

# Advanced LEED Building Energy Tax Planning

*By Charles Goulding, Jacob Goldman and Daniel Audette*

Charles Goulding, Jacob Goldman and Daniel Audette discuss how building owners can save money on construction, qualify for tax deductions under Code Sec. 179D and increase energy efficiency by becoming LEED certified.

The substantial increase in the number of Leadership in Energy and Environmental Design (LEED) certified buildings in the United States, coupled with the large tax incentives typically available with LEED-certified buildings, means that property tax advisers can best serve their clients if they have an understanding of the LEED process. LEED is the fast-growing marquee standard for sustainable buildings and the certification system established by U.S. Green Building Council (USGBC).

Over 40,000 projects are currently participating in the commercial and institutional LEED process. These projects encompass more than 7.9 billion square feet, mostly in the United States. Four certification achievements start at the LEED-certified level, and proceed to the progressively higher LEED silver, gold and platinum levels. It is crucial for tax advisers to get involved at the onset of the LEED evaluation process. We have seen some companies choose to not proceed with LEED certification. These companies later regret their decision when they learn how LEED integrates with tax incentives.<sup>1</sup>

On April 27, 2009, the new LEED 2009 system replaced the previous LEED rating point system for

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certifying LEED buildings. The major differences with the new LEED system include:

- adjustments to the LEED point rating system;
- weighted credits with a focus on energy; and
- regional bonus credits.

A comparison of the available LEED points in the original and new LEED system for each of the LEED sustainable categories is presented in Table 1.<sup>2</sup>

**Table 1. LEED Points for New Construction**

	Pre-2009 LEED		2009 LEED	
Sustainable Sites	14	22%	26	26%
Water Efficiency	5	8%	10	10%
Energy & Atmosphere	17	27%	35	35%
Materials & Resources	13	20%	14	14%
Indoor Environmental Quality	15	23%	15	15%
Innovation & Design	5	8%	6	6%
Additional Regional Bonus Credits	0	0%	4	4%

Table 2 represents the new point range for each of the four LEED certification achievements.

**Table 2. LEED Certification Points**

	Pre-2009 LEED	2009 LEED
Certified	26-32	40-49
Silver	33-38	50-59
Gold	39-59	60-79
Platinum	52-69	80 and above

As Table 1 illustrates, the highest percentage of LEED points is allocated to energy and atmosphere. A build-

ing, to achieve LEED certification, should utilize energy efficiency and incorporate renewable energy into its design. A building that fully employs both energy efficiency and alternative energy measures, not only will achieve a higher level of LEED certification, but may also qualify for large Energy Policy Act of 2005 (EPAc)<sup>3</sup> tax benefits and alternative energy tax credits.

## The LEED Team

A LEED project requires the participation of at least one LEED Accredited Professional (AP). That professional can be any LEED AP and typically is the project’s architect, the project’s engineer or a LEED design professional engaged just to handle the LEED process. Increasingly, many projects have multiple LEED APs participating in the project. It is important to make sure that the main coordinating LEED AP understands the economic importance of the LEED tax integration process. A professional can achieve LEED AP status as long as they have demonstrated experience working on a LEED project and pass the USGBC LEED certification test.

## LEED Constantly Evolves

The LEED system is constantly evolving. There is a major focus on both energy reduction and energy generation. The trajectory is for LEED platinum buildings to reach a net zero energy use standard by 2018 and to be regenerative by 2030. Net zero buildings achieve zero energy use by combining energy efficiency improvements with alternative energy generation. Regenerative buildings generate additional energy above the individual energy needs of the building.

## The EPAc Tax Opportunities

Increasing energy efficiency and alternative energy generation are the main building tax initiatives supported by large tax savings. Pursuant to Code Sec. 179D, as enacted by EPAc, properties that make qualifying energy-reducing investments in new or existing locations can obtain immediate tax deductions of up to \$1.80 per square foot.

If the building project does not qualify for the maximum EPAc \$1.80 per square foot immediate tax deduction, there are tax deductions of up to \$0.60 per square foot for each of the three major building subsystems—lighting; heating, ventilating and air conditioning (HVAC); and the building envelope. The building envelope comprises of every item on the building's exterior perimeter that

touches the outside world including roof, walls, insulation, doors, windows and foundation.

It is fairly easy for a building to qualify for the lighting EPAc tax deduction. Table 3 represents the range of tax deductions that are probable with LEED 2009 buildings.

