SECTION 1—UNDERSTANDING SECTION 179D

This section will provide a brief of the history of Section 179D and explain the overall relevance of this tax deduction for both commercial and public projects. Specifically, this section will look at why Section 179D was created and how it has been used and underutilized in the design process. This section will narrow the target audience to designers working on public projects.

Introduction to Section 179D

In 2005, Congress enacted the Energy Policy Act of 2005, also known as EPAct, and in so doing created the Energy Efficient Commercial Building Tax Deduction, which recognizes the impact commercial buildings have in the overall U.S. energy consumption. The tax incentive was created as a means to provide building designers a way to incorporate more energy efficient design choices in their projects as a way to offset the larger project cost. Section 179D of the code enables the building owner to deduct the cost of the energy-saving systems from $0.30 up to $1.80 per square foot, depending on whether the building is eligible for a partial or full deduction.

Congress also added a provision that encourages energy-efficient design in public, or government-owned, buildings. In this case the building owner can allocate the deduction to the building designer or design firm, since government buildings are not taxed. While the commercial application of this code has been used to some extent, the application to public buildings has been even less so. The benefits for designers of larger government buildings can be considerable, yet they are often overlooked because of the complexity associated with taxes in this context, and because they are unclear how to navigate the issues. For example, some government owners may request an incentive for signing the allocation letter. This request may be in the form of extra work, discounted fees, or possible

LEARNING OBJECTIVES

Upon completion of this course the student will be able to:
1. Describe what Section 179D is and how this tax deduction can benefit design industry.
2. Explain the three main areas of improvement targeted with the Section 179D incentives.
3. Understand the process required to take advantage of the Section 179D deduction for designers.
4. Discuss the update on the extension of Section 179D along with the ASHRAE changes for 2016 projects.
financial rewards. Designers will not be asked to share the benefits when working on any federal projects. The specific tax issues are beyond the scope of this article, however designers interested in pursuing the deduction should consult with their tax advisor to assure that their individual situation and project warrants the use of this Section 179D deduction.

Since it was initiated, the 179D deductions have leveraged billions of dollars in private capital, resulted in energy-efficient construction of thousands of buildings, and created and preserved thousands of jobs. It has lowered demands on the power grid, moved the U.S. closer to energy independence, and reduced carbon emissions.

IRS definition of “designer” for a government-owned building
The federal tax codes identify a building designer as “anyone who creates the technical specifications for installing the qualifying property and its subsystems; it can include architects, engineers, contractors, environmental consultants, energy service companies (ESCOs) or others”. Building professions responsible for just installing, repairing, or maintaining the property are not considered “designers”, and thus are not eligible for the deduction.

Eligible energy-saving systems
The three energy-saving systems eligible for the deduction include the interior lighting systems, HVAC and hot water systems, and the overall building envelope. The deduction associated with Section 179D can be as much $1.80 per square foot of the property, taken in the year that the project goes into service. Section 179D allows the designer to take a federal deduction up to $1.80 per square foot or the project costs attributable to the subsystem receiving the deduction. The deduction cannot exceed the full project cost. The deduction is available for costs directly associated with the three systems for the deduction for buildings put into service or retrofitted after December 31, 2005 and before December 31, 2016.

The incentives provided by this feature of the tax code can help building designers increase their profits substantially, however many designers are unfamiliar with Section 179D, or are not certain how to make the most of this deduction. The provision is particularly beneficial to the designers of government buildings. Impacts of the code will be discussed in more detail later in this section.

The intended and actual impacts of Section 179D
The General Services Administration (GSA) is responsible for constructing, managing, and preserving government buildings, and for leasing and managing commercial real estate. The GSA owns and leases over 376.9 million square feet of space in 9,600 government buildings across the United States. These properties include land ports of entry, warehouses, courthouse, post offices, laboratories, and data processing centers, to name a few. As noted above, Section 179D was set in place to help the government meet its goals of energy independence by helping ensure that new and retrofitted buildings were making the most out of energy-efficient innovations. The deduction has not been widely used by either the private or public sector, and the uptake on government structures has been nowhere near the expected increase. This is in part because designers have simply been unaware of the potential deductions and how to acquire proper certification – and thus profit on such projects. With such a vast number of buildings that may be retrofitted, as well as the newer projects that are commissioned, designers will benefit from understanding the conditions under which projects may be eligible for the deduction.

