

# Strategic Thinking: Seven Years of Code Sec. 179D EAct

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Charles R. Goulding, Charles G. Goulding and Jacob Goldman take a look back at the implementation and evolution of Code Sec. 179D, which was enacted as part of the Energy Policy Act of 2005.

Prior to 2005, the federal government lacked a cohesive approach to promoting building energy efficiency. Meaningful incentives were absent despite the fact that buildings constitute the majority of energy usage and expenditures. Congress tapped David Goldstein in 2002 to draft energy-efficiency standards and to help design our nation's largest and most comprehensive building energy-efficiency incentive to date—Code Sec. 179D, enacted as part of the Energy Policy Act of 2005 (EAct).<sup>1</sup> The growing success of this legislation, increasingly evident in the seven years since enactment, is due in large part to the law's thoughtful design.

## Code Sec. 179D: A Rare Show of Bipartisan Support

After five years of deliberations and revisions, Code Sec. 179D was enacted in 2005 with an

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overwhelming show of bipartisan support. The bill passed the House by a vote of 275 to 156 and the Senate by a vote of 74 to 26. President Bush signed the bill into law on August 8, 2005.

The bill appealed to both sides of the aisle by intelligently aligning the objectives of both parties and key lobbies. Building energy efficiency was promoted through a tax incentive triggered by best-of-breed technologies within the lighting, HVAC and building envelope industries. Commercial building owners received a meaningful tax incentive in addition to the perpetual energy cost savings of their new equipment. The suppliers of that new equipment received a new enticement with which to promote their products.

By combining energy-efficiency goals with a potential stimulus to the economy, Code Sec. 179D met the goals of both major political parties and two powerful, if sometimes diverse, lobbying groups: the Natural Resources Defense Council (NRDC) and National Electrical Manufacturers Association (NEMA). There was a belief that the law could essentially be tax neutral for the treasury since reduced energy costs lead to lower operating costs, which increase taxable revenue.

## Lighting Guidelines

In the mid-2000s, the lighting industry was preparing to introduce new and innovative

generations of a range of lighting technologies, including induction, fluorescent and LED. Previously known for specialty applications such as traffic lights, LEDs in particular were ready to mainstream in unprecedented ways. The new wave of lighting products was vastly more efficient than their predecessors, giving them the potential to impact building energy costs in meaningful ways. The long-term benefits to superior lighting were universally clear; the only remaining question was whether the upfront investment costs would meet customer payback requirements.

With cleverness and simplicity, Code Sec. 179D improved payback models for lighting. Specifically, the interim lighting rules prescribed a watts-per-square-foot requirement that is relatively easy to quantify. Without needing to create an Energy Simulation Model (as required for HVAC and the building envelope), lighting buyers could more quickly calculate and process their Code Sec. 179D opportunity.

As a result of this simplified process, Code Sec. 179D was able to help bring energy-efficient lighting payback periods to as low as two to three years in the early days of the legislation. Over 90 percent of Code Sec. 179D projects in the first years of the legislation were lighting-only. Customers purchased lighting at superior efficiency levels, sometimes vastly so, and picked up their Code Sec. 179D incentives, along with state rebates, in order to greatly enhance paybacks.

## Smart Lighting Certifications

The certification process for a lighting-only Code Sec. 179D deduction was also designed intelligently. The law specified that a “Qualified Individual” would certify upon project completion. The definition of “Qualified Individual” from IRS Notice 2006-52<sup>2</sup> (2006 Notice) is as follows:

.05 *Qualified Individual*. An individual that—

- (1) Is not related (within the meaning of §45(e)(4)) to the taxpayer claiming the deduction under §179D;
- (2) Is an engineer or contractor that is properly licensed as a professional engineer or contractor in the jurisdiction in which the building is located; and

(3) Has represented in writing to the taxpayer that he or she has the requisite qualifications to provide the certification required under section 4 of this notice (in the case of an individual providing the certification) or to perform the inspection and testing described in section 4.05 of this notice (in the case of an individual performing the inspection).

The law goes on to clearly delineate what it means by “related” in §45(e)(4):

(4) Related persons.

Persons shall be treated as related to each other if such persons would be treated as a single employer under the regulations prescribed under section 52(b). In the case of a corporation which is a member of an affiliated group of corporations filing a consolidated return, such corporation shall be treated as selling electricity to an unrelated person if such electricity is sold to such a person by another member of such group.

