Energy Tax Aspects of Truck Distribution Centers

By Charles Goulding, Jacob Goldman and Joseph Most

The commercial transportation industry in the United States is highly competitive, and, at the same time, it is facing higher operating costs. One way that these businesses can cut costs is to invest in energy saving devices at truck distribution facilities. Charles Goulding, Jacob Goldman and Joseph Most explain how the EPAct and Code Sec. 179D can be used to save money and energy.

Throughout the United States, truck distribution facilities house, maintain and dispatch the trucks that carry the goods that sustain America's economy. In the midst of beginning to benefit from a recovering economy, these businesses are now confronting higher truck fuel prices and higher new truck replacement costs from mandated higher truck miles-per-gallon fuel efficiency requirements. In an industry-jarring development, Wal-Mart, the retail juggernaut, has thrown down the gauntlet by directly entering the truck distribution segment in its own huge vertical market supply chain.[1] As usual, Wal-Mart is focused on wringing out meaningful supply-chain-wide cost savings that will enable the company to continuously provide low-cost products. To survive in this highly competitive market, truck distribution facilities need to lower all of their energy-related operating costs by upgrading their facilities with current-generation products, while using Energy Policy Act (EPAct) tax incentives to accelerate the process.

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The EPAct Tax Opportunity

Pursuant to Code Sec. 179D, as enacted by the Energy Policy Act (EPAct) of 2005,[2] building owners or tenants, including truck distribution facilities, making qualifying energy-reducing investments 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 60 cents per square foot for each of the three major building subsystems: lighting, HVAC and the building envelope. HVAC is the heating, ventilating and air conditioning of a building, and the building envelope is everything on the building's exterior perimeter that touches the outside world including roof, walls, insulation, doors, windows and foundation.

Chart 1 shows potential EPAct tax deductions for five of the largest companies that operate truck distribution facilities.

Lighting

In order to achieve lighting EPAct tax deductions, the watts-per-square-foot in facilities has to be reduced by between 25 percent and 40 percent as compared to a 2001 lighting standard. Chart 2 shows when tax

Chart 1

Potential EPAct Tax Benefits						
		Lighting				
Company	Total Square Footage	Minimum Deduction	Maximum Deduction	HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total
UPS	21,040,500	$ 6,312,150	$ 12,624,300	$ 12,624,300	$ 12,624,300	$ 37,872,900
Fed Ex	17,358,000	$ 5,207,400	$ 10,414,800	$ 10,414,800	$ 10,414,800	$ 31,244,400
YRC Worldwide[1]	10,393,200	$ 3,117,960	$ 6,235,920	$ 6,235,920	$ 6,235,920	$ 18,707,760
Old Dominion[2]	3,702,669	$ 1,110,801	$ 2,221,601	$ 2,221,601	$ 2,221,601	$ 6,664,804
JB Hunt	1,602,000	$ 480,600	$ 961,200	$ 961,200	$ 961,200	$ 2,883,600

Notes:
[1]Figure based on 400 sq ft/truck bay door average using Google Earth, 25,983 doors from 10k, includes Canada and Mexico.
[2]Figure from 8 major facilities using Google earth, and for other 202 facilities based on 12,750 sqft approximation based on Google earth.

Chart 2

Truck Distribution Facility EPAct Wattage Targets		
	25% Improvement as compared to 2001 Standard $.30/sq.ft. Deduction	40% Improvement as compared to 2001 Standard $.60/sq.ft. Deduction
Description	Watts/sq.ft.	Watts/sq.ft.
Warehouse	50% Improvement Required: 0.60	
Auto Truck Repair	1.050	0.84
Corridors	0.525	0.42
Restrooms	0.750	0.60
Enclosed Office	1.125	0.90
Electrical/Mechanical	0.975	0.78
Storage	0.825	0.66
Stairways	0.675	0.54
Lobby	1.350	1.08

Chart 3

Major Lighting Bans		
Lighting Type	Date Effective	
Most Probe-Start Metal Halides	January 1, 2009	Manufacturing Banned
T-12s	July 1, 2010	Manufacturing banned Distribution now limited to ten per pack
Incandescents (non-residential)	Beginning 2012 and continuing through 2014	Ban on current efficiency levels beginning 2012

savings are applicable for typical spaces in a truck distribution facility.

