offset."
Credits Against State and Local Income Tax	State and local income tax credits do not affect the Federal Tax Credit Basis. "State and local income taxes are not taken into account because the deductibility of these taxes under the Federal income tax implies that the effect of these credits is equivalent to the effect of a taxable grant." - Conference report on the Crude Oil Windfall Profits Tax Act of 1980

Taxable Rebates or Credits Funded by a Utility	Credits funded by a Utility are generally treated as Federal taxable income, and do not affect the Federal Tax Credit Basis. The IRS has ruled that it is not subsidized energy financing (see section 4.3) for an investor-owned utility to make rebates on electricity bills to homeowners who buy hot water heaters that use renewable energy, as the money the utility uses for the program comes solely from its own revenues. It does not matter that the utility was ordered by the state public service commission to conduct the program. Similarly, it is not subsidized energy financing for a federal utility like the Bonneville Power Administration or Tennessee Valley Authority to make loans at below-market interest rates to customers of utilities to whom BPA or the TVA supplies power. By law, the federal utility must cover its full costs through its own revenues.
State Performance – Based Incentives	Direct payments by a state to solar producers as an operating subsidy do not cause a reduction in tax credit basis. Operating subsidies paid directly to a producer may be a grant, but they are not subsidized energy *financing*. (This assumes that the incentives do not have to be repaid.) An extensive series of IRS rulings state that only capital cost grants are to be used in calculating offsets.[7] In a private ruling in early 2003, the IRS said that a lump-sum payment by a state agency to help the owner of a wind farm cover operating costs was not a "grant." The project will have to repay any money that if fails to spend on operating costs within a certain time period. Otherwise, the money is "earned" by the project as the project generates electricity. The IRS said a grant exists only if there are no circumstances where the project might have to repay the money.

[7] See for example http://text.nyserda.org/programs/pdfs/taxcreditpaper.pdf

Renewable Energy Credit Sales or Requirements	Renewable energy credits ("RECs"), "green tags", or other saleable environmental attributes accrued by using sunlight to generate electricity have no effect on the business energy credit. The IRS ruled privately in 2001 that the owner of a wind project did not have to reduce his production tax credits on account of receiving RECs from the state where the project is located.[8] *It should be noted that, increasingly, many state and utility "rebate" programs are not rebates, but rather a transaction structured as advance payment for these credits, in satisfaction of state portfolio standards.*
Loan Guarantees	In a private letter ruling, the IRS said that a loan guarantee from a federal or state agency, or a utility is not subsidized energy financing even if the guarantee looks in form like a direct loan by the government to the private party. The interest rate on the loan is the sale rate that a bank charges to lend with a federal guarantee.
Grants administered by non – governmental organizations *and* funded from non – governmental funding sources	The IRS has held that wind production incentive payments delivered by a private charity out of funds contributed by a private utility company did not constitute "subsidized energy financing."[9] However, the IRS has taken the position that subsidized energy financing *would* be deemed to be governmental if a government unit administered the program, even if the funds came from a private source.[10]

[8] Private Letter Ruling 200142018

[9] Private Letter Ruling 200202048

[10] Private Letter Ruling 8530004

4.3 Subsidized Loans and Financing

Generally, borrowing money does not impact the tax credit basis. Two exceptions to this general rule are:

- Subsidized loans known as “tax-exempt financing” or "subsidized energy financing"; and;
- At-risk limitations on financing as a result of non-recourse type lending.

When either tax-exempt financing or subsidized energy financing are used to help pay for the cost of eligible property, the tax credit basis must be reduced by the *total* amount that is financed through these loans.

4.3(a) Calculation Method Where applicable, the basis reduction is calculated by putting the initial tax basis of the equipment in the denominator of a fraction. The numerator is the amount of subsidized or tax-exempt financing used. The resulting fraction is the percentage reduction in the tax credit basis. (For example, a system entirely financed by tax-exempt loans would be ineligible for the federal credit.)

4.3(b) Tax–Exempt Financing The IRS defines “tax-exempt financing” as borrowing through bonds issued by a state or local government at reduced interest rates. (Because the lenders do not have to pay income taxes on the interest they receive, they are able to charge a lower interest rate.) Tax-exempt financing can usually be used only for schools, roads, hospitals and other public facilities. However, the US tax code makes fifteen exceptions where such financing can be used for private projects that Congress felt create some public benefits (e.g. privately-owned sewage treatment plants or sports stadiums).

4.3(c) Subsidized Energy Financing The IRS defines this as "financing provided under a federal, state or local program a principal purpose of which is to provide subsidized financing for projects designed to conserve or produce energy." An example of such financing is where a state offers low-interest loans directly to help pay for renewable energy projects or where the state makes payments to a bank to buy down the interest rate on loans that the bank makes to finance such projects.

It is important to note that the “subsidized energy financing” is the <u>full financing extended under a government program</u>, not just the cost to the government of the subsidy. The IRS took this position in regulations under the residential energy credit that used to be on the statute books from 1977 to

1990.[11] For example if a commercial customer planning to build a $100,000 project receives a low interest loan from the state for $80,000 then the basis eligible for the tax credit would be reduced by $80,000 and the credit would only apply to the remaining $20,000.

4.3 (d) Subsidized Energy Financing and Depreciation Subsidized energy financing does not reduce the depreciable basis of a project.