Relevance to commercial buildings
In the case of commercial buildings, the owners are eligible for the deduction if the building is properly certified. For commercial properties, as well as government properties, that are unable to meet the minimum 50% energy and cost savings, the Energy Efficient Commercial Building Deduction allows deductions for partially qualifying projects in the individual building subsystems. These reduced deductions range from $0.30/square foot to $0.60/square foot for lighting and $0.60/ square foot for HVAC or the building envelope, depending on the extent of the energy-saving measures.

Relevance to public buildings
As noted earlier, government-owned buildings are subject to a special rule when it comes to the Section 179D deduction. Unlike commercial buildings, where the owners are eligible for the deduction, the owner of a government property (federal, state, or local) may allocate the deduction to the property's designer. The Internal Revenue Code defines the designer to be the building’s “architect, engineer, contractor, environmental consultant, or energy services (ESCO) provider who creates the technical specifications for a new building or retrofit to an existing building that incorporates energy efficient building systems.”

A government building is any building that is owned and operated or leased by a government authority or agency. This includes all levels of government, from Federal, state, and local governments, and can include post offices, schools, hospitals, jails, administration buildings, or research facilities, among other property types.

Relevance to design firms
Given that the owners of government buildings and public projects can – and often do – allocate the energy efficient building tax deduction to the building’s designers, building design firms have much to gain by applying for Section 179D certification. At a potential $1.80/square foot deduction, savings can be huge, especially if they are able to secure larger government building projects. Projects with larger footprints – ideally 50,000 square feet or above – are the best candidates.

Firms that are contracted to implement energy-saving systems in government-owned buildings may find that the tax deduction allows them to rethink their design choices to include more innovative technologies. Section 179D is technology neutral, and thus the architects and designers have flexibility in the design systems for their projects. Moreover, firms that implement such innovative design features, and who can prove via a third-party certifier firm that their work can achieve the Section 179D deduction, may find that they are considered to do more work in the area of green building design and retrofit.
SECTION 2—SATISFYING SECTION 179D REQUIREMENTS

This section will explain the specific requirements for satisfying Section 179D. Keeping with the general focus on public buildings, this content will address the three areas of improvement: lighting, HVAC systems, and building envelope. Included in this content will be ways that help achieve the energy and power savings necessary for a partially qualifying deduction, or in the most expansive energy efficient projects where the $1.80/square foot deduction for the whole building is achieved. This can be best done through informed consultation with third party certifiers to review specifics from projects for prequalification. Included in this section will be some of the more common types of buildings and projects that can qualify for Section 179D, and that can benefit most from the deduction.

Section 179D Requirements

Buildings and properties can qualify for the full Section 179D deduction of $1.80/square foot if they meet the requirement of reduced energy use of for the whole building that is certified to exceed ASHRAE Standard 90.1-2001 by at least 50 percent. For projects completed in 2016, the ASHRAE 90.1-2007 standard replaces ASHRAE 90.1-2001.

Buildings that are unable to meet the 50% or greater energy and power savings requirements are eligible for partial deductions of a maximum of $0.60/square foot for each individual energy-saving system, in which case they would be eligible for a partial deduction. Alternatively, they may be able to improve both lighting and the building envelope, but not HVAC, in which case they would get two-thirds of the deduction.

Properties that make energy efficient changes to the lighting may qualify for a maximum deduction of $0.60 per square foot via Section 179D under the Interim Lighting Rule. In cases where the lighting density is reduced less than 40% of the maximum, the deduction is reduced by $0.02 per square foot for every lighting power density reduction point below 40%.

To be eligible for the Interim Lighting Rule, properties must meet the following criteria:

1. Reduces lighting power density by at least 25% of the minimum requirements outlined in the ASHRAE Standard 90.1-2001 (or 50% if the property is a warehouse). See Table below.
2. Includes circuiting and controls that meet in full the strict requirements by Standard 90.1-2001
3. Provides bi-level switching options for all occupancies other than motel and hotel guest rooms, store rooms, restrooms, and public lobbies. Partial deductions are applicable.