**Table 3. LEED Building Potential EPAc Tax Deduction**

Sample Square Footage	EPAc Deduction \$1.20/sq.Ft	EPAc Deduction \$1.80/Sq.Ft
50,000	\$60,000	\$90,000
100,000	\$120,000	\$180,000
250,000	\$300,000	\$450,000
500,000	\$600,000	\$900,000
750,000	\$900,000	\$1,350,000
1,000,000	\$1,200,000	\$1,800,000

LEED measures the energy efficiency of a building by comparing it to the performance of an ASHRAE 90.1-2007 standard baseline building.<sup>4</sup> Buildings that demonstrate a greater improvement over the standard are allocated more LEED points. Table 4 illustrates the relationship between energy efficiency percent improvement of new and existing buildings and LEED points.<sup>5</sup>

**Table 4.**

Improvement over ASHRAE90.1-2004 New Buildings	Improvement over ASHRAE90.1-2007 Existing Building Renovations	LEED Points
12%	8%	1
14%	10%	2
16%	12%	3
18%	14%	4
20%	16%	5
22%	18%	6
24%	20%	7
26%	22%	8
28%	24%	9
30%	26%	10
32%	28%	11
34%	30%	12
36%	32%	13
38%	34%	14
40%	36%	15
42%	38%	16
44%	40%	17
46%	42%	18
48%	44%	19

## Alternative Energy Tax Credits and Grants

There are multiple 30-percent or 10-percent tax credits available for a variety of alternative energy measures with varying credit termination dates. For example, the 30-percent solar tax credit expires January 1, 2017, and the 10-percent combined power tax credit also expires January 1, 2014. The 30-percent closed loop and open loop biomass credit expires January 1, 2014. All alternative energy measures that are eligible for the 30-percent and 10-percent tax credits are also eligible for equivalent cash grants for the three years starting January 1, 2009, and ending December 31, 2011.

The Energy and Atmosphere LEED category awards points for using renewable energy. According to the LEED definition, renewable energy technologies include solar, wind, geothermal, low-impact hydro, biomass and bio-gas. Table 5 illustrates the relationship between the amount of renewable energy on a property and the LEED points awarded.<sup>6</sup>

**Table 5.**

% Renewable Energy	LEED Points
1%	1
3%	2
5%	3
7%	4
9%	5
11%	6
13%	7

Note that alternative energy tax credits are available for a wider range of tax-defined alternative energy measures, including but not limited to fuel cells and micro-turbines.

## Benefits of LEED Buildings

The USGBC lists the benefits of LEED buildings as follows:

- lowering operating costs and increasing asset value;
- reducing waste sent to landfills;
- conserving energy and water;
- developing healthier and safer buildings for occupants;
- creating compact and walkable communities with good access to neighborhood amenities and transit;

- protecting natural resources and farmland by encouraging growth to be located in areas with existing infrastructure;
- reducing harmful greenhouse gas emissions;
- qualifying for tax rebates, zoning allowances and other incentives in hundreds of cities; and
- demonstrating an owner's commitment to environmental stewardship and social responsibility.

LEED buildings typically generate substantial EPA tax deductions and alternative energy tax credits. Increasingly, LEED certification has become the de facto standard for Class A office buildings and many jurisdictions expedite permitting for LEED buildings. For property developers, expedited permitting saves substantial amounts of time, where time means money.

## Superior Return on Investment (ROI)

Studies performed by McGraw Hill construction demonstrate that LEED buildings can reduce operating costs by 14 percent, increase building value by 10.9 percent and increase rate by almost 10 percent. LEED buildings have higher occupancy rates and support rent premiums.

## Cost Benefit Analysis

LEED imposes comprehensive standards and meaningful specific additional project costs. The amount of specific cost for each building varies by LEED professional, building size and building complexity. In the initial years of the program, LEED certification added costs of \$50,000 to \$80,000 for some buildings. The general trend is for a decrease in LEED certification costs as more and more design professionals are LEED certified and have more LEED experience. For example, pricing for LEED building energy simulation modeling, which is a required key element of LEED, has decreased significantly. Complex buildings that used to cost \$15,000 to model can now often be modeled for \$7,500 or less.

## LEED Project Cost Detail

The most direct cost related to LEED certification is the LEED certification filing fee which ranges from three cents to five cents per square foot, depending on the size of the project and whether you qualify for an USGBC member discount. The actual cost of the LEED design will vary depending on whether an

**Table 6.**

Property	Total Square Footage	Lighting Minimum Deduction	Maximum Deduction	HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total
Already Certified	24,000,000	\$7,200,000	\$14,400,000	\$14,400,000	\$14,400,000	\$43,200,000
In registration	465,000,000	\$139,500,000	\$279,000,000	\$279,000,000	\$279,000,000	\$837,000,000
Totals:	489,000,000	\$146,700,000	\$293,400,000	\$293,400,000	\$293,400,000	\$880,200,000

independent LEED consultant is used or whether one of the core design team members is also handling the LEED certification process.

Since LEED certification is a detailed complex process, experience matters and design teams with prior LEED experience are a lot more cost efficient.