4.4 At-Risk Limitations on Financing

Certain taxpayers may not be able to claim the full cost of eligible property as tax credit basis immediately if they borrow on a nonrecourse basis to pay the cost. "Nonrecourse" means the taxpayer has no personal liability to repay the loan, and the lender looks mainly to the project being financed for repayment. The taxpayers subject to this reduction in tax credit basis are individuals (including individuals who own a project through a partnership or limited liability company treated as a partnership), S corporations and "closely-held" C corporations. A C corporation is "closely held" if five or fewer individuals own more than half the stock. (This does not apply to publicly held companies. It also does not apply to a small developer that brings on an institutional investor as a partner). Such taxpayers cannot include in the tax credit basis any portion of the eligible property cost paid with nonrecourse financing when calculating their commercial solar tax credit for the year a solar project is placed in service. For example, if a solar project cost $100,000, but $80,000 of the cost was paid with the help of a nonrecourse loan, then the tax credit basis must be reduced to $20,000 of the cost.

There are two key exceptions to the rule requiring tax credit basis reduction for nonrecourse-financed eligible property. These exceptions will apply to most solar projects:

1. If the equipment financed through a nonrecourse loan would have qualified as "solar energy property" under section 46(c)(8)(F) of the tax code before that section was repealed in 1990, then the tax credit basis reduction is not required. (Solar equipment that qualifies today for the commercial solar tax credit would have qualified under that section, with the exception of solar hybrid lighting.[12] However, this exception applies only if no more than 75% of the cost of the equipment is paid with nonrecourse debt and the nonrecourse debt is a level-payment loan, meaning

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[11] In the example given by the IRS, a bank lent $3,000 to a homeowner to install a solar hot water heater and the bank used $500 it received under a federal energy conservation program to reduce the principal amount of the loan the homeowner had to repay to $2,500. The amount of "subsidized energy financing" in this case was the full $3,000.

[12] Omnibus Budget Reconciliation Act of 1990 - H.R.5835 ENR

that there is a straight-line amortization schedule for repayment of the loan. (Level debt service payments are more interest than principal in early years and more the reverse in later years.) This exception does not apply to solar lighting, as the technology was not then eligible.

2. A tax credit basis reduction is not required if the nonrecourse financing is "qualified commercial financing." The requirements of “qualified commercial financing” are:

   - The taxpayer must not acquire the solar equipment from a “related party.” (Including relatives, trustee relationships, and most joint ownership, majority ownership, or partnership arrangements.)

   - The nonrecourse financing cannot be used to pay more than 80% of the cost.

   - The money must either be borrowed from a commercial lender or through a federal, state or local government program. A loan whose repayment is merely guaranteed by a federal, state or local government agency will still be considered to have been made under such a program. The commercial lender must be regularly engaged in the business of lending. It cannot be related to the taxpayer. It cannot be the vendor who sold the equipment. It cannot be someone who receives a fee tied to the taxpayer's investment in the equipment.

The at-risk rules merely affect the timing of tax credits rather than the final amount. If part of the cost of the eligible property cannot be included in the first year’s tax credit basis due to use of nonrecourse financing, then as the loan principal is later repaid, the taxpayer can claim a new credit calculated on the reduction in loan principal as the tax credit basis. Additional credits can be claimed in each year as the loan principal is repaid.

5. Project Timing Issues

5.1 Transition Issues for Projects Starting Before 2006 or Ending After 2007

The fact that the commercial solar tax credit is 30% for eligible property placed in service during calendar years 2006 and 2007 and 10% at other times raises transition issues. For example, what happens when a solar energy system (eligible property) is partly installed in 2005, but not placed in service until early 2006?

The answer is the taxpayer may not get the full 30% credit. It depends on whether the project for taxpayer (or a contractor) is considered to be “self-constructed” or “acquired”.

5.1(a) Self-Constructed Projects For the purposes of evaluating transition issues, a project is considered “self-constructed” when:

- it is assembled and installed by the taxpayer, or

- "stick built" for a taxpayer by a construction contractor - at least in most cases where the taxpayer retains control over the design.

In cases where a project is considered self-constructed, a 30% tax credit can only be claimed on projects on the percentage of construction work done during 2006 and 2007. However, that assumes that the project will be completed in 2007. If work starts during 2006 or 2007, but is not completed until 2008, then the taxpayer will get only a 10% credit unless he elects to claim credits on a "progress payments basis." (See section 5.2 under the commercial credit discussion for a discussion about progress expenditures.) Where work starts in 2005 and finishes in 2006, part of the cost of the project will qualify for a 30% credit -- the part of the work completed during 2006. The rest qualifies for a 10% credit. It does not matter when the construction contractor is actually paid. Thus, there is no advantage to waiting until 2006 to pay the contractor for work done during 2005.

5.1(b) Acquired Projects A project is considered "acquired" when property ready for use is purchased ready for use without any associated construction or assembly delay.

If the taxpayer "acquires" the solar equipment rather than self constructs it, then a 30% credit can only be claimed if the property is both acquired and placed in service in 2006 or 2007. Thus, for example, if a taxpayer signs a contract to buy photovoltaic property in 2005, but it is not delivered or ready for use until 2006, then only a 10% energy credit can be claimed.

