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## How to Integrate the New EPAct and Roof Solar Tax Incentives Effective January 1, 2016

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**With the recent extension of EPAct 179D, solar tax incentives are readily available.**

### **New EPAct and Roof Solar Tax Incentives**

Developments in roof and solar tax incentives are driving warehouse retrofits that result in large energy savings supported by substantial federal tax savings under the Energy Policy Act (EPAct) Section 179D. As part of the 2015 yearend tax extender package, EPAct tax incentives for lighting, HVAC, and roofs were extended for two years through December 31, 2016 and an enhanced solar tax incentive was extended through 2021. When roof replacements and upgrades are required, the most optimal economic results can be obtained by integrating these two tax incentives.

### **Roof Solar Photovoltaic Panels**

The amount of solar photovoltaic (PV) development has increased throughout the past few years. Several states in the United States are paving the way for solar PV development, including Massachusetts, New Jersey, California, New York, North Carolina, Hawaii and Colorado.<sup>1</sup>

Some of the best buildings for solar installation are warehouses and manufacturing facilities because of the large amount of roof space that allows for numerous solar panels. Solar panels are also placed close to an electric load, which

is the building itself, so the energy doesn't have to travel to distant locations.<sup>1</sup>

The price of solar panels has become more affordable for owners to purchase. With the combination of lower prices and tax incentives, now is the best time to include the addition of solar PVs to buildings.

### **The EPAct Tax Incentives**

Large, flat roof warehouses, distribution centers, industrial, and manufacturing buildings are by far the most popular building categories for rooftop solar PV projects.

Non-air conditioned warehouses and manufacturing buildings will fill the \$1.80 per square foot roof tax incentive provided they have existing or concurrently installed energy efficient lighting at or below the watts per square foot level (demonstrated on the following table). To qualify for the \$1.80 roof tax incentive the roof must be installed by December 31, 2016.



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The table below shows the comparison of the previous watts per square foot versus the current watts per square foot for warehouse and manufacturing facilities:

Lighting Warehouse Wattage Targets to Trigger  
Roof Tax Incentives

Warehouse	2006-2015	2016
\$1.80/sq.ft.	0.45 W/sq.ft.	0.30 W/sq.ft.
\$1.20/sq.ft.	0.75 W/sq.ft.	0.50 W/sq.ft.
Manufacturing Facility	2006-2015	2016
\$1.80/sq.ft.	0.82 W/sq.ft.	0.48 W/sq.ft.
\$1.20/sq.ft.	1.37 W/sq.ft.	0.81 W/sq.ft.

**Tax Planning with the Extended Solar Tax Credit**

Taxpayers who want to obtain the largest 30% solar tax credit need to commence their project before January 1, 2020. A construction completion safe harbor needs to be obtained and the project must be placed in service before January 1, 2024. The table below illustrates the gradual phase down of the solar tax credit beginning in the 2020 commencement year down to the 10% credit level for projects placed in service after December 31, 2023.

<b>The New Solar Tax Credit Regime</b>		
<b>Year Construction Begins</b>	<b>Placed In Service before</b>	<b>Credit</b>
2016	1/1/2024	30%
2017	1/1/2024	30%
2018	1/1/2024	30%
2019	1/1/2024	30%
2020	1/1/2024	26%
2021	1/1/2024	22%
If construction starts before 1/01/2022 and is placed in service after 12/31/2023 the credit is 10%		

**Rooftop Photovoltaic Systems**

With the recent huge decreases in solar PV prices, many warehouse owners are using the EAct tax incentives to be fiscally and physically prepared for solar. Fiscally prepared refers to the reduction in current electricity and heating costs; physically

prepared refers to making the necessary roof improvements to get the building solar ready.<sup>ii</sup>

Solar PV rooftop systems are often used to generate electricity at warehouses. Warehouses typically make ideal solar installation candidates since they often have large, unobstructed flat roofs that can accommodate large solar PV systems.

In addition to the 30% solar credit, the following are also available:

- Five year Modified Accelerated Cost Recovery System (MACRS) depreciation method
- 50% bonus tax depreciation

Often times, a building owner may be willing to make the investment for a rooftop warehouse solar installation if the warehouse tenant will agree to enter into a power purchase agreement to purchase its electricity from the building at a set price for a fixed period of time, usually 15 to 20 years. The building owner can use a combination of resources to generate an acceptable economic return. These resources can include:

- The power purchase agreement annual revenue
- The solar tax credit
- Utility rebates, if available
- Green tag emission payments
- Net metering electricity payments for selling the excess power back to the grid

With a power purchase agreement, a warehouse owner is essentially renting the roof as an alternate energy electrical generator.

**Catching Up on Missed Deductions**

Since the amount of solar tax credit can vary widely from no credit to 30% based on facts and circumstances, property owners should work closely with a tax advisor when starting a solar project.

In January 2011, IRS released Rev. Proc. 2011-14, which enables all property owners to catch up on any missed EAct tax deductions from January 1, 2006 and report them on their current tax return without having to file an amended tax return, a step that can be costly and inconvenient. The retroactive filing is accomplished by filing tax Form 3115 with the warehouse owner's current tax return. This change can be used proactively as a tax planning tool.



Warehouse owners who missed one or more prior tax deductions can combine the missed project(s) with a new project and secure a much larger combined tax deduction. For example, presume a warehouse owner installed energy efficient lighting in a 200,000 square foot warehouse for \$100,000 in 2006 but missed the EAct tax deduction. Presume that, in 2016, this same owner has a new project involving natural gas heaters and some roof improvements for \$260,000. Using Rev. Proc. 2011-14, this warehouse owner may be eligible to deduct the entire \$360,000 in 2016 (\$100,000 from 2006 and \$260,000 from current project).

Warehouse owners have unprecedented opportunities to reduce energy costs, particularly with energy efficient lighting and natural gas heaters. Large EAct tax incentives are available to support these projects but quick action is required as EAct is due to expire Dec. 31, 2016.

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<sup>i</sup> "Should Warehouses Invest in Solar Energy." Steve Banker. Forbes. May 19, 2014. Available at: <http://www.forbes.com/sites/stevebanker/2014/05/19/should-warehouses-invest-in-solar-energy/#2715e4857a0b1f122bfa7c51>

<sup>ii</sup> "Warehouses Cut Energy Bills and Taxes." Charles R. Goulding and Charles G. Goulding. Building Operating Management. July 2012. Available at: <http://www.facilitiesnet.com/energyefficiency/article/Warehouse-Retrofits-Can-Lead-to-Big-Energy-Tax-Savings-Thanks-to-EAct-13316>