

EPAct Tax Planning for Solar P.V. Installation

By Charles Goulding, Joseph Most and Seann Convey

Charles Goulding, Joseph Most and Seann Convey explain the benefits of installing solar photovoltaic panels on the rooftops of commercial buildings, particularly in the form of decreased energy costs and tax incentives designed to encourage the use of solar power.

More and more commercial buildings, especially large square footage facilities such as warehouses and industrial facilities, are installing solar photovoltaic (P.V.) panels on their rooftops as a result of increasing electricity prices, reduced solar P.V. prices and various economic incentives in the United States. Not only does solar power drastically lower a building's energy bills, but in addition, revenue is available for solar P.V. installation from selling any excess electricity back to the utility grid. However, the overall economic payback will substantially increase if a building owner endeavors to make relevant EPAct qualifying energy efficient investments into the building before making the solar P.V. installation.

EPAct Tax Deductions

Pursuant to Code Sec. 179D as enacted by the Energy Policy Act (EPAct), building owners or tenants making qualifying energy-reducing investments can obtain immediate tax deductions of up to \$1.80 per square foot.

If the building project doesn't qualify for the maximum \$1.80 per square foot immediate tax deduction, there are tax deductions of up to \$0.60 per square foot for each of the three major building subsystems: light-

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ing, HVAC (heating, ventilating, and air conditioning) and the building envelope. The building envelope is every item on the building's exterior perimeter that touches the outside world including roof, walls, insulation, doors, windows and foundation.

Tax Credit/Cash Grant

Under Code Sec. 48, companies or individuals installing solar P.V. can take up to a 30-percent tax credit of the total investment amount. In addition, Act Secs. 1104 and 1603 of the American Recovery and Reinvestment Act of 2009 allow for the taxpayer to take the tax credit as a cash grant so long as their energy retrofitting project qualifies.¹ This option is exclusively made available for projects that have "begun construction" during 2009 or 2010.² When using either the credit or the grant, five years MACRS depreciation is available.

Solar P.V.

Solar P.V. rooftop systems are used to generate electricity in many building types. Warehouses and industrial buildings are typically the best candidates, but any building with large, unobstructed, flat roofs is a potential target for solar P.V. installation. Large roofs enable large P.V. systems that generate more electricity. Often, tax equity partners or utilities will be willing to make the investment for a rooftop warehouse solar installation and enter into a power purchase agreement where the warehouse operator, post-installation, will purchase its electricity at an agreed price for a

Chart 1.

Warehouse Energy Efficient Lighting/Solar P.V. Savings								
Building Square Footage	Inefficient Lighting Watts/Sq ft	Efficient Lighting Watts/Sq ft	Efficient Lighting Wattage Savings	Efficient Lighting Annual Energy Cost Savings	Solar System Total Watts	Estimated Net Metering Savings Factor	Estimated Additional Net Metering Payment	Total Annual Savings
50,000	1.2	0.6	30,000	\$ 10,800	375,000	\$ 0.10	\$ 37,500	\$ 48,300
100,000	1.2	0.6	60,000	\$ 21,600	750,000	\$ 0.10	\$ 75,000	\$ 96,600
250,000	1.2	0.6	150,000	\$ 54,000	1,875,000	\$ 0.10	\$ 187,500	\$ 241,500
500,000	1.2	0.6	300,000	\$ 108,000	3,750,000	\$ 0.10	\$ 375,000	\$ 483,000
1,000,000	1.2	0.6	600,000	\$ 216,000	7,500,000	\$ 0.10	\$ 750,000	\$ 966,000

Notes:

1. Energy cost savings = kW saved (watts x .001) x 10hrs/day x 6day/wk x 50wk/yr x \$.10/kWh.
2. Solar P.V. system assumptions: half of roof covered, 15 watts/sq ft panels.
3. Net metering is the payment that utilities are forced to make to the owner of a solar P.V. system for the extra electricity that is produced by the system.

fixed period of time, usually 15 to 20 years.³ In order to maximize the energy and tax savings from solar P.V. installation the owner must get the building into both physical and fiscal shape beforehand.