5.2 Progress Expenditures

The commercial solar tax credit is ordinarily claimed in full in the year that eligible property is put into service. However, a taxpayer can elect to claim a commercial solar tax credit on his or her construction progress payments in situations where the eligible property is expected to take at least two years to build. This could become relevant in cases where works starts on a project in 2006 or 2007 when there is still a 30% commercial solar tax credit, but it will not be completed until after the credit has reverted to 10%.

The amount the taxpayer is considered to have paid toward construction in any year depends on a number of complicated rules.

The taxpayer must first determine whether a project is "self-constructed" or "non-self-constructed." The progress expenditure rules use a much tighter definition of self-construction than the transition rules do. That is, while most stick-built projects are considered self-constructed for purposes of the transition rules, few projects are considered self-constructed for progress payments purposes. To be self-constructed for progress payments purposes, the taxpayer must expect to spend more than half the construction expenditures on wages for the taxpayer's own employees and on materials

that they will install. This test is applied to each unit of property. A single project may consist of more than one unit. For example, each turbine, boiler and other large component at a power plant is probably considered a separate unit of property.

Spending on non-self-constructed property counts only when amounts are actually paid to a third party and, even then, one can only count the spending in a year "to the extent [it is] attributable to progress made in construction . . .” The IRS regulations say, "Progress will generally be measured in terms of the manufacturer's incurred cost, as a fraction of the anticipated cost . . ."

More spending counts earlier in time as progress payments for self-constructed property. The rule for self-constructed property is that spending counts when the amount "accrues," meaning when the taxpayer is legally obligated to make the payment and the amount is known. However, spending on components comes under a special rule. It cannot be counted before the components are built at the factory (in the case of components that are specially designed for a project), or when they are delivered to the site (in the case of other components that would be "economically impractical to remove" after delivery), or when they are physically attached to the project (in the case of any remaining components).

6. Project Ownership Consideration

Subtleties associated with specific ownership structures that impact the commercial solar tax credit are discussed in the following paragraphs.

6.1 Sale-Leasebacks

Commercial solar tax credits are claimed by the owner of eligible property. Any owner that cannot use credits on a solar project because of an inadequate tax burden should explore either selling the project to and leasing it back from another company that can use the credits -- in which case the original owner could share in the tax incentives indirectly in the form of reduced rent -- or else bringing in an equity investor that can use the credits as a partner.

In a sale-leaseback, the lessor claims the credits. In many cases, the lessor may commit to the sale-leaseback before construction starts, but it will not actually fund until construction of the project has been completed. The closing on the sale-leaseback must occur within three months after the project is put into service, or the lessor cannot claim any commercial solar tax credits. Commercial solar tax credits can only be claimed on new equipment. A special rule preserves the status of the equipment as new as long as it is sold and leased back within three months.

The lessor in a sale-leaseback can elect to leave the tax credit with the lessee and claim only the tax depreciation on the project. In that case, the lessor could claim depreciation on the full cost of the project without any basis reduction on account of the

commercial solar tax credit. However, the lessee would have to report half the credit it claims as taxable income over a five-year period.[13]

6.2 Allocation of Commercial Solar Tax Credits Among Partners

Commercial solar tax credits must be shared among partners in the same ratio that they share in taxable income for the year in which eligible property is placed in service.

It does not matter whether the partnership actually has any taxable income that year. However, care must be exercised when switching the ratio for sharing taxable income before the partnership turns "tax positive." For example, suppose there are two partners -- A and B -- who agree to allocate 99% of taxable income to B for the first three years in order to get B almost all of the energy credits and then share everything 50-50 from year four onward. If the partnership continues to have tax losses in year four, the IRS may argue on audit that the 99-1 sharing ratio for taxable income is a sham, and the partners face an added risk of recapture of tax credits. (See section 8 on credit recapture for a more detailed discussion.)

6.3 Regulated Utilities

Solar equipment owned by a regulated utility does not qualify for commercial solar tax credits Its view is that commercial credits cannot be claimed on "public utility property." A solar project is "public utility property" if the rates for the sale of electricity from the project are regulated on a rate-of-return basis..

6.4 Model Homes

Solar equipment installed as part of a model home retained for a period by a homebuilder could be claimed if the homebuilder could make the case that the home had been “placed in service” for tax purposes – the same test used to determine if a homebuilder can depreciate the house. However, this is unlikely to be the optimal tax treatment.

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[13] Most lessors are corporations. It is hard for an individual or other "non-corporate" lessor to claim commercial solar tax credits. Such a lessor can claim tax credits only in two situations. One is where he or she manufactured the equipment. The other is where the amount of business expense deductions the lessor can claim in the first 12 months in connection with the equipment is more than 15% of the rent he or she earns during the same period. An example of a business expense deduction is wages paid to employees. The lease would also have to have a term less than half the "class life" of the equipment. Thus, the lease in a solar project with a non-corporate lessor would have to be shorter than six years.

Practically, if the home was retained for less than five years, some portion of the credit would not have vested with the homebuilder and would therefore be recaptured (see section 8.)

Additionally, were the homebuilder to claim the credit on the equipment, the eventual purchaser of the home would then not be able to claim such credit. Though the home buyer would ultimately be limited by the $2,000 cap, this may still be preferable to the commercial treatment.

