

The Tax Aspects of LED Lighting for Major Fast-Food Restaurants

By Charles Goulding, Spencer Marr and Andrea Albanese

Charles Goulding, Spencer Marr and Andrea Albanese discuss how fast-food chains can make the most of their ability to optimize operations and provide a uniform customer experience by installing energy-efficient lighting systems to take advantage of tax incentives, reduced energy costs and utility rebates.

There are an astonishing number of fast-food restaurants in the United States—more than 97,000 locations, just from some of the larger fast-food brands. This sector was negatively impacted during the economic crisis, but it fared better than the remainder of the restaurant industry because of its scale and lower meal price points.

One trend in the industry has been longer operating hours, including more breakfast offerings and later hours. Many Subway and McDonald locations, for example, are open 24 hours a day. These longer hours of operation have resulted in proportionally larger energy operating costs, providing an incentive to restaurant operators to install more energy-efficient building equipment. Long life, low energy consumption LED lighting is now being introduced into this sector. An understanding of the Energy Policy Act of 2005 (EPAAct)¹ tax incentives and potential utility rebates for installing LEDs should accelerate these developments.

Because the EPAAct lighting tax incentive drives off total enterprise square-footage, the opportunity for

these companies to achieve tremendous energy cost savings, and thereby generate tax deductions worth millions of dollars, is immediate and more easily achievable than they may realize.

The skill set of fast-food companies centers on the ability to optimize operations and provide a uniform customer experience. Thus, the implementation of a consistent wide-scale, tax effective, energy-retrofit program will come easily to them.

The EPAAct Tax Opportunity

Pursuant to Code Sec. 179D, as enacted by EPAAct, fast-food chains making qualifying energy-reducing investments in their new or existing restaurant locations can obtain immediate tax deductions of up to \$1.80 per square foot.

If the building project does not qualify for the maximum \$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, HVAC (heating, ventilating and air conditioning) and the building envelope. The building envelope is every item on the building's exterior perimeter that touches the outside world including roof, walls, insulation, doors, windows and foundation.

Table 1 illustrates the millions of dollars that can be saved for each of these well-known brands:

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Table 1.

EPA Act Potential Benefits for Major Fast-Food Chains Potential Tax Deductions Available for Energy-Efficient Building Improvements Under Current Legislation								
Property	Number of Locations	Square Footage of Each Location	Total Square Footage	Lighting		HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total
				Minimum Deduction	Maximum Deduction			
McDonald's	12,804	4,000	51,216,000	\$ 15,364,800	\$ 30,729,600	\$ 30,729,600	\$ 30,729,600	\$ 92,188,800
Burger King	7,200	3,500	25,200,000	\$ 7,560,000	\$ 15,120,000	\$ 15,120,000	\$ 15,120,000	\$ 45,360,000
Wendy's	6,500	3,000	19,500,000	\$ 5,850,000	\$ 11,700,000	\$ 11,700,000	\$ 11,700,000	\$ 35,100,000
KFC	5,300	2,000	10,600,000	\$ 3,180,000	\$ 6,360,000	\$ 6,360,000	\$ 6,360,000	\$ 19,080,000
Taco Bell	5,800	2,000	11,600,000	\$ 3,480,000	\$ 6,960,000	\$ 6,960,000	\$ 6,960,000	\$ 20,880,000
Subway	25,000	800	20,000,000	\$ 6,000,000	\$ 12,000,000	\$ 12,000,000	\$ 12,000,000	\$ 36,000,000
Dunkin' Donuts	6,400	2,000	12,800,000	\$ 3,840,000	\$ 7,680,000	\$ 7,680,000	\$ 7,680,000	\$ 23,040,000
Pizza Hut	6,000	3,000	18,000,000	\$ 5,400,000	\$ 10,800,000	\$ 10,800,000	\$ 10,800,000	\$ 32,400,000
Domino's Pizza	5,000	1,000	5,000,000	\$ 1,500,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 9,000,000
Papa John's	2,600	1,300	3,380,000	\$ 1,014,000	\$ 2,028,000	\$ 2,028,000	\$ 2,028,000	\$ 6,084,000
Starbucks	6,600	2,000	13,200,000	\$ 3,960,000	\$ 7,920,000	\$ 7,920,000	\$ 7,920,000	\$ 23,760,000
Sonic	3,500	1,800	6,300,000	\$ 1,890,000	\$ 3,780,000	\$ 3,780,000	\$ 3,780,000	\$ 11,340,000
Dairy Queen	4,600	2,800	12,880,000	\$ 3,864,000	\$ 7,728,000	\$ 7,728,000	\$ 7,728,000	\$ 23,184,000

Commitments of National Brands

Fast-food chains have long been keen on the importance of reducing their operating costs, but only recently have they realized the money-saving potential inherent in energy efficiency. In a previous article, the authors described the magnitude of EPA Act benefits available to some of the larger square footage national chains.²

McDonald's

In order to capitalize on energy-savings opportunities, McDonald's has recently undertaken several large-scale projects to make their restaurants energy efficient. At its Saltbox Village Shopping Center location in Cray, North Carolina, McDonald's is featuring a completely automated, intelligent lighting-control system. They will be using Cree LED lighting and Solatube skylights for daylighting, with a photo sensor to maintain the desired light levels. Cree's LED products can be seen in the kitchen, the dining area,

restrooms, hallways, entryways and parking lot. In addition to incorporating enough energy-efficient equipment and design to become LEED-certified, the store uses 97 percent LED lights that reduce the total electricity consumption by 78 percent.³ As the fast-food brand with the largest total square footage (51,216,000 sq. ft.) in the United States, McDonald's has the potential for \$92,188,800 in EPA Act tax deductions upon completion of the necessary retrofits.