Buildings must be inspected by a third-party certifier, which will verify that the energy-saving installations have been made and that they meet the requirements. Designers should consult with their third-party certifier to review project specifications early in the design process to determine potential feasibility for the Section 179D deduction.

In order to be considered for the Section 179D tax deduction, properties must meet the following requirements:

1. Must be located in the U.S.
2. Must have installed energy-efficient improvements as part of the interior lighting system, the HVAC and hot water systems, or the building envelope
3. Must be certified having designed and installed all or some of the above systems with the intention of reducing the total annual energy and power costs by 50% or more in comparison to a reference building that meets the minimum requirements of ASHRAE Standard 90.1-2001. Projects in 2016 must meet the ASHRAE 90.1-2007 standards.

Eligible energy-efficient systems include:
- Interior lighting systems
- Heating systems
- Cooling systems
- Ventilation systems
- Hot water systems
- Building envelope

Systems not eligible include:
- Power reductions
- Refrigeration reductions
- Other energy-use reductions

Types of projects that can benefit from Section 179D

As a general guide, buildings that exceed 50,000 square feet are the best candidates to complete the process of being certified for the deduction. Buildings with a smaller footprint can certainly benefit from energy-efficient designs and retrofits, however, the deduction may not be enough to warrant the certification process. This section highlights the types of projects that most benefit from the Section 179D deduction.

Designers of all publicly owned facilities such as schools, libraries, courthouses, or post offices can all benefit from the 179D deduction. For example, some of the largest buildings that qualify are schools, which may range from 50,000 to 1,000,000 square feet. Whether

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### SUMMARY OF ENERGY SAVINGS PERCENTAGES PROVIDED BY IRS GUIDANCE

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Lighting (Interim Rule)</td>
<td>25–40% LPD reduction</td>
<td>25–40% LPD reduction</td>
<td>25–40% LPD reduction</td>
<td>$0.30–$0.60</td>
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<tr>
<td>Lighting (Permanent Rule)</td>
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<td>20%</td>
<td>25%</td>
<td>$0.60</td>
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<tr>
<td>HVAC and HW Systems</td>
<td>16 2/3%</td>
<td>20%</td>
<td>15%</td>
<td>$0.60</td>
</tr>
<tr>
<td>Building Envelope</td>
<td>16 2/3%</td>
<td>10%</td>
<td>10%</td>
<td>$0.60</td>
</tr>
<tr>
<td>HVAC, HW, Lighting and Envelope</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
<td>$1.80</td>
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**Effective Dates**

designers are involved with new projects, rehabilitating, or retrofitting older public buildings, it may be worth their effort to have a consultation done on the property to see whether it would be a good candidate for the deduction. Building designers may be in a position to significantly increase their project profits while providing energy-efficient designs on public buildings. The design options are vast. For example, designers may be able to:

- Design in or update interior lighting from fluorescent or incandescent lighting to more efficient LED options.
- Include or update the HVAC and water heating system to use variable speed and more efficient fans.
- Design or modify the building envelope to include more energy efficient materials that may add to passive heating or cooling.

Different projects will offer different energy-saving options. For example, occupied buildings such as offices, schools, hospitals, or detention centers may benefit from one or all of the energy-efficient systems. Unoccupied buildings, such as parking garages, may benefit from only one or two—for example, improved lighting options.

Owners of commercial properties can benefit from including energy-efficient features, whether the building is an office, a warehouse, a supermarket, or a multi-family midrise apartment. Designers interested in doing preliminary calculations to see what potential benefits might be for their project can check here: concordenergystrategies.com/179d-tax-deduction/benefits-calculator/

Regardless of the project, it is important for building designers to consider implementing these energy-efficient options, and to explore Section 179D eligibility with a third-party certifier during the preliminary design phase.

**SECTION 3—PROCESS OF ACHIEVING SECTION 179D**

This section will provide a step-by-step process map for architects to follow in order to successfully qualify a project for the Section 179D tax deduction. Content will address, from start to finish, the important milestones and critical needs for successful documentation and completion of the process. Included in this section will be suggestions and guidance on selecting the appropriate third-party independent energy certifier, their role in the process, and an overview of possible fee structures, and deliverables.

