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Free Money for Energy Projects?

New and extended tax incentives and rebates can help fund HVAC, lighting, renewable energy, and other projects. Here's what you need to know to maximize your money.

Here is some much-needed good news for facility managers: The December 2020 year-end stimulus package made the Section 179D building energy tax incentive permanent and extended tax credits for various renewable technologies, including solar, geothermal, and wind. Additionally, companies can get utility rebates to lower the cost of energy-efficient installations.

Section 179D became effective as of January 1, 2006, and remained a temporary tax legislation through 2020. Pursuant to the Energy Policy Act of 2005, Section 179D allows for commercial building owners and designers of government buildings to use a tax deduction up to $1.80 per square foot for energy efficient building

lighting, HVAC, and envelope installations. Both new construction and existing buildings are eligible for this tax incentive.

On December 27, 2020, the Consolidated Appropriations Act 2021 was signed into law, which included the permanency of Section 179D. In addition to permanency, the amount of the tax deduction levels (maximum $1.80 per square foot) will now be subject to annual increases based on inflation.

Under Section 179D, installations related to lighting, HVAC, and building envelope (i.e. roof, windows, exterior doors and walls) are eligible. To qualify, the efficiency levels of the building's energy systems must be more efficient than standards set by ASHRAE for specified levels.

To qualify for the maximum $1.80-per-square-foot tax deduction, the building's overall energy systems must be at least 50 percent more efficient than the ASHRAE standard, which varies depending on the year of project completion. The Section 179D deduction is not technology specific: As long as a building meets the energy efficiency requirements as compared to ASHRAE, it can qualify for the tax incentive.

In addition to commercial building owners, designers of government buildings are eligible to take the Section 179D deduction. Eligible government buildings for designers include federal, state, and local building categories. The largest government building categories include K-12 public schools, public universities, and military bases.

Catching up on missed Section 179D deductions

In January 2011, IRS released Rev. Proc. 2011-14, which enables commercial building owners to catch up on any missed Section 179D tax deductions on lighting, HVAC, and building envelope installations completed since Jan. 1, 2006. The IRS allows building owners to report them on their current tax return without having to file an amended tax return (a step that can be costly and inconvenient). To capture previously missed deductions, building owners should file tax Form 3115 with the owner's current tax return. This change can be used proactively as a tax planning tool. Rev. Proc. 2011-14 is not applicable to designers of government buildings, and designers must amend prior year tax returns to claim the Section 179D deduction for projects completed in previous years.

Section 179D for industrial buildings with LED lighting

To qualify for the maximum $1.80 per square foot Section 179D deduction, a building's overall energy usage must be at least 50 percent more efficient than the ASHRAE standard in place, irrespective of how that energy efficiency is achieved. In

industrial buildings (such as warehouses and manufacturing facilities), that energy efficiency level is often achieved with LED lighting, as lighting typically comprises the bulk of the building's energy load. (Note that building operational equipment such as machinery is not factored into energy load for Section 179D purposes.) Low-wattage LED lighting in these types of buildings can alone provide enough or close to enough overall energy savings to meet that 50 percent improvement over ASHRAE.

Opportunity for refrigerated distribution centers with LED lighting

The refrigerated distribution center industry (commonly referred to as cold storage), is a fast-growing segment. Jones Lang LaSalle projects the growth in this segment to be as much as 100 million square feet by 2025 to keep up with overall demand. Demand for specialty food is increasing and is increasingly skewed toward fresh and locally grown varieties, putting added emphasis on refrigeration. Because many distribution centers must now apportion a greater part of their square footage to refrigeration, they are prime candidates to install energy efficient products in both their refrigerated building and dry sections.

Low-wattage LED lighting in industrial buildings often can alone provide enough overall energy savings to meet that 50 percent improvement over ASHRAE.

Historically, cold storage facilities have used inefficient metal halide lamps since fluorescent lamps did not function well in cold temperatures. With the advent of LEDs however, cold storage spaces now have an alternative which provides significant energy savings.

In a refrigerated distribution center of a million square feet, the Section 179D tax deduction for LED lighting can amount to $600,000 for lighting alone. And because these facilities tend to be well-insulated, they can qualify for the building envelope deduction as well, bringing the total to $1.20 per square foot or $1,200,000. (Note that these tax deduction levels are set to increase with annual inflation starting in 2021.)

Another major advantage of LEDs is their ability to be integrated with automated systems. Through use of sensors, such systems allow facility managers to control when and where lighting is used within a space. Previously, a manager might have to turn on every metal halide in a facility just to get access to a single aisle. By making it possible to use far more sophisticated controls, LEDs can save refrigerated storage spaces a significant percentage of their lighting-related energy costs. Because LEDs have no warm-up time, whereas metal halide lamps typically do, LEDs can be turned on and off as needed.

Renewable energy tax credits

In addition to Section 179D, tax incentives are available for various renewable technologies for businesses under the Investment Tax Credit (ITC). The major categories of alternative energy equipment include solar, wind, geothermal, and combined heat and power (CHP). The benefits from solar and wind energy generation can be augmented from increasingly available battery storage or energy storage. Geothermal and combined heat and power are eligible for both renewable tax credits and Section 179D deductions (as they are forms of HVAC technologies).

The economic return from investments in wind and solar has greatly improved in recent years due to lower costs, higher electrical yield and energy storage. Often, a facility's roof must be upgraded before a solar panel installation, with the roof upgrade being an eligible Section 179D installation.

The Consolidated Appropriations Act 2021 extended the phase out of this credit for numerous technologies listed below.

	Year that Construction Begins					
Technology	2020-2021	2022	2023	2024	2025	2026
PV, Solar Water Heating, Solar Space Heating/Cooling, Solar Process Heat	26%	26%	22%	22%	22%	10%
Hybrid Solar Lighting, Fuel Cells, Small Wind	26%	26%	22%	N/A	N/A	N/A
Geothermal Heat Pumps, Microtubines, CHP	10%	10%	10%	N/A	N/A	N/A
Geothermal Electric	10%	10%	10%	10%	10%	10%
Large Wind	18%	N/A	N/A	N/A	N/A	N/A

Utility rebates

Many local utilities offer rebates for a portion of the cost of energy efficient equipment. By reducing overall electricity demand, utilities are able to reduce the need for expensive capital plant investments.

There are two general types of rebates: prescriptive and custom. Prescriptive rebates are typically straightforward and provide a predetermined rebate amount for specific energy equipment such LED lighting and several types of HVAC equipment. Custom rebates can vary depending on the amount of confirmed energy reduction in the building. The calculation of energy reduction can be performed by building energy modeling or some other method of measurement

and verification. Custom rebates require more effort but often result in larger rebate amounts.

It is important to note that utility rebates often require utility pre-approval before purchasing the equipment. Facility managers should simply check with their local utility to see which rebates are available and how to apply.

There are various types of tax and economic incentives to help support building energy projects. The Section 179D deduction provides an incentive for both new construction and existing buildings that install energy efficient lighting, HVAC and building envelope. Renewable tax credits can provide sizable incentives for technologies that include solar, wind, and geothermal. Additionally, utility rebates can significantly lower the cost of energy projects. End-users should seek to monetize as many of these incentives as possible to improve project return-on-investment.

Charles R. Goulding is an Attorney and CPA, and the President of Energy Tax Savers, Inc., a firm that specializes in tax incentives for buildings.

Raymond Kumar is a CPA and Manager at Energy Tax Savers, Inc.