Burger King

Burger King is another contender competing to reduce their operating costs by making energy retrofits. The brand was awarded the 2010 Energy Efficiency Excellence Award from the Southern California Gas Company for its innovative kitchen equipment, like the Duke Flexible Batch Broiler, and its recent installation of LED lighting in 80 restaurants in California. By continuing to install energy-efficient lighting and HVAC equipment, Burger King can soon realize substantive EPA Act tax deductions. In September

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Georgia H.B. 346 allows taxpayers to sell unused tax credits earned through donations of real property for conservation purposes, provided that the seller notifies the Department of Revenue within 30 days of the sale.

Indiana H.B. 1046 provides builders of residential homes a 50-percent property tax deduction for up to three single-family residences, townhouses or condominiums in the state that have never been occupied.

Technology Tax Credits

For fiscal years 2012 and 2013, **Maryland H.B. 587** extends application of the state's biotechnology investment incentive tax credit to investments in qualified Maryland biotech companies that have been in business up to 15 years. For all other years, only investments in companies in business 12 years or less have been eligible for the credit, which comprises up to 50 percent of the investment, with a maximum credit of \$250,000.

New Mexico H.B. 273 reinstates the research and development small-business tax credit that had expired on June 30, 2009. Effective from July 1, 2011, until June 30, 2015, the law gives qualified research and development small businesses a credit equal to all gross-receipts taxes or 50 percent of withholding taxes paid on behalf of employees. To be eligible for the credit, a business must devote at least 20 percent of its expenditures to research and development, have 25 or fewer full-time employees, and have revenue of no more than \$5 million.

Utah H.B. 496 provides income tax credits to businesses classified as technology and life-science

companies by the North American Industry Classification System.

Virginia S.B. 1326 and H.B. 1447 enact a 15-percent income tax credit for qualified research and development expenses for tax years 2012–2016.

ENDNOTES

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LED Lighting

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Conclusion

LED building lighting has the advantage of a much longer useful life and the accompanying maintenance cost reductions, however it is currently expensive. The opportunity to increase a \$0.60 lighting EPAct tax deduction to a \$1.80 whole building energy cost EPAct tax deduction makes LED lighting much more economically viable. LEED buildings can use their existing building energy simulation models to quickly make the determinate if there is eligibility for the \$1.80 maximum deduction.

ENDNOTES

- ¹ Energy Policy Act of 2005 (P.L. 109-58).
- ² Charles Goulding, Jacob Goldman and Taylor Goulding, *The Economic, Business and Tax Aspects of Light Emitting Diode Interior Building Lighting*, CORP. BUS. TAX'N MONTHLY, Jan. 2009, at 29.
- ³ Charles Goulding, Taylor Goulding and Amelia Aboff, *How LEED 2009 Expands EPAct Tax Savings Opportunities*, CORP. BUS. TAX'N MONTHLY, Sep. 2009, at 11.
- ⁴ Charles Goulding, Kenneth Wood and Ray-

mond Kumar, *Optimizing the 3, 2, 1 LED Lighting Tax Deduction Countdown*, CORP. BUS. TAX'N MONTHLY, Jul. 2010, at 13.

- ⁵ Charles Goulding, Jacob Goldman and Joseph Most, *Complete Warehouse Tax-Enhanced Energy-Efficient Design*, CORP. BUS. TAX'N MONTHLY, Aug. 2010, at 11.
- ⁶ Charles Goulding, Daniel Audette and Spencer Marr, *The EPAct Tax Aspects of Resurg-ing U.S. Manufacturing Investments*, CORP. BUS. TAX'N MONTHLY, Jun. 2011, at 17.
- ⁷ Charles Goulding, Raymond Kumar and Taylor Goulding, *Energy and Tax Savings Opportunities for Self-Storage Facilities*, CORP. BUS. TAX'N MONTHLY, Sep. 2010, at 13.
- ⁸ Charles Goulding, Jacob Goldman and Raymond Kumar, *Energy Tax Aspects of Car Dealerships*, CORP. BUS. TAX'N MONTHLY, Jul. 2009, at 11.
- ⁹ Charles Goulding, Joseph Most and Spencer Marr, *Energy Tax Aspects of Geothermal Heat Pumps*, CORP. BUS. TAX'N MONTHLY, Dec. 2010, at 13.
- ¹⁰ Charles Goulding, Jacob Goldman and Taylor Goulding, *The Tax Aspects of Thermal Storage and Time-of-Day Pricing*, CORP. BUS. TAX'N MONTHLY, Nov. 2009, at 13.
- ¹¹ Charles Goulding, Jacob Goldman and Joseph Most, *Energy Tax Aspects of Chill-ers*, CORP. BUS. TAX'N MONTHLY, Oct. 2010, at 15.