**QUIZ**

1. What year was the EPAct enacted?
   a. 1990  
   b. 2000  
   c. 2005  
   d. 2010

2. What section of the EPAct code enables building owners to deduct the cost of the energy saving installations?
   a. 1A  
   b. 179D  
   c. 1246Z  
   d. 2B

3. Under the federal tax code definition, which of the following can be identified as a "designer?"
   a. Repair person  
   b. Maintenance person  
   c. Contractor  
   d. Installer

4. Which is not listed as a deductible energy saving system?
   a. Interior lighting systems  
   b. Building envelope  
   c. HVAC/Hot water systems  
   d. Refrigeration reductions

5. Which of the following can be considered a government building?
   a. Post office  
   b. School  
   c. Hospital  
   d. All of the Above

6. True or False? Buildings in Canada and Mexico are eligible for the Section 179D tax deduction.

7. Who conducts the Section 179D deduction certification?
   a. Contractor  
   b. A third party certifier  
   c. Federal government  
   d. All of the above

8. Ideal candidates for consideration of the Section 179D deduction are buildings that exceed how many square feet?
   a. 5,000  
   b. 10,000  
   c. 20,000  
   d. 50,000

9. Which of the following would not be an eligible energy efficient system?
   a. Adding a power reduction system  
   b. Replacing incandescent lighting with LED lighting  
   c. Geothermal HVAC system  
   d. Using high performance insulation

10. A building that qualifies for the lighting deduction but not the building envelope or HVAC/hot water systems deductions can earn how much of a maximum deduction?
    a. $0.10/sq ft  
    b. $0.40/sq ft  
    c. $0.60/sq ft  
    d. $1.80/sq ft

**SPONSOR INFORMATION**

Concord is the national leader in Section 179D services. Our firm is comprised of an industry leading team of multi-disciplinary professionals. Concord’s unparalleled experience and knowledge of Section 179D, ability to handle a high volume of projects, and the engineering expertise to understand complex building systems makes us capable of handling any Section 179D project. concordlp.com

This article continues on http://go.hw.net/AR316Course1. Go online to read the rest of the article and complete the corresponding quiz for credit.
The Section 179D process

The process to apply for and obtain the Section 179D tax deduction is fairly straightforward: building designers must employ a third-party independent certifier to review the property’s eligibility and actual implementation of the energy-saving installations; the certifier completes a site visit of the building being certified, models the energy-use, and then provides the required paperwork including the IRS compliant certification the tax deduction once the process has been completed.

Successful completion of the process, however time consuming, is worth the effort and can result in significant savings on overall project costs. While different third-party certifying companies may have slightly different processes, the overall process is the same.

1. Building designers submit a preliminary study request and requirements to the third-party certifier. This step is crucial in that it allows the certifier to determine whether the owner or designer project is eligible for the deduction, thus saving the building designer both time and money. The proposed project specifications should include as many details as possible, including:
   a. Proposed square footage of the property
   b. The mechanical schedule, if using HVAC
   c. The total lighting wattage, if lighting is to be considered

2. Third party certifier reviews and assesses the information to determine whether the building designer is eligible for the deduction. They will verify that the request is either from a commercial building owner or from the primary designer of a government-owned building. Residential properties are not eligible unless they are also commercial properties, with a minimum of four (4) stories. Certifiers will assess whether the property was constructed and/or retrofitted between January 1, 2006 and December 31, 2016, and if so, whether:
   a. the designer incorporated energy-efficient lighting, HVAC, water systems, and/or building envelope components or upgrades to the building design, or
   b. the designer included expenses to increase the energy efficiency of one or more of the three energy systems (lighting, HVAC, and building envelope), and
   c. the project exceeds a specified standard of energy efficiency for either full or partial deductions.

Certifiers will also review the architecture plans if they are available, the mechanical and lighting plans, the wall sections if the building envelope is being considered, and the actual utility rates.