P.V. Building Physical Shape

In order to maximize the economic benefits of solar P.V. installation, the building owner must get the building into "physical shape." When installing solar P.V. it is most important to maximize the useful roof space, meaning that as much of the flat areas of the rooftop should be uncovered as possible. In order to do this, the building owner should consider an energy-efficient HVAC upgrade because most buildings have their HVAC systems on the building roof. However, the newer and more efficient HVAC systems can be installed on the exterior or interior walls of the building as well as the roof, which results in maximizing the useful roof space and potential large immediate HVAC tax deduc-

tions. Before solar P.V. installation the building owner should replace roofs at or near the end of their useful life cycle and improve insulation levels. The new roof and added insulation will enable the owner to install a less expensive energy efficient heating system while substantially reducing heating cost.

P.V. Building Fiscal Shape

A building owner should also make energy-efficient improvements before solar P.V. installation in order to get the building into "fiscal shape." In order to get the maximum \$1.80 per square foot EPAct tax deduction, a building owner should consider a lighting retrofit before installing solar P.V.⁴ Many industrial and warehouse buildings currently have inefficient metal halide and T-12 incandescent lighting, production and importation of which is officially banned by the federal government. This means that warehouses that still have this lighting

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Chart 2.

Warehouse Solar P.V./EPAct Combined Savings					
Building Square Footage	Annual Solar P.V. System Savings	EPact Tax Deduction \$1.20/Sq ft	EPact Tax Deduction \$1.80/Sq ft	EPAct Tax Savings	Total First Year Savings
50,000	\$ 48,300	\$ 60,000	\$ 90,000	\$ 36,000	\$ 84,300
100,000	\$ 96,600	\$ 120,000	\$ 180,000	\$ 72,000	\$ 168,600
250,000	\$ 241,500	\$ 300,000	\$ 450,000	\$ 180,000	\$ 421,500
500,000	\$ 483,000	\$ 600,000	\$ 900,000	\$ 360,000	\$ 843,000
1,000,000	\$ 966,000	\$ 1,200,000	\$ 1,800,000	\$ 720,000	\$ 1,686,000

Notes:

1. EPAct tax savings based on 40% combined Federal and state tax rate, and \$1.80 per sq ft tax deduction.

- ⁷² Guidelines 2.88.
⁷³ Guidelines 2.89.
⁷⁴ Guidelines 2.99.
⁷⁵ Guidelines 2.89.
⁷⁶ Guidelines 2.90.
⁷⁷ For portfolio approaches, see Guidelines 3.10.
⁷⁸ Guidelines 2.91.
⁷⁹ Guidelines 2.92.
⁸⁰ Guidelines 3.9–3.12.
⁸¹ Guidelines 2.92.
⁸² Guidelines 2.80–2.85.
⁸³ Guidelines 2.93.
⁸⁴ Guidelines 7.36.
⁸⁵ Guidelines 2.94.
⁸⁶ Guidelines 2.95.
⁸⁷ Robert Feinschreiber, *Business Facets of Transfer Pricing*, TRANSFER PRICING HANDBOOK (3rd ed. 2001), Chapter 1.
⁸⁸ See Guidelines 2.52 as to the application of this approach to the cost-plus method.
⁸⁹ Guidelines 2.96.
⁹⁰ Guidelines 2.97.
⁹¹ In the DISC context as to the assets test, see Code Sec. 993(b)(4) and Code Sec. 993(b)(9); see R. Feinschreiber, *Domestic International Sales Corporations*, Practising Law Institute (1978), Chapter 8.
⁹² Guidelines 2.98.
⁹³ Guidelines Chapter III, Section C.
⁹⁴ Guidelines 2.99.
⁹⁵ Guidelines 2.100.
⁹⁶ Guidelines 2.76.
⁹⁷ Guidelines 2.101.
⁹⁸ See Guidelines 2.92 as to the selection of cost-based indicators in general.
⁹⁹ Guidelines 2.101.
¹⁰⁰ Guidelines 2.93–2.94.
¹⁰¹ Guidelines 2.101.
¹⁰² Guidelines 2.102.
¹⁰³ Guidelines 2.103.
¹⁰⁴ Guidelines 3.2.
¹⁰⁵ Guidelines 2.103.
¹⁰⁶ Guidelines 2.104.
¹⁰⁷ Guidelines 3.18–3.19.
¹⁰⁸ Guidelines 3.55–3.66.
¹⁰⁹ Guidelines 3.75–3.79.
¹¹⁰ Guidelines 2.105.
¹¹¹ Guidelines 2.53.
¹¹² Guidelines 2.105.
¹¹³ Guidelines 2.106.
¹¹⁴ Guidelines 2.36.
¹¹⁵ Guidelines 2.107.
¹¹⁶ Guidelines 2.147.
¹¹⁷ Guidelines 2.68–2.75 describe the comparability standard applicable to the TNMM.