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2010, Burger King was acquired by 3G Capital. 3G Capital has announced that the existing stores require \$3 billion in upgrades. If these upgrades meet or surpass the EPAct energy standards, substantial EPAct tax deductions will be available.

Dairy Queen

At the ground level, ambitious franchisees are coming up with creative ways of reducing energy. One Chicago-based development group, CG Development Group, has applied a "whole-building" approach in order to cut its energy expenses in one of its Dairy Queen locations. The building shell is entirely thermally broken—that

is, no physical elements directly connect between the interior and exterior. As a result, less heat is transmitted to the outside. Good insulation and high-performance glazing also help create energy savings in the building. A water-to-water heat pump with a glycol loop captures waste heat from all the cold-food storage equipment that preserves the frozen items and transfers that heat to domestic hot water. A solar-thermal vacuum tube acts as a secondary booster for the system. The list goes on; by taking decisive action to cut energy expenses, CG is saving up to \$3,000 per month in this location and is sure to adopt a similar method in its other locations.⁴

Subway

Meanwhile, Subway has created its flagship “eco-store” in Winter Park, Florida. Elements of the Eco-Store include high-efficiency HVAC systems, remote condensing units for refrigeration and ice making equipment, daylighting and controls for high-efficiency lighting, LED interior and exterior signs, low-flow water fixtures, and building and décor materials from sustainable sources. There is also an extensive use of recycled products and furnishings in the restaurant’s construction and an increased emphasis on recycling in customer areas.⁵

Additional Energy Cost Saving Opportunities

Fast-food chains are different from ordinary buildings because lighting and air-conditioning account for 25–40 percent of total energy expenses rather than the usual 75–80 percent.⁶ Their

largest energy-related expenses derive from refrigeration and building envelope, like the drive-through windows that are often left open or are not well insulated. Therefore, there are unique opportunities to drive down energy expenditures in fast-food facilities such as installing motion sensors that alert staff when refrigerators, windows or ovens are left open or smart occupancy sensors that can calibrate the optimal level of ovens that need to be running based on how full the restaurant is.

Conclusion

The pattern is clear: fast-food brands are warming up to the cost-saving potential of energy reductions, which bodes well for their investors and their bottom lines. Energy expenses constitute a major operational cost, which if minimized, will enable more funds to be allocated toward menu development and advertising. The fast-food restaurant category has tremendous opportunity and maintenance cost savings available for low-wattage, long-life LED lighting applications. Those store locations that use EPAct can obtain additional economic benefits supporting these initiatives.

ENDNOTES

¹ Energy Policy Act of 2005 (EPAct) (P.L. 109-58).

² Charles Goulding, Kenneth Wood and Amelia Aboff, *The Energy Tax Aspects of Restaurants*, CORP. BUS. TAX’N MONTHLY, Feb. 2010, at 11.

³ Aditi Justa, “McDonalds Goes Green with Cree LED Light,” Jul. 20, 2009, available online at www.greendiary.com/entry/mcdonald-goes-green-with-cree-led-lights/.

⁴ KJ Fields, “A New Order: Fast-food Restaurants Offer a Menu of Sustainable Features,” May 27, 2009, available online at www.eco-structure.com/retail-projects/a-new-order.aspx.

⁵ “Subway Chain Becoming More Environ-

mentally Friendly,” Subway Press Release, Nov. 21, 2007, available online at www.prnewswire.com/news-releases/subway-chain-becoming-more-environmentally-friendly-59878027.html.

⁶ Kate Galbraith, “Energy Efficiency Comes to Fast Food,” NEW YORK TIMES, Aug. 25, 2009, available online at <http://green.blogs.nytimes.com/2009/08/25/energy-efficiency-comes-to-fast-food/>.

Safe Harbour

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- of 10 percent; X’s subsidiary C has profitability of 12 percent and claims that threshold.
 - Manufacturer X’s subsidiary in Country D is subject to a \$50 million threshold barring the overage only and reflecting profitability of nine percent. X’s subsidiary D has profitability of 10 percent and claims the \$50 million amount.
 - Manufacturer X’s subsidiary in Country E receives no safe harbour.
 - Manufacturer X’s subsidiary in Country F has no threshold; the safe harbour reflects a profitability of seven percent, X’s subsidiary F has a profitability of eight percent and X’s subsidiary F rejects the safe harbour.
 - Manufacturer X’s subsidiary G is subject to \$40 million threshold and provides for a profitability of six percent. X has a profitability of eight percent and rejects the safe harbour.
 - Manufacturer X’s subsidiary H has a loss and chooses not to accept the subsidiary’s safe harbour.
 - P and R have safe harbours beyond the sales amounts, but the transactions are with unrelated parties and the safe harbour does not apply.
- In summary, \$140 million in sales out of \$1 billion are subject