3. If the project is eligible, the certifier will prepare an Allocation Letter for the building owner to sign.

4. Some third-party certifiers, as part of their service, will coordinate the Allocation Letter process with the government owner. The designer may request that the third-party certifier work directly with the government owner to answer any questions about the allocation process, and to make sure that the customer obtains all of the necessary signatures to assign the allocation. This part of the process may differ slightly for different branches of the government, and so designers should inquire with their third-party certifier about the requirements for the specific branch relevant to their project.

5. Once the Allocation Letter has been signed by the building owner and representatives, the certifying firm conducts a Section 179D study.

6. The certifier completes their independent, third-party Section 179D study, which includes a detailed energy model of the property.

7. Certifier conducts a site-visit to verify that all energy-saving systems have been installed, and are in use.

8. Certifier finalizes study and relevant certification per the IRS guidelines and the building owner will file their taxes, taking the Section 179D deduction as part of “Other Deductions”.


Third-party certifiers: roles, responsibilities, documentation, and fees

Third-party certifiers are essential for building owners and designers to obtain the Section 179D deduction, and so it is important for building owners and designers to understand what they do, what their responsibilities are to the client, and how to choose a responsible firm. Building owners and designers should be aware of documentation and fee expectations, and know which documents the certifiers will provide at the completion of the study and certification.

The primary role of an independent, third-party Section 179D certifier firm is to verify the energy and power savings through energy modeling. Equally important is their role of guiding owners and designers through each step of the Section 179D process, and to provide all relevant documentation required by the government for the designer. Good certifiers will understand the tax code and make sure that their studies and reports are accurate and compliant with the tax requirements.

When building owners and designers look for third-party certifiers, they should consider the following attributes in the certifier:

- Understands in detail the Section 179D process and the related tax code
- Understands and has expertise in engineering and complex building systems
- Can design and run precise energy models specific to Section 179D requirements
- Can handle large-scale and high-volume projects
- Willing and able to provide all necessary documentation required by the government
- Able to work with any business and all levels of government
- Provides full audit defense protection for Section 179D
- Has a proven record of certifying eligible projects

A certifier that meets the above criteria should help make the process run smoothly, and that the engineering accuracy as it relates to the Section 179D deduction is correct. Not all certifiers are the same. While some firms specialize in Section 179D, others may specialize in energy modeling and other services, and use their expertise in these areas to help guide clients through the Section 179D process.

Fee structures for certifiers will also differ. Building owners and designers should review closely how fees are accrued, and decide what works best for their specific project. Fee expectations should be addressed and understood prior to selecting a certifier.

SECTION 4—FUTURE OF SECTION 179D AND ASHRAE 90.1-2007 2016

This section provides a brief overview on the recent extension of Section 179D and the potential future of the tax incentive. Included in this section will also be a discussion of the ASHRAE 2016 changes and how these may impact the overall energy modeling and evaluation process for architects, and to achieving the maximum efficiency standards.

Section 179D has recently been extended as part of the Consolidated Appropriations Act, 2016 and the Protecting Americans from Tax Hikes Act of 2015, when the Senate passed H.R. 2029. The acts were signed into law by President Obama in December 2015, and included the energy efficient commercial building deduction, which expired on December 31, 2014. The extension is for two years and now runs through December 31, 2016, and the deduction is permitted retroactively for 2015. It is important to note that the change to ASHRAE 90.1-2007 is only for those projects completed in 2016. For those projects completed in 2015, the ASHRAE 90.1-2001 standard is still in place.

This extension is significant for building owners and designers because they can now better plan to use the deduction, whereas they were unable to do so while the act was in limbo in 2015. The deduction remains unchanged in terms of requirements and deduction amount, in that it can be used to cover expenses associated with new or renovated buildings that are designed to be more energy efficient. The immediate and one-time deduction has a limit of $1.80 per square foot when the project qualifies. Partial deductions apply for projects that meet one or two of the three system requirements.

Changes to the ASHRAE Standard

The extended bill includes a higher threshold to qualify for the deduction by changing the ASHRAE standards. The previous bill was based on the 2001 ASHRAE standard (Standard 90.1-2001), however the update includes Standard 90.1-2007. The new standard will impact projects in some states more than in others, and will depend on what the adopted energy code is for that particular state. For example, states that use 2015 IECC may have lower standards than in states that use other codes. These standards may affect the energy modeling for various projects, and can potentially impact how improvements are evaluated and assessed.