Building lighting comprises a large portion of truck distribution facility energy use. Most of these facilities that have not upgraded to energy-efficient lighting in the last few years use prior-generation metal halide or T-12 fluorescent lighting. However, effective January 1, 2009, most probe-state metal halide lighting may no longer be manufactured or imported into the United States, and effective July 1, 2010, most T-12 lighting may no longer be manufactured in or imported into the United States as well. This means that buildings that still have these older lighting technologies will soon be faced with large price increases for replacement lamps and bulbs. Chart 3 displays the different types of lighting that have been banned.

This prior-generation T-12 and metal halide lighting is very energy inefficient as compared to today's T-8 and T-5 lighting, and a lighting retrofit can easily reduce lighting electricity costs by 40 to 60 percent. In addition to a large energy-cost reduction from the base building lighting, most truck distribution facilities undergoing lighting retrofits install sensors that completely shut off the lighting in portions of the facilities that are not in use. Previously, many truck

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Texas

Recently, the Texas Comptroller of Public Accounts began issuing high-level inquiry notices to taxpayers using the COGS deduction for purposes of calculating their margin tax liability. The notices appear to target taxpayers filing combined reports that include an entity that does not appear to be eligible to use the COGS method, based on the entity's Standard Industrial Classification code. The notices ask for a description of the entity's business operations and a list of items included in the combined group's COGS deduction for the 2008 and 2009 report years. If the taxpayer does not respond to the notice within 15 days from the date on the notice, the deduction will be disallowed and an assessment notice will be issued.

A representative of the Comptroller's Audit Division confirmed the Comptroller's audit initiatives related to the COGS method. The representative explained that the State was "surprised" by the number of taxpayers using the COGS method and that one of the most common errors observed by the Audit Division with respect to margin tax reports was use of the COGS method by ineligible taxpayers.

Endnotes

1 LDR Press Release, *Louisiana Department of Revenue Announces Audit Protest Bureau for Dispute Resolution*, (June 28, 2010).
2 Revenue Information Bulletin 10-013 (June 29, 2010).
3 *Beneficial New Jersey, Inc. v. Director, Division of Taxation*, N.J. Tax Ct, Dkt. No. 009886-2007, [N.J.] St. Tax Rep. (CCH) ¶401-530 (Aug. 31, 2010).
4 N.J.S.A. 54:10A-4(k)(2)(I).
5 N.J.A.C. 18:7-5.18(a)(4)(viii).
6 N.J.S.A. 54:10A-4(k)(2)(I).
7 *In re L.L. Bean, Inc.*, Ohio Department of Taxation, Aug. 10, 2010.
8 *Quill Corp. v. North Dakota*, SCt, 504 US 298 (1992).
9 *Geoffrey, Inc. v. S.C. Tax Comm'n*, SC SCt, 37 SE2d 13, 313 SC 15, [S.C.] St. Tax Rep. ¶400-054 (1993).
10 *A F Trademark, Inc. v. Tolson*, NC CtApp, 167 NCApp 150, 605 SE2d 187, [N.C.] St. Tax Rep. (CCH) ¶202-301 (2004).
11 *Lanco v. Director, Div. of Tax'n*, NJ SCt, 188 NJ 380, 908 A2d 176, [N.J.] St. Tax Rep. (CCH) ¶401-221 (2006).
12 *Tax Comm'r v. MBNA America Bank, N.A.*, W.V. SCt, 220 WVa 163, 640 SE2d 226, [W.V.] St. Tax Rep. (CCH) ¶400-436 (2006).
13 *Capital One Bank and Capital One F.S.B. v. Comm'r of Rev.*, Mass. Sup. Jud. Ct., 453 Mass. 1, 899 NE2d 76, [Mass.] St. Tax Rep. (CCH) ¶401-216 (2009).

Truck Distribution

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distribution facilities' owners and lighting specifiers were reluctant to install sensors because they reduced fluorescent lamp useful life. Today, improved technology sensors are available with warranties that they will not reduce useful lamp life.[3]

HVAC

New, improved commercial heating systems can provide energy-cost savings of eight percent or more over the ASHRAE 2001 Building Code Standards. There are multiple heater technologies suitable for the truck distribution facilities market, including direct-fired gas heaters, unit heaters and infrared (radiant) heaters.[4] If feasible, the heater should be mounted on an exterior wall to optimize the roof-top solar P.V. space.