Code Sec. 52(b) is also referenced and includes in its definition:

(b) Employees of partnerships, proprietorships, etc., which are under common control.

For purposes of this subpart, under regulations prescribed by the Secretary—

- (1) all employees of trades or business (whether or not incorporated) which are under common control shall be treated as employed by a single employer, and
- (2) the credit (if any) determined under section 51(a) with respect to each trade or business shall be its proportionate share of the wages giving rise to such credit.

Between the 2006 Notice, “§45(e)(4)” and “§52(b)” it was clear that a qualified individual could sign the certification so long as he or she was not an employee of the company taking the deduction. This meant eligible parties included the outside professional engineer that designed the building as well as the outside contractor that installed the equipment into the building. Some

argued, incorrectly, that the installing contractor was ineligible to sign. Not only was this an inaccurate reading of the law, it missed the point entirely—who better than the installing contractor to confirm that the equipment designed into the building was actually installed? The law as designed enabled the simplest and most logical certification process conceivable, with the result being widespread utilization of the interim lighting benefit.

## Government Buildings: Talking the Talk *and* Walking the Walk

It may be surprising to know that as many, if not more, government buildings have achieved Code Sec. 179D deductions as compared to commercial buildings. Code Sec. 179D achieved such pervasive success throughout the public sector thanks, again, to intelligently designed legislation.

Specifically, the law stated that for government projects, the incentive goes to the design party or parties responsible for the energy-efficient design. This notion, introduced in the original law, was fully fleshed out in Internal Revenue Notice 2008-40 (2008 Notice).<sup>3</sup>

While “Section 3. Special Rule for Government-Owned Buildings” of the 2008 Notice is straightforward, amazingly some have used this section to justify designers taking this tax deduction for not-for-profit projects. As the section uses the nomenclature “Government-Owned” it is difficult to understand how any confusion can exist. Calls to Treasury confirm that the Code Sec. 179D tax deduction is only available to designers of Government-Owned Buildings.

This incentive structure aligns the goals of both the design team and the government client. The design team gets a one-time benefit for superior design of energy systems, while the government receives a more highly efficient building, the energy savings from which can be enjoyed in perpetuity. Once again, everyone wins. Consequently, our government now walks the walk in addition to talking the talk about energy efficiency.

## HVAC and Envelope: A Story of Persistence

No law is perfect, and the first years of Code Sec. 179D did not see nearly as much utilization

for HVAC and envelope as they did for lighting. However, meaningful clarifications and adjustments to the law have greatly helped these other technologies gain traction within Code Sec. 179D.

Initially it was unclear how, exactly, to take a Code Sec. 179D deduction for HVAC and envelope work—guidelines were not as prescriptive as they were for lighting. However, the 2006 Notice clarified that for obtaining nonlighting tax deductions, an energy simulation model was required.<sup>4</sup>

It was still not clear to everyone, however, what this model should compare the new building to: some contented the new building should be compared to a baseline standard, while others claimed it should be compared to itself pre-project. The Department of Energy assisted the Treasury by issuing NREL/TP-550-40467, “Energy Savings Modeling and Inspection Guidelines for Commercial Building Federal Tax Deductions” (NREL) in February 2007 and then corrected and modified it in May 2007. This document clarified that the correct comparison was to a 2001 reference building by a prescribed percentage.

The 2008 Notice created the qualifying levels as shown in Table 1.

**Table 1.**

Lighting	HVAC	Envelope	Whole Building
20%	20%	10%	50%

This meant that qualifying HVAC and envelope technology had to contribute to the building’s *overall* energy cost improvement. Correct and incorrect interpretations of this guideline can be best understood by the following example in Table 2.

**Table 2.**

	Reference Building Energy Cost	Actual Building Energy Cost	Percent Improvement
Lighting	\$600	\$600	0%
HVAC	\$400	\$320	20%
Total	\$1,000	\$920	8%

New HVAC equipment (typically comprised of the heating, cooling, fans and hot water) individually is 20 percent more efficient than the reference building’s HVAC. But, as a percent improvement of *overall* building energy use in this example we only achieve an eight percent

improvement. The proper technique would, therefore, NOT qualify this project for Code Sec. 179D.