Editors Note

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Several states have recently sought new ways to increase unclaimed property collections, with perhaps the most controversial

effort in New Jersey. **Stephen Harris** and **Julie Kaplan** of Jones Day discuss New Jersey's unclaimed property law as it applies to "stored value cards" and its imposition of reporting and record-keeping requirements on card issuers.

Your editors, **Robert Feinschreiber** and **Margaret Kent**, this month provide more analysis of the OECD's reissued *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*. We specifically look at modifications of the transactional net margin method and discuss the implications of these changes for enterprises with significant U.S. involvement.

Each article is the responsibility of the author(s) and represents the views of the author(s) only. As editors, we welcome your suggestions and comments as to your corporate business tax concerns. Feel free to contact us at (305) 361-5800 and to submit material to us at multijur@aol.com.

Best regards,

Robert Feinschreiber and Margaret Kent

Solar Incentives

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technology will soon be subject to large price increases for replacement lamps and bulbs. Therefore, an astute building owner considering solar P.V. will perform a lighting retrofit to highly efficient fluorescent, induction or LED lighting in order to take advantage of the EPAct tax deduction and minimize future costs.

Chart 1 illustrates the potential annual energy cost savings for a warehouse that installs solar P.V., which consists of the amount

saved from lower energy lighting costs and potential net metering payments received.

The solar project electrical energy cost savings from the lighting projects presented above can be combined with the lighting tax cost savings to produce the total savings presented in Chart 2.

Utilities and Solar P.V.

In 2008, the EPAct was expanded to allow utilities providing solar energy, among other renewable energy types, to take the 30-percent federal tax credit. This means that a utility can install solar P.V. panels on a commercial building, enter into a power purchase agreement with the building owner to sell the solar energy, and also take the 30-percent tax credit for the total solar P.V. investment cost. In addition, 29 states plus the District of Columbia currently have state energy portfolio standards in place. An energy portfolio standard requires a certain percentage of a utility's electricity output to be generated by renewable energy. On its Web site, the Database of State Incentives for Renewables and Efficiency (DSIRE) includes a summary map showing the states that currently have energy portfolio standards, along with the year and amount of the target.⁵

There are also seven states that have energy portfolio standard goals in place, which only set a target renewable energy percentage for utilities but do not yet mandate the renewable energy production increases. Often, as part of the state energy portfolio standard a certain amount of the required renewable energy must come from solar energy. DSIRE also provides a map of 16 states,

with the required amounts, that have a solar distributed generation provision as part of their energy standard portfolio.⁶

Conclusion

The many available economic incentives for solar P.V. are in place to encourage countrywide solar power growth. However, those who have already made the choice to upgrade to solar power should consider using all of these tax incentives to offset the initial upfront investment and to lessen the economic payback time. Those who do not want to make the solar P.V. capital investment themselves should consider getting involved with utilities and letting the utility install the solar P.V. system on their building. In this situation, the utility wins because of the tax incentives, and the building owner wins because they will get a discounted electricity rate as part of the power purchase agreement. All in all, there has never been a time so ripe for solar power. When factoring in the energy cost savings, environmental impact and tax benefits, the time to go to solar is now.