An example illustrating the maximum utilization of the $1.20 EPAct tax deduction for a 100,000-sq.-ft. truck distribution facility with a Cambridge energy efficient heater is shown in Chart 4.

With this example, the $120,000 (100,000 sq. ft. x $1.20) entire investment EPAct tax deduction will be achieved as long as the combined lighting heater project reduces total energy cost by 33-1/3 percent as compared to ASHRAE 2001.

Building Envelope

If a truck distribution facility requires re-roofing, the owner should consider a more energy-efficient white roof. Moreover, when re-roofing, this is the ideal time to consider adding more insulation. If the building already had an energy-efficient design and roof, the owner may want to consider upgrading to more energy-efficient truck bay doors and windows.

With this example, the maximum $180,000 EPAct tax deduction (100,000 sq. ft. x $1.80) will be available as long as the combined lighting, heater and roof project reduces total energy cost by at least 50 percent as compared to ASHRAE 2001.

New Truck Fuel Requirements

Recently, President Obama issued an executive order mandating more efficient large-truck fuel mileage standards by 2014. The new fuel economy requirement for trucks is approximately 35 miles per gallon and marks the first time that fuel use for large trucks has been regulated. Currently, medium and heavy trucks represent only four percent of vehicles on American highways, but account for 20 percent of the fuel burned. Owners of truck distribution centers should expect new trucks to have better fuel economy, but to be more expensive.

Chart 4

100,000 sq ft Truck Distribution Facility $1.20 per Sq Ft EPAct Tax Deduction	Lighting	Heater	Total
Project Cost	$ 135,000	$ 35,000	$ 170,000
Utility Rebate	$ (35,000)	$(15,000)	$ (50,000)
Net Investment	$ 100,000	$ 20,000	$ 120,000

Chart 5

100,000 sq ft Truck Distribution Center $1.80 per Sq Ft EPAct Tax Deduction	Lighting	Heater	Roof	Total
Project Cost	$ 135,000	$ 35,000	$ 80,000	$ 250,000
Utility Rebate	$ (35,000)	$ (15,000)	$ (20,000)	$ (70,000)
Net Investment	$ 100,000	$ 20,000	$ 60,000	$ 180,000

The new truck fuel requirements should also lead to increased use of biodiesel mixtures and other alternative fuels. Beginning in 2009 as part of the American Recovery and Reinvestment Act,[5] the Alternative Fuel Infrastructure Tax Credit amount was extended to 50 percent ($50,000 cap) of the cost of installing the alternative-fueling equipment. Therefore, as a result of the new fuel requirements, trucking companies seeking to increase fuel economy can do so by using alternative fuel and can receive a large tax credit for doing so.

Excise Tax Exemption for Idling Devices and Advanced Thermal Insulation

Owners of truck distribution facilities can also take advantage of exemptions to the federal heavy-truck excise tax by installing EPA-approved idling-reduction devices. Idling is when a truck is temporarily parked, such as at a rest stop; and idle-reduction technology provides heat, air conditioning and/or electricity to the vehicle when otherwise the main engine of the vehicle would have to run. Examples of these types of devices are battery AC/heating systems, auxiliary power units and thermal storage systems. Idling-reduction devices can reduce fuel consumption by not requiring the engine of the truck to burn fuel while idle. This in turn can increase fuel economy and reduce truck distribution companies' operating costs, on top of the excise tax exemption, once the new fuel requirements are effective.

Conclusion

An energy-cost-efficient trucking distribution industry is crucial to the American economy. A combination of market developments, regulatory changes and new generations of truck and building equipment products can enable these businesses to substantially reduce their operating costs. Also, truck distributors who implement fuel efficiency-technologies should note the use of such technologies in their engagement proposals since it is a way to distinguish themselves from their competition. Knowing how to apply the fuel-related tax incentives and EPAct building-related tax incentives can greatly cut costs for these businesses.

Endnotes

1 See Chris Burritt, Carol Wolf and Matthew Boyle, *