7. Applying the Credit to Taxes

7.1 Alternative Minimum Tax and Floor

A commercial solar tax credit cannot be used to reduce a taxpayer's regular income taxes by more than 75% of what the taxpayer would otherwise pay, or below the taxpayer's alternative minimum tax (AMT) amount, whichever is greater.[14] Therefore, companies that pay the minimum tax are unable to use energy tax credits -- at least in the year they pay the AMT. The credits can be carried to another tax year. These limits are limits not only on use of commercial solar tax credits, but also on most other "business credits." Thus, the commercial solar tax credits in combination with other business credits cannot reduce a taxpayer's tax liability in a given year below the AMT floor.

7.2 Carryback and Carryforward of Credits

A commercial solar tax credit that a taxpayer cannot use because of the floor can be carried back one year and forward 20 years. However, it appears that only 10% of the 30% solar credit can be carried back before 2006. The remaining 20% of solar credits arising in 2006 cannot be carried back. If a taxpayer ends up carrying unused energy credits forward for 20 years and is still unable to use them, the unused credit can be exercised in the year after the carryforward period ends. However, only half the credit can be used in this situation - the rest is lost.

8. Recapture of Credit Taken in Prior Years

8.1 General Recapture Rules

Although the credit can be used in the first year, commercial solar tax credits "vest" over five years at the rate of 20% a year. This means that if something happens to solar equipment in the four years after the equipment is put into service that would have

[14] A corporation must pay, essentially, whichever amount is greater - its regular income taxes at a 35% rate, or its "alternative minimum taxes" at a 20% rate, but on a broader definition of taxable income.

prevented the taxpayer from claiming the credit had it happened at the start, then the "unvested" part of the credit will be recaptured (paid back to the IRS). For example, the unvested credit will be recaptured if the taxpayer sells the solar equipment or leases it for use by a government agency.

A taxpayer should take the potential for recapture into account when considering whether to sell solar equipment on which tax credits have been claimed before the recapture period has expired.

The unvested portion of the credit will have to be reported as income in the year the recapture event occurs. The taxpayer can add back to his tax depreciation basis half the recapture income reported in the recapture year. The amount added back to the tax depreciation basis can be deducted over time as additional depreciation if the taxpayer continues to own the project. If the recapture event is a sale of the project, then the taxpayer will have less gain to report from the sale because of the upward tax depreciation basis adjustment. He will also have a potential mismatch in tax rates. Recapture income is ordinary income. Gain from a sale in many cases will be capital gain. The combination of credit recapture and the upward basis adjustment have the effect of converting income from capital gain into ordinary income.

8.2 Recapture Rules for Nonrecourse Financed Projects

(Please note that these considerations apply only to projects not covered under the exemptions under section 4.4.)

Taxpayers covered by the at-risk rules should be careful not to increase the amount of nonrecourse debt secured by the project in a later year as that could lead to recapture of a commercial solar tax credit claimed earlier. Also, credit will be recaptured to the extent that a principal repayments fall short, at the end of any tax year, of the principal that would have had to be repaid by then under a level-payment loan. "Level payment" for this purpose means straight-line amortization of debt service over the term of the loan or, if shorter, the "class life" of the equipment. Most solar equipment has a class life of 12 years.

8.3 Recapture Rules for Partnerships

Partners face an added risk of recapture of a commercial solar tax credit.

For example, let us restate the partnership scenario from section 6.2. There are two partners -- A and B -- who agree to allocate 99% of taxable income to B for the first three years in order to realize the majority of the energy credits for B, and move the partnership to a 50-50 basis from year four onward. If the partnership continues to have tax losses in year four, the IRS may argue on audit that the 99-1 sharing ratio for taxable income is a sham.

In the example, B would suffer recapture of part of his credits in year four when the sharing ratio shifts. There will be recapture of a portion of B's unvested credits *if B's share* of taxable income during the next four years after the project is put in service *drops to less than two thirds of his ratio in the first year.* Thus, B's ratio could drop to 70% without any recapture, but a drop to 50% would trigger recapture of roughly half his unvested credits in year four when the sale occurs. Once B has suffered any recapture, then another sale will not cause any further recapture, unless the drop is to *less than one third* of the share B had in taxable income in the year the project went into service.

9. Impacts of Credits on Depreciation Calculations

For the purpose of calculating depreciation on a commercial solar system, the "tax depreciation basis" is a distinct value – separate from the tax credit basis. The tax depreciation basis that the taxpayer claims for the solar equipment must be reduced by 50% of the tax credit. For example, if a 30% credit is claimed on a commercial solar energy system that cost $100,000, then the owner will have a tax depreciation basis in the equipment of $100,000 – (50% x $30,000) = $85,000. The tax depreciation basis is also used to calculate taxable gain or loss when the solar panel is later resold. The Federal tax credit does not affect the book depreciation basis.

However, a corporation ignores the downward basis adjustment for purposes of calculating its "earnings and profits." (Most relevant because they determine how much of each distribution a corporation makes to shareholders is a taxable dividend.) Distributions are a dividend to the extent the company has earnings and profits. Earnings and profits are a form of net income. Thus, gross earnings are reduced by depreciation -- among other things -- to arrive at earnings and profits, but the depreciation would be depreciation on the <u>full</u> basis of $100X in the example, notwithstanding that an energy credit was claimed.

There is no tax depreciation basis adjustment where the owner of solar equipment leases it to someone else and elects to let to the lessee claim the Federal tax credit. (See section 6.1 on sale-leasebacks.) However, the lessee must report taxable income equivalent to the basis adjustment. The income is spread over five years.