During eligibility consultations, third-party certifiers can help make building owners and designers determine whether any of the new thresholds impact their projects.

Baseline evaluations

In terms of baseline comparisons between the new ASHRAE Standard 90.1-2007 and the LEED 2009 prerequisite of a 10% performance rating improvement, it is likely that most LEED 2009 certified buildings will surpass the ASHRAE Standard and thus be eligible for the Section 179D deduction.

The changes in these baseline evaluations do set the bar higher, but they also encourage building owners and designers to use creative and innovative solutions to improve a building’s energy efficiency. Again, when in doubt, consult with a third-party certifier who is up to date on the changes that the extension provides.

SECTION 5—CONCLUSION AND ASSESSMENT

In conclusion, this course explains the benefits and challenges of the Section 179D tax deduction for energy efficient buildings. Both commercial building owners and designers of government buildings can—and should—benefit greatly from this one-time accelerated depreciation deduction, especially if they are engaged with projects that exceed 50,000 square feet. Further questions concerning eligibility and the overall process for specific projects should be directed to a credible and experienced third-party certifier who is familiar with the details of the Section 179D.

SECTION 179D AND FEDERAL PROJECTS

The U.S. Federal government owns tens of thousands of buildings, and thus the opportunity for designers and architects to take advantage of Section 179D with such projects is significant. Existing buildings are prime candidates for energy-efficient renovations or retrofits, and new buildings are periodically commissioned. This sidebar will highlight some of the opportunities and challenges of working on different types of federal projects to improve energy efficiency and to achieve Section 179D.

Federal projects can range from retrofitting older courthouses or post offices, to designing
COMMERCIAL PROJECTS

Although this article is specifically targeted towards designers and architects working on public buildings, it is important to provide an overview of commercial building projects as well. This section will provide a comparison between public and commercial project, discuss who benefits from Section 179D, and provide guidance and suggestions for architects and designers working in the private sector on how they can best assist their clients on achieving Section 179D requirements.

The primary difference between public and commercial buildings concerns the property owner, and thus who is eligible for the deduction. In the case of public buildings, the owner is the government; however, the government is not taxed on buildings. Thus, the building owner can allocate the deduction to the building designer. This process requires that the designer secure an allocation letter from the owner, which specifies the designer as the deduction recipient. Once this allocation letter is secured, the designer can then move forward with the process of validating the energy-efficiency improvements, and applying for the Section 179D deduction.

Commercial properties can range from large office buildings or warehouses to strip malls, supermarkets, restaurants, or stand-alone retail properties – or anything in between. The main difference between these projects and public projects is that because they are privately owned, there is no need to allocate the deduction to someone else. The building owner is eligible for the deduction. In this case, the 179D deduction is considered an accelerated depreciation. The one-time deduction must be taken in the year that the project and/or retrofit goes into service, and the building owners must adjust the cost basis of their building for that year.

As with projects concerning public buildings, designers and architects will benefit greatly from consulting with a third-party certifier to help them navigate the process of obtaining the Section 179D deductions.

CASE STUDY

The non-typical project of a municipal parking garage serves as a useful case study of where and how a design firm made some creative and innovative design elements to achieve the highest possible rating above baseline modeling, and thus the maximum tax deduction per square foot. They successfully completed the process for achieving Section 179 tax deduction, and can be used as a model for other designers.

This T8 lighting retrofit project of a 220,800 square foot public parking garage was completed by a lighting designer on the West coast. The changes in the structure improved the overall lighting, reduced the energy use, and improved the property for the local community.

These seemingly mundane changes to the facility are precisely the type of retrofit improvements that Section 179D is meant to help designers achieve. In this case, the lighting designer secured the Section 179D allocation from the municipal owner, and then worked with a third-party certifier on the required Section 179D certification and review.

The relatively large size of the facility, and the energy efficiency of the newly implemented lighting system meant that the project was both a good fit and was indeed eligible as a partially qualifying property under Section 179D. In this case, the project qualified for the $0.60/square foot Section 179D lighting deduction, which translated into a deduction of $132,480 for the lighting designer.

For more case studies, see: concordenergystrategies.com/case-studies/