## HVAC and Envelope: First Clarification, then Enhancement

Having established clear instructions for modeling HVAC and envelope, the next issue became whether the baseline standard was reasonable. Both the envelope and HVAC industries argued that their respective standards were too stringent. The 2006 Notice initially allowed projects to qualify at 16 2/3 percent for either lighting, HVAC or building envelope, totaling 50 percent for whole building. The absence of much Code Sec. 179D usage in 2005–2008 for these two measures supported this claim.

The law was adjusted in accordance with these arguments. The 2008 Notice provided an alternative option that included lowering the envelope requirement to 10 percent of overall building energy cost. Internal Revenue Notice 2012-26<sup>5</sup> (2012 Notice) maintained envelope at 10 percent, while changing HVAC to 15 percent, moving lighting to 25 percent. Table 3 summarizes these changes.

**Table 3.**

	Lighting	HVAC	Envelope	Whole Building
2006 Notice	16 2/3%	16 2/3%	16 2/3%	50%
2008 Notice	20%	20%	10%	50%
2012 Notice	25%	15%	10%	50%

From 2008 to the present, Code Sec. 179D utilization for HVAC and envelope has skyrocketed. Particularly for HVAC, certain technologies have proven to reliably beat the new standards, which have provided an incentive to plan them into many more projects. These technologies include:

1. geothermal (ground source heat pumps)
2. thermal storage
3. high-efficiency VRF (variable refrigerant flow) units in rental apartments/dorms/hotels
4. centralized HVAC in rental apartments/dorms/hotels
5. energy recovery ventilation
6. demand control ventilation
7. chillers in buildings < 150,000 sq. ft.
8. direct fired heaters in no AC industrial spaces

9. VAV (variable air volume devices) in buildings < 75,000 sq. ft.
10. chilled beam
11. magnetic bearing chillers
12. gas-fired chillers combined with electric chillers to peak shave
13. Colorado air conditioning units

The Code Sec. 179D writers provided the foundation for useful incentives in HVAC and envelope. Thoughtful tweaks and clarifications have evolved the law into a much more useful incentive.

## The Future of Code Sec. 179D

Previous extensions to Code Sec. 179D in 2007 and 2008 have enabled the law to evolve and refine itself. At the same time, both the supply and demand sides of the building energy-efficiency market have ascended the learning curve. Once a new and obscure piece of legislation, Code Sec. 179D has grown to be an ingrained staple of the building energy incentive structure. One additional change has been especially helpful in spurring more Code Sec. 179D usage—as part of Revenue Procedure 2011-14,<sup>6</sup> the use of Form 3115, “Application for Change in Accounting Method” was allowed for Code Sec. 179D tax deductions. This allows companies to pick up missed EAct deductions from 2006 onward and place them on their current tax return. Prior to Rev. Proc. 2011-14, projects were limited by the three-year amendment window.

Just when Code Sec. 179D is approaching its tipping point, it is once again up for renewal. Recently proposed bills have included various combinations of extension, expansion and improvements to EAct. Some of the more interesting proposals include increasing the maximum deduction, including nonprofits as eligible beneficiaries, allowing the allocation of the deduction to other parties involved in the energy-efficient project (this would allow not-for-profits to allocate the deduction to the designer for example), as well as creating a new framework for commercial retrofits to qualify based on improvement over their current energy usage.

The story for Code Sec. 179D has thus far been a story of intelligent design, thoughtful improvements and bipartisan support toward goals that benefit both the economy and our nation’s overall energy profile. This history should

stand as an example of good lawmaking and should serve as sufficient foundation for long-term extension.

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**ENDNOTES**

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- <sup>1</sup> Energy Policy Act of 2005 (P.L. 109-58) (“EPAAct”).
- <sup>2</sup> Notice 2006-52, IRB 2006-26, Jun. 2, 2006.
- <sup>3</sup> Notice 2008-40, IRB 2008-14, Mar. 11, 2008.
- <sup>4</sup> *Id.*
- <sup>5</sup> Notice 2012-26, IRB 2012-17, Mar. 12, 2012.
- <sup>6</sup> Rev. Proc. 2011-14, IRB 2011-4, Jan. 10, 2011.



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