10. Claiming the Credit and IRS Forms

Business energy credits are claimed by attaching a Form 3468 to one's tax return. This form is available from the IRS website at www.irs.gov.

11. Commercial Solar Tax Credit Examples

Example 1 – The Basic Commercial Credit

Company A pays $100,000 including labor and equipment, to install a photovoltaic system on their corporate headquarters. The panels are purchased in 2006 and installed in 2007.

2007 Tax Credit Basis		**= $ 100,000**
(The purchase and installation are both fully qualified under the credit.)		
2007 Tax Credit	**$ 100,000 x 30%**	**= $ 30,000**
(The full tax credit basis is multiplied by the 2006 / 2007 tax credit.)		
Depreciation Basis	**$ 100,000 - (30% * ½)**	**= $ 85,000**
(The depreciation basis must be reduced by half to reflect the tax credit.)		

Example 2 – Commercial Credit on the 2006 Threshold

Company A acquires and pays for a pre-integrated, fully designed and ready to run piece of solar equipment in 2005, but does not receive delivery until 2006

2005 Tax Credit Basis		**= $ 100,000**
(The purchase and installation are both fully qualified.)		
2005 Tax Credit	**$ 100,000 x 10%**	**= $ 10,000**
(However, the system does not make the threshold for qualifying for 2006/7 credits.)		
Depreciation Basis	**$ 100,000 - ($ 10,000 * ½)**	**= $ 95,000**
(The depreciation basis must be reduced by half to reflect the tax credit.)		

Example 3 – Commercial Credit with Progress Payments

Company C hires a construction contractor to build a $10,000,000 multi-megawatt Concentrating Solar Power Facility. Forty percent of the construction work is completed in 2005, and the remaining 60% in 2006, at which time the project is put into use. A qualifies for a 10% credit on $4,000,000 and a 30% credit on $6,000,000. A has a tax basis of $8,900,000 in the project for depreciation purposes.

2005 Tax Credit Basis	**$ 10,000,000 x 40%**	**= $ 4,000,000**
2006 Tax Credit Basis	**$ 10,000,000 x 60%**	**= $ 6,000,000**
(The project must be allocated among multiple years.)		
2005 Tax Credit	**$ 4,000,000 x 10%**	**= $ 400,000**
2006 Tax Credit	**$ 6,000,000 x 30%**	**= $ 1,800,000**
Total Credit		**= $ 2,200,000**
(The tax credits are realized on a "progress payments" basis, and Company A must have a sufficient tax burden to realize the credits.)		
Depreciation Basis	**$ 10,000,000 - ($ 2,200,000 * 1/2)**	**= $ 8,900,000**
(The depreciation basis must be reduced by half to reflect the tax credit.)		

Example 4 – Commercial Credit with Sale and Recapture

Company A pays $100,000 including labor and equipment, to install a photovoltaic system on their corporate headquarters. The panels are purchased in 2006 and installed in 2007. The system is sold in 2010 to Company B. Company A must recapture the unvested portion of the energy credit that A claimed in 2007. The unvested portion is 40%.

2007 Tax Credit Basis		**= $ 100,000**
(The purchase and installation are both fully qualified under the credit.)		
2007 Tax Credit	**$ 100,000 x 30%**	**= $ 30,000**
(The full tax credit basis is multiplied by the 2006 / 2007 tax credit.)		
Recapture Basis	**$ 30,000 x 40%**	**= $ 12,000**
(As in section 8.1, the credits "vest" over 5 years. The credits here have only vested in 2007, 2008, and 2009. Since two of the five years are missing, 40% of the credit remains. Company A will have to report this "recapture income" as part of its ordinary income stemming from the sale to B.)		

Section 2. Residential Credit in Detail

The residential solar tax credit (Residential Energy Efficient Property Credit) is covered under section 25D of the IRS Tax Code.

Determining what constitutes “eligible property” and understanding project timing issues are among the keys to calculating the value of the residential solar tax credit. Each of these items, along with additional special considerations, is discussed in detail in the following paragraphs.

This section refers to several topics that have already been discussed in the commercial solar tax credit section. **A read-through of the commercial credit section is strongly recommended**, even for those who intend to take the residential credit only.

1. Eligible Property

1.1 Types of Eligible Property

The residential solar tax credit may be claimed for spending on two types of equipment: "qualified photovoltaic property" and "qualified solar water heating property."

"Qualified photovoltaic property" is defined by the statute as "property, which uses solar energy to generate electricity for use in a dwelling unit located in the United States and used as a residence by the taxpayer." There is no minimum credit for small devices, such as solar attic fans. In the case of such small devices, however, the photovoltaic cells that supply power to the fan qualify, but not the rest of the fan. The residential credit covers "property which uses solar energy *to generate electricity* for use in a dwelling unit . . . " (Emphasis added.)

"Qualified solar water heating property" is defined in the statute as "property used to heat water for use in a dwelling unit located in the United States and used as a residence by the taxpayer if at least half of the energy used by such property for such purpose is derived from the sun." The last clause simply means that the property on which spending is being claimed must obtain at least 50% of the energy it uses to heat water from the sun.

