



Energy Efficient Commercial Building Tax Deduction Internal Revenue Code Section 179D

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Learning Objectives

- Gain an understanding of what IRC Section 179D is and how it applies to government entities.
- Identify the types of buildings that are ideally suited for 179D and the ways in which they can qualify for the deduction.
- Overview of the process for obtaining 179D certification.
- Examples of qualifying buildings.



Legislative Source

- EPACT 2005: Congress passed legislation in August of 2005 to encourage property owners to build energy efficient real estate properties to promote reduction in energy consumption. Service dates were from January 1, 2006 through December 31, 2008.
- The Emergency Economic Stabilization Act of 2008 extended the benefits of the Energy Policy Act of 2005 through December 31, 2013.
- The Tax Increase Prevention Act of 2014 retroactively renewed this tax deduction through December 31, 2014.
- The Consolidated Appropriations Act of 2016 retroactively renewed the tax deduction through December 31, 2016.



Qualification - What is the Commercial Energy Tax Deduction (179D)?

The energy efficient tax deduction is an incentive provided by the federal government that allows a deduction of up to a \$1.80 per square foot for the implementation of energy efficient improvements or energy efficient new construction.



Qualification - What Qualifies?

- Eligible
 - New construction, renovations or additions
 - Commercial and government buildings
 - ◇ Building is defined as an enclosed structure providing shelter to persons, animals or property
- Not Eligible
 - Single-family houses
 - Multi-family structure under 4 stories
 - Mobile or modular homes



Qualification - Who Can Benefit?

- Owners or lessees
 - Anyone who builds a new building or remodels an existing building
- Designer of government buildings
 - Architect, Engineer, Contractor or energy services provider
 - Designer is defined as the creator of the technical specifications for installation of energy efficient equipment



The Designer - Who Qualifies?

- Person that creates the technical specifications for installation of energy efficient property
- May include architect, engineer, contractor, environmental consultant or energy services provider
- Deduction can be allocated among multiple designers
- Government entity must provide designer with written declaration of the allocation of the deduction
- GSA “Primary Contractor” policy
 - ◇ Design-Bid-Build: Architect/Engineer
 - ◇ Design-Build: General Contractor



179D Opportunities - Ideal Public Candidates

- New Construction
 - Schools: Elementary, Middle & High
 - Colleges: Dorms, Classrooms, Parking Garages, Athletic Centers & Stadiums
 - Federal Buildings
 - Municipal Buildings
 - Correctional Facilities
 - Military
- Retrofits – Energy Performance Upgrades or Lighting Upgrades
- LEED Certified Buildings (Silver and higher)
 - Please note LEED Certification does not guarantee Sec. 179D Certification



179D Accounting Details

- Assignment Letter required from Public Entity
- Must amend tax returns (open years) to obtain deduction for prior years
- Projects placed into service in 2015 can file on current year return
- Designers can take the benefit as a deduction from income
- Benefit available to designers through 2016



Certification - How Does the Energy Efficient Tax Deduction Work?

- Building placed in service prior to December 31, 2015 is compared to a reference building from 2001 (ASHRAE 90.1-2001)
- Building placed in service after December 31, 2015 is compared to a reference building from 2007 (ASHRAE 90.1-2007)
- If the building reduces energy costs by 50%, as compared to reference building, it is defined as a “fully qualifying property”
- If building reduces energy costs at less than 50%, it can be classified as a “partially qualifying property” – partial benefits are available



Certification - Partially Qualifying Property

\$0.60 per Square Foot per System

Summary of Energy Savings Percentages Provided by IRS Guidance

	Energy Savings Percentages under Notice 2006-52	Energy Savings Percentages under Notice 2008-40	Energy Savings Percentages under Notice 2012-26
Interior Lighting	16-2/3	20	25
HVAC/Hot Water	16-2/3	20	15
Building Envelope	16-2/3	10	10
Effective for property placed in service	January 1, 2006 - December 31, 2008	January 1, 2006 - December 31, 2013	April 23, 2012 – December 31, 2014*

*The Consolidated Appropriations Act of 2016 extended Section 179D through December 31, 2016. The IRS has not yet provided an updated Notice on required Energy Savings Percentages for buildings placed in service after December 31, 2014.