The issue of whether there will be increased design costs also depends on the LEED team's historical design level, which is called "baseline." Design teams with previous projects that have been at or near the LEED building design standards have a much shorter learning curve than those that have never designed at or near the LEED design level. LEED requires building "commissioning," which is a relatively expensive process requiring an engineering firm to make sure all the building systems are both operating properly and are properly integrated. Although commissioning can range from 50 cents to \$1.00 per square foot, most building experts feel strongly that commissioning is a worthwhile cost saving process for any building with new or renovated systems, regardless of LEED objectives.

## LEED Construction Costs

LEED projects can result in lower or higher construction costs, depending on how one measures construction costs. LEED projects that use building energy simulation modeling to "right size" (i.e., "downsize") HVAC systems to the smaller, less costly and appropriate sizes will save costs. Many nonmodeled buildings have oversized HVAC systems that add substantial, unnecessary costs. LEED projects that count alternative energy measures as part of the LEED process will have markedly higher construction costs. However, these same buildings will have markedly lower energy costs. There are some very common LEED elements where cost can be estimated. For example, demand control ventilation adds about \$1.00 per cubic feet per minute, an air volume measure. Bike racks will cost about \$5.00 per full-time equivalent employee. Showers and changing rooms will cost about \$400 per full-time employee. The USGBC has

compiled a massive study analyzing LEED project costs that can be reviewed online.<sup>7</sup>

## The Federal Government LEED Building Sector

With government buildings, the EPAAct benefits go to the LEED design team. The federal government is the single largest energy user in the United States. It owns, operates and leases about 500,000 buildings.<sup>8</sup> Currently, the federal government has approximately 187 LEED-certified projects comprising 24 million square feet. There are an additional 3,138 federal projects, representing 465 million square feet, currently in registration.

## State and City LEED Building Requirements

Many states and cities mandate LEED certification for new government building construction and increasingly for commercial buildings typically at the greater than 50,000 square feet level. As of early 2010, 34 states and over 200 municipalities had some level of new construction LEED mandate. More importantly, some of the largest cities in the United States have LEED mandates.

In the year 2000, Seattle was the first city to mandate LEED silver certification for new civic buildings. San Francisco has a LEED silver requirement for new construction and major renovations of existing buildings exceeding 25,000 square feet. Dallas mandated LEED certification for new construction as of 2011. Los Angeles mandates LEED certified status for all new buildings exceeding 50,000 square feet as of 2012. In Washington, D.C., all new construction of commercial buildings greater than 50,000 square feet requires certification after January 1, 2010. These local LEED requirements constantly change and must be integrated with local building codes, which also constantly change. The overall trend is for local LEED requirements to cover more building categories at a

higher certification level resulting in larger EAct tax deduction opportunities. With state and local government building projects, the EAct benefits also go to the LEED design team.

## Conclusion

The EAct building energy efficiency tax deduction provisions require building energy simulation modeling to secure the HVAC and building envelope EAct tax deductions. The LEED new building system requires the same type of building energy simulation modeling to become LEED certified. With 40,000 LEED building projects in registration, tax advisers for property owners and government building firms should be helping monetize EAct tax deductions related to tens of thousands of buildings. The nation's current emphasis on tax supported alternative energy investments means that more

buildings can easily qualify for LEED and hence even more EAct tax deduction opportunities.

## ENDNOTES

- <sup>1</sup> Charles Goulding, Jacob Goldman and Nicole DeMarino, *LEED Building Tax Opportunities*, CORP. BUS. TAX'N MONTHLY, Jan. 2008, at 11.
- <sup>2</sup> Charles Goulding, Taylor Goulding and Amelia Aboff, *How LEED 2009 Expands EAct Tax Savings Opportunities*, CORP. BUS. TAX'N MONTHLY, Sep. 2009, at 11.
- <sup>3</sup> Energy Policy Act of 2005 (P.L. 109-58).
- <sup>4</sup> American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).
- <sup>5</sup> "LEED 2009 for New Construction and Major Renovations," *US Green Building Council*. USGBC, Nov. 2008. Web. 14 Apr. 2011, available online at [www.usgbc.org/ShowFile.aspx?DocumentID=5546](http://www.usgbc.org/ShowFile.aspx?DocumentID=5546).
- <sup>6</sup> *Id.*
- <sup>7</sup> Available online at [www.wbdg.org/ccb/GSAMAN/gsaleed.pdf](http://www.wbdg.org/ccb/GSAMAN/gsaleed.pdf).
- <sup>8</sup> Charles Goulding, Jacob Goldman and Joseph Most, *The Energy Tax Aspects of Washington, D.C. Area Buildings*, CORP. BUS. TAX'N MONTHLY, Feb. 2011, at 11.



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