Credits cannot be claimed on spending for a swimming pool, hot tub or other property that uses sunlight to heat water, but has another function besides energy storage. This includes solar heating systems designed for pool use, as the function of the solar heater is exclusively tied to the pool, and therefore expenditure on the system is properly “allocable” to the pool.

1.2 Certification Requirement for Solar Water Heaters

Credits can only be claimed on solar hot water heaters that have been certified for performance by the nonprofit Solar Rating Certification Corporation or by a "comparable entity" endorsed by the state government in the state where the water heater will be used. There is no certification requirement for photovoltaic property.[15]

1.3 Age of Eligible Property

The statutory language makes clear that the residential credit can only be claimed on equipment when it is "originally" installed, indicating that equipment, which has been previously used in an installation, becomes ineligible.

1.4 Use of Eligible Property

To qualify for the residential solar tax credit, the property must be used in a dwelling unit located in the United States and used as a residence by the taxpayer.

Note that this does not specify that the residence is the *primary* residence of the taxpayer.[16] It does however likely disqualify gate openers, well pumps, and the like, as the equipment powered by the photovoltaic cell must be used "in a dwelling unit".

1.5 Eligibility of Property that is a Structural Component of a Roof

Solar property installed "as a roof" will not fail to qualify for the credit "solely because it constitutes a structural component of the structure on which it is installed." - Meaning that building-integrated solar property will not be disqualified simply because it serves a dual use.

2. Amount and Cap

An individual can claim tax credits of 30% of spending on qualified solar property in 2006 or 2007, However, the individual is limited to $2,000 a year in credits for spending on photovoltaic property and another $2,000 a year for spending on solar water heating

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[15] It is currently unclear whether the IRS will require SRCC OG – 300 certification for full systems, or only OG – 100 collector certification for property. SEIA is working towards a resolution of this issue.

[16] The residential solar credit is in section 25D of the tax code. Section 25C, which was enacted at the same time and provides tax credits for other energy efficiency improvements, requires that those improvements be in the "taxpayer's principal residence (within the meaning of section 121)." Thus, it appears that Congress knew what it was doing when it required in section 25D that solar equipment merely be used in "a residence" of the taxpayer.

property. Essentially, the government pays 30% of the first $6,667 in the cost of photovoltaic property and the same amount for solar hot water heating property.

It is not possible to maximize credits by spreading expenditures on the property over the two years in which the credit is available, an individual is considered to have spent the full amount in the year that installation of the qualified solar property is completed. If the system is included as part of construction of a new house, then the spending occurs when the taxpayer takes residence of the house. Item 6 of this section, Project Timing Issues, discusses these issues in more detail.

The IRS has yet to determine what happens where some solar panels are fully installed in 2006, and the rest in 2007 at an existing residence. It appears that Congress intended only $2,000 in total credits can be claimed in such a case, but the statute is somewhat unclear.

2.1 Cooperatives

A corporation usually owns cooperative apartment buildings, and the residents are shareholders in the corporation. If the corporation spends money on installing qualified solar property, each shareholder is allowed to claim residential solar tax credits on his or her share of the spending.

2.2 Condominiums

Owners of condominiums contribute to the upkeep of the condominiums by paying money to a condominium management association. Where such a management association spends money on installing qualified solar property, each member of the association can claim the residential solar tax credits on his or her share of that spending. However, the association must qualify as a "homeowners' association" under section 528(c)(1) of the tax code, and "substantially all" of the units in the condominium project must be used as residences.

3. Placed in Service Requirement

Credits can only be claimed on spending for property that is "placed in service" during calendar years 2006 and 2007. If the installed property is included as part of construction of a new house, then the "placed in service" date is when the taxpayer takes residence of the house. Item 3 in the discussion of the commercial tax credit defines the "placed in service" date provision in detail for all other situations.

4. Tax Credit Basis

The "tax credit basis" is the value of the property that you use when calculating the amount of the credit. Item 3 in the discussion of the commercial tax credit contains a definition of the tax credit basis for companies. For residential systems, it appears that

the majority of *direct* contractor labor costs to install the equipment are included in the tax credit basis. (This includes site preparation, assembly and original installation, and piping or wiring work to connect the equipment to the individual's home.) When there is spending on work tied both to solar equipment and to other construction -- for example, where the solar equipment is being installed during construction of a new building, the construction costs will have to be allocated according to each activity.

4.1 Effect on calculating tax basis of the home

Normally, amounts that an individual spends on improving his or her home are added to the tax basis that the individual has in the home. A higher tax basis means a smaller gain on sale when the home is later sold. However, any spending on which residential solar tax credits were claimed *cannot* be added to the tax basis.

5. Effect of Loans, Grants, and Rebates on the Credit Amount

Section 4 in the discussion of the commercial tax credit contains a detailed analysis of the effect of state and utility incentives on the amount of the credit. Most rebates from state governments or non-profit organizations do not reduce the basis for the Federal credit. If the rebate is provided by a utility, however, and the rebate is considered an energy efficiency rebate, then the basis of the project is reduced by the amount of the rebate.[17] Most rebates from utilities will decrease the basis of the project by the amount of the rebate. Homeowners and installers that receive utility rebates should check with their utility and a tax attorney to understand the classification of their rebate.