Eligible Building Components

- Interior lighting (Almost always qualifies)
- HVAC, Domestic Hot Water
- Building envelope
 - Insulation
 - Exterior doors & windows
 - Roofing material



Certification - Partial Qualification – Interior Lighting

- Interior Lighting Systems – Choice of Two Methods to Qualify
 - \$0.30/square foot to \$0.60/square foot deduction
 - First method
 - ◇ Based on Lighting Power Density reduction
 - ◇ Can range from 25% to 40%+
 - ◇ Additional lighting controls required
 - Second method
 - ◇ Reduce energy costs by 20.0%
 - Compared to ASHRAE 90.1-2001/2007



179D Opportunities - Interim Lighting Rule

- Must meet Lighting Power Density reduction guidelines
- Additional requirements
 - ✓ Bi-level switching in occupied spaces – excludes public spaces, restrooms, store rooms, guest rooms
 - ✓ Meets ASHRAE 90.1 requirements
 - ✓ IESNA minimum light levels
- Sliding scale deduction
\$0.30/SF - \$0.60/SF
(25% - 40% Lighting Power Density reduction)

	2001 LPD (Watt/SF)	25% Better (Watt/SF)	40% Better (Watt/SF)
Office	1.30	0.975	0.78
Manufacturing	2.20	1.65	1.32
School/Library/ Auto/Dorm	1.50	1.125	0.90
Healthcare/ Museum	1.60	1.20	0.96
Town Hall	1.20	0.90	0.72
Retail	1.90	1.425	1.14



179D Opportunities – HVAC/Hot Water

- \$0.60/square foot deduction (all or nothing)
- Current HVAC design should exceed the following ASHRAE 90.1-2001/2007 requirements:
 - 5 Ton to 11 Ton: 10.3 EER (Air Cooled - ASHRAE 90.1-2001)
 - > 11 to 20 Ton: 9.7 EER (Air Cooled - ASHRAE 90.1-2001)
 - 5 Ton to 11 Ton: 11 EER (Air Cooled - ASHRAE 90.1-2007)
 - > 11 to 20 Ton: 10.8 EER (Air Cooled - ASHRAE 90.1-2007)



179D Opportunities – HVAC/Hot Water Cont'd.

- Improved HVAC controls such as CO2 demand control ventilation and economizers can help meet energy cost reduction targets
- Energy modeling required to qualify for 179D deduction
- Reference system changes with building size
 - 3 Floors or less & < 75,000 SF: RTUs (DX, CV), Fossil Fuel Furnace
 - 4/5 Floors & < 75,000 SF: Packaged DX/VAV, Hot Water Boiler
 - ≤ 5 Floors & < 150,000 SF: Packaged DX/VAV, Hot Water Boiler
 - > 5 Floors **or** > 150,000 SF: VAV-Chilled Water, Hot Water Boiler



179D Opportunities – The Building Envelope

- \$0.60/square foot deduction (all or nothing)
- ASHRAE 90.1-2001/2007 Reference Building
 - Roofs
 - ✓ R-19 (2001) / R-20 (2007)
 - Above Grade Walls
 - ✓ R-13 (framing) + R-3.8 continuous (2001)
 - ✓ R-13 (framing) + R-7.5 continuous (2007)
 - Windows
 - ✓ U-Factor of 0.57 & SHGC of 0.39 (2001)
 - ✓ U-Factor of 0.45 & SHGC of 0.45 (2007)
- Achieving energy cost reductions requires “something special”
- Design standards continue to tighten – easier to qualify in the future
- Energy modeling required to qualify for 179D deduction



Certification: Input (Document Requirements)