ENDNOTES

¹ American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

² See "Payments for Specified Energy Property in Lieu of Tax Credits," *United States De-*

partment of Treasury Guidance, Mar. 2010, www.ustreas.gov/recovery/docs/guidance.pdf.

³ See Charles Goulding, Jacob Goldman and Joseph Most, *Complete Warehouse Tax-Enhanced Energy-Efficient Design*, CORP. BUS. TAX'N MONTHLY, Aug. 2010, at 11.

⁴ See Charles Goulding, Jacob Goldman and Taylor Goulding, *Tax Planning for the 21st Solar Century*, CORP. BUS. TAX'N MONTHLY, Feb. 2009, at 23.

⁵ See "RPS Policies," DSIRE Summary Maps. Go to www.dsireusa.org/, click on "Summary Maps" under Resources, and then on "RPS Policies."

⁶ See "State RPS Policies with Solar/DG Provisions," DSIRE Summary Maps. Go to www.dsireusa.org/, click on "Summary Maps" under Resources, and then on "State RPS Policies with Solar/DG Provisions."

New Jersey

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period on travelers' checks being challenged by American Express because it determined that American Express did not demonstrate a likelihood of success on any of its claims. On November 14, 2010, American Express filed a notice of appeal to the Third Circuit Court of Appeals and sought an injunction. On November 15, a judge in the Third Circuit granted temporary injunctive relief, enjoining New Jersey from enforcing Chapter 25 to the extent it shortens dormancy periods for travelers' checks, until a full panel of the court has the opportunity to review and consider the American Express motion. See *American Express Travel Related Services Company, Inc. v. Sidamon-Eristoff*, Dkt. No. 10-4328 (3rd Cir. Nov. 15, 2010).

²⁵ Note 20, *supra*.

²⁶ Both the 1981 and the 1995 Uniform Unclaimed Property Acts, as well as a number of states, include a third-priority rule in their unclaimed property statutes. The district

court's Opinion would appear to call the validity of those provisions into question. Uniform Unclaimed Property Act §4.6 (1995); Uniform Unclaimed Property Act §3.6 (1981).

²⁷ U.S. Const. Art. I §10.

²⁸ U.S. Const. Amend. V, XIV.

²⁹ State of New Jersey, Office of the State Treasurer, Treasury Announcement FY 2011-05 (Nov. 23, 2010); State of New Jersey, Office of the State Treasurer, Treasury Announcement FY 2011-06 (Nov. 24, 2010).

³⁰ The New Jersey Food Council filed a letter with the district court on Nov. 24, 2010, asking the court to strike or enjoin Treasury Announcement FY 2011-05. As of the date of this article, the court has not yet responded to this request.

³¹ It appears that the Legislature and Treasurer included the ZIP Code retention requirements in Chapter 25 and the Treasury guidances to serve as evidence of the place-of-purchase presumption, which the court has initially rejected. The connection with the presumption has led to some confusion in the district court's decision regarding the state's ability to enforce these requirements. The court's Order does state that New Jersey is enjoined from enforcing all of Section 5c of Chapter 25, which includes the ZIP Code retention requirement. In its opinion, however, the court never specifically addressed the validity of the ZIP Code retention requirement. It is likely that the court did not feel it was necessary to do so at this stage in the proceeding. Until the court rules on the December 7, 2010, motions to enjoin all enforcement of Chapter 25, the more prudent reading of the court's Order and Opinion is to limit the injunction to the place-of-purchase presumption as stated in the Opinion, leaving the ZIP code retention requirement enforceable.

³² *American Express Prepaid Card Management Corp. v. Sidamon-Eristoff*, Dkt. 10-4553 (3rd Cir. Dec. 7, 2010); *New Jersey Food Council v. New Jersey*, Dkt. 10-4552 (3rd Cir. Dec. 7, 2010); *New Jersey Retail Merchants Association v. Sidamon-Eristoff*, Dkt. 10-4551 (3rd Cir. Dec. 7, 2010).