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[17] Analysis by Lawrence Berkeley Laboratory. "If a residential buy-down can reasonably be construed as an "energy conservation subsidy provided by a public utility" (i.e., a subsidy provided, either directly or indirectly, by a utility for an installation that reduces consumption of electricity), then the buy-down will be tax-exempt, according to Section 136 of the US tax code. Since in many instances state clean energy funds are financed at least indirectly by utilities and their ratepayers, and since PV systems can be thought of as reducing the consumption of electricity from the utility, this interpretation may apply. In fact, Section 210(11) of the National Energy Conservation Policy Act of 1978 (Public Law 95-619) defined "residential energy conservation measures" to include "devices to utilize solar energy or windpower for any residential energy conservation purpose, including heating of water, space heating and cooling…that are warranted by the manufacturer to meet a specified level of performance over a period of not less than three years." The Energy Policy Act of 1992, which first implemented Section 136 of the US tax code, appears to have adopted the National Energy Conservation Policy Act definition of "residential energy conservation measures" (at least according to the conference report – the specific adoption or definition does not appear to be codified in the Act or in Section 136 of the tax code)." For more information on this topic, see http://www.millionsolarroofs.org/articles/static/1/binaries/GouchoeASES.pdf

6. Project Timing Issues, Transition Issues, Progress Expenditures

Unlike the commercial solar tax credit, the residential credit is a new credit beginning in 2006. The residential credit rewards spending on solar equipment for the home during 2006 and 2007. The full tax credit basis for the residential credit becomes eligible in the year that installation of the equipment is completed; there is no provision for credits against progress payments, as described in Section 5.2 of the commercial credit section. Thus, it is important for the installation to be completed by December 2007. Since individuals tend to use cash accounting for payment of taxes, it would be a good idea for an individual to also have paid for the equipment by December 2007.

7. Carryforward and Carryback of Unused Credits

An individual cannot use the residential credit to reduce his income taxes below the level at which the alternative minimum tax kicks in. Therefore, taxpayers who pay minimum taxes -- and there is a growing number -- cannot use the residential tax credits immediately. The credits can be carried forward until the individual gets off the minimum tax, but there is no carryback of residential credits.

8. Special Rules

8.1 Occupancy Restriction

The $2,000 caps for solar photovoltaics and solar hot water heaters will be applied by treating everyone living in a single dwelling unit as one taxpayer. Thus, each cap is in reality $2,000 per dwelling unit. (Structures such as apartment buildings consist of multiple dwelling units.)

8.2 Business Use

The residential credit is intended to encourage the purchase of equipment that will be put to personal use. Business spending on solar equipment is rewarded through the commercial credit. However, some dwelling units serve a dual purpose -- for example, where there is a home office in the dwelling. In that case, the costs would have to be allocated between residential and business use. If the portion considered residential spending is at least 80%, then all the spending qualifies for the residential credit. Otherwise, only a fraction of it does -- the percentage of spending allocated to residential use. The IRS will have to explain how to do the allocation, though absent a separate metering arrangement, the most straightforward method would be on the basis of square footage.

9. Residential Credit Examples

Example 1 – Basic Residential Credit with Deposit
Taxpayer A spends $5,000 to install a solar water heater for use in her home. He pays a deposit of $2,500 in 2005 and the rest in 2006 when the water heater is installed.

2006 Tax Credit Basis		**= $5,000**
(The deposit has no effect on the residential credit, which is entirely determined on the basis of placed in service date.)		
2006 Tax Credit	**$5,000 x 30%**	**= $1,500**
(The taxpayer would not reach the $2,000 per-technology cap.)		

Example 2 – Basic Residential with Delayed Installation
Taxpayer A spends $5,000 to install a solar water heater for use in her home. She pays a deposit of $1,000 in 2006 and the rest in 2007 when the water heater is installed.

2007 Tax Credit Basis		**= $5,000**
(The system is placed in service in 2007, and not eligible for any credit before then.)		
2007 Tax Credit	**$5,000 x 30%**	**= $1,500**

Example 3 – Basic Residential with Delayed Payment
Taxpayer A spends $5,000 to install a solar water heater for use in her home. The system is installed in December 2005, but A waits to pay the bill until 2006.

2006 Tax Credit Basis		**= $0**
(For the residential credit, expenditures are deemed to have been made when the equipment is placed in service. This system was placed in service before the residential credit was available.)		
2006 Tax Credit		**= $0**

Example 4 – Home-based Business
Taxpayer A pays $20,000 to install a photovoltaic system on his home in 2006. Taxpayer A has a dental practice with a separate entrance in the same structure, which occupies 40% of the homes' area and a reasonably equivalent amount of its electrical load.

2006 Residential Tax Credit Basis	**$ 20,000 x 60%**	**= $ 12,000**
2006 Commercial Tax Credit Basis	**$ 20,000 x 40%**	**= $ 8,000**
(The expense of the equipment can be allocated between the dental practice and the homeowner's individual taxes.)		
2006 Residential Tax Credit	**$ 12,000 x 30%**	**=** $ 3,600 > **$ 2,000 Cap**
2006 Commercial Tax Credit	**$ 8,000 x 30%**	**= $2,400**
Total Credit		**= $4,400**
(Each would need to be reported separately – one on the individuals tax return and the other on the dental practices' tax return.		
Note: Home-based business and home office deductions are a frequent source of fraud and miscalculation on income taxes, and receive an accordingly high degree of attention from the IRS. Be very careful and conservative in your calculations for this type of situation.)		