- Building Information
 - Address
 - Square footage
 - Cost of construction/energy efficient equipment
 - Date placed-in-service
- Drawings (PDF format preferred)
 - Architectural
 - Mechanical
 - Electrical
- Specifications
 - Insulation
 - Roofing Systems
 - Glazing
 - Lighting
 - Mechanical (including manufacturer's equipment submittals)
- Prior Energy Modeling Results (optional)
- Building Code Compliance Checks (optional)



Energy Efficient Tax Deduction Requirements

- Certification of energy cost reduction
 - Must be facilitated by an unrelated third-party licensed engineer or contractor (i.e., CliftonLarsonAllen)
- Energy Model using DOE-approved software
 - Most common modeling approved software includes DOE 2.2, Trace 700, eQuest, and EnergyPlus
- Field inspections required
- Written report to owner of projected energy cost reductions



Actual Results – Elementary School

- Elementary School
 - Client: General Contractor (Design-Build)
 - Building Size: 75,184 square feet
 - HVAC System
 - RTUs: 11 w/EERs 12 & 16 vs. 9.5-10 for ASHRAE
 - Controlled through software system w/local thermostats
 - Lighting System
 - T5/T8 lighting system
 - Lighting control system on timer w/local override
 - Bi-level switching in classrooms
 - Light sensors in hallways and common areas
 - Building Envelope: Consistent w/ASHRAE
 - Qualification Level: Fully Qualified
 - ~55% energy cost savings
 - \$135,331 deduction



Actual Results – High School

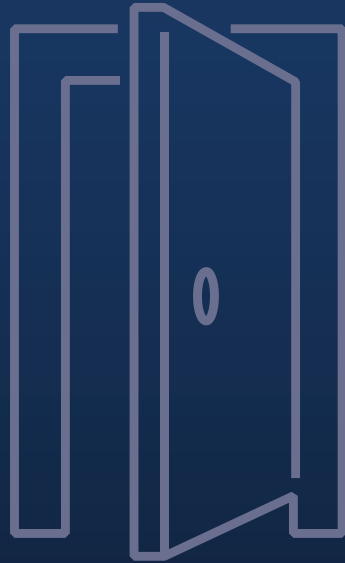
- High School
 - Client: Architect
 - Building Size: 178,908 square feet
 - Building Envelope
 - Roof: 4” polyisocyanurate insulation
 - Wall: 2” extruded polystyrene insulation
 - Double-pane insulated glass w/low-E coating
 - Lighting System
 - T5/T8 lighting system
 - Bi-level switching in classrooms
 - Occupancy sensors in classrooms and common areas
 - Photocells mounted on ceiling near windows
 - Qualification Level: Partially Qualified
 - ~30% energy cost savings
 - \$214,690 deduction



Actual Results – Office Building

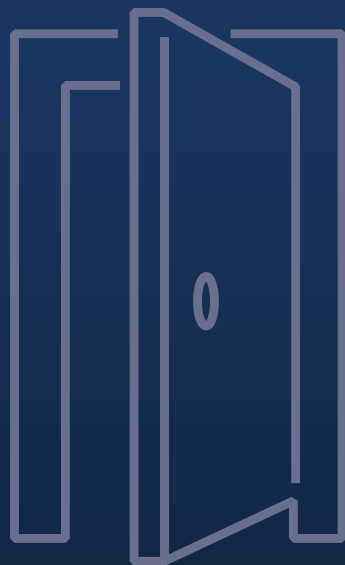
- Office Building
 - Client: Building Developer/Owner
 - Building Size: 117,472 square feet - LEED Silver
 - HVAC System
 - Underfloor air distribution system – lower fan energy
 - Air-side economizers due to higher supply air temperature
 - CO-controlled ventilation in parking garage
 - Lighting System
 - T5/T8 lighting system
 - Lighting control system on timer w/local override
 - Bi-level switching in offices and conference rooms
 - Qualification Level: Partially Qualified
 - \$140,966 deduction





Questions?

CLAconnect.com



Paul Hydukovich, Professional Engineer
paul.hydukovich@CLAconnect.com
612-397-3079

CLAconnect.com