State Tax Considerations

(Adapted from work performed by Christy Herig for the National Renewable Energy Laboratory and Susan Gouchoe and Matthew Briggs with the DSIRE project.)

Currently, no state tax credits are reduced by the federal credit.[18] (The case for state and utility grant programs is more complex – see section 4 under the commercial credit and the database at www.dsireusa.org for individual programs.)

However, it is important to remember for the purpose of calculating turnkey costs that state and federal income tax credits, along with grants, do not add up directly even if they are taxable. This is highly relevant for calculating system costs, but it is important to remember that again, except for residential systems in Hawaii, a $10,000 solar system is still claimed as a $10,000 system at every stage in the process. Instead, the effect is best thought of as the state credit or other grant putting money in your pocket, which the Federal government then taxes.

The *effective* sum of any state and federal tax credits is therefore the Federal Tax Credit (FTC) plus one, minus the FTC times the State Tax Credit (STC), or:

$$FTC + ((1-FTC)*STC)$$

For instance, assume your state offers a nontaxable credit of 25 percent (up to $3,750.) Assuming you did not reach this cap, the sum of the state and federal tax credits would be;

$$0.30 + ((1-0.30)*0.25)$$

which equals 0.475 (47.5%) (instead of a direct sum of (.30 + .25 = .55, or 55%.) In sequence:

1. You purchase a $5,000 solar system.
2. The state gives you a state tax credit of ($5,000 * .25) = $1250.
3. Your income has therefore increased by $1,250.
4. The Federal government gives you a credit of ($5,000 *.30) = $1500.
5. The federal government then taxes the $1,250 you received from the state, reducing your savings by $375, leaving you with $2,375 net savings.

[18] The one exception to this case – the Hawaii state tax credit – was altered in 2006 to non-interaction with the SB 2957, which amends the Hawaii Revised Statutes, Section 235.12.5 .

Biography of the Author

Keith Martin

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Practice Description

Keith Martin's principal areas of practice are tax and project finance. He is a transactional lawyer who advised 102 companies last year and worked on transactions in the United States and 11 foreign countries. He also lobbies Congress and the Treasury Department on policy issues.

Activities and Affiliations

Speaker: Mr. Martin is in frequent demand as a speaker. Recent talks include at the fall membership meeting of the Electric Power Supply Association in Washington in November 2005, a conference on pollution control in Washington in October 2005, the annual meeting of the Independent Energy Producers in California, the Renewables Finance 2005 conference in Boston and a workshop on the new energy bill in Houston in September 2005, the 2nd annual utility M&A conference and the Euromoney Renewable Energy Finance Forum in New York in June 2005, the annual meeting of the Energy Investors Funds in Phoenix in May 2005, the Energy Ocean 2005 conference in Washington and the Electric Power 2005 conference in Chicago in April 2005, the Financing Wind Power Projects conference in San Diego in February 2005, workshops on ethanol projects in New York and on windpower projects in Houston and the landfill gas industry annual conference in Baltimore in January 2005, the Platt's Financing US Power conference in New York in November 2004, the annual meeting of the Gulf Coast Power Association in Texas in September 2004, a school on foreign tax planning conducted by the Tax Executives Institute in Houston in February 2004, the Energy & Mineral Law Foundation winter meeting in Florida in January 2004, and the Edison Electric Institute tax meeting in Santa Fe in November 2003.

Editor: Project Finance NewsWire, and a contributing editor of International Tax Report, Practical US/International Tax Strategies and Natural Gas & Electricity magazine.

Author: He is the author of more than 130 articles on project finance subjects.

"Financing Pollution Control," in Project Finance NewsWire, October 2005

"Tax Break for Repatriated Earnings," in Project Finance NewsWire, February 2005

"Canadian Income Funds," in Project Finance NewsWire, December 2003

"Tax Issues in Project Sales," Project Finance NewsWire, February 2003

"Tax Issues and Incentives for Windpower Projects," Project Finance NewsWire, December 2002

"Potential Effects of Invading Iraq," Project Finance NewsWire, October 2002

"Corporate Inversions," International Tax Review, May 2002

"Synfuel and Section 29 Tax Credits," Proceedings, Energy and Mineral Law Institute, May 2002

"Storm Over Argentina," Project Finance NewsWire, February 2002

"Fallout from Enron," Metropolitan Corporate Counsel, January 2002

"Municipal Power Deals," Project Finance Monthly, February 2001

"Latest Tax Angles for Latin American Projects," Practical Latin American Tax Strategies, September 1999

"Cross Border Leasing," Proceedings, EEI Tax School, July 1997

"Tax Issues and Opportunities in Restructuring Contracts," Project Finance International, April 1997

Honors: He is listed as one of the world's leading project finance lawyers in the latest Chambers global directory published in London and in Best Lawyers in America. (Both publications base their recommendations on peer reviews and polling of corporate law departments.)

Education and Professional Background

- Wesleyan University, B.A., 1974
- George Washington University, J.D., 1977
- The London School of Economics, M.Sc., 1978
- Legislative Assistant, Senator Henry M. Jackson (D. -Washington), 1974-1977
- Counsel, Senator Daniel Patrick Moynihan (D. -New York), 1979-1982
- Joined Chadbourne & Parke LLP in 1983 as a partner

Practice Areas

- Tax
- Project finance
- Foreign Corrupt Practices Act and U.S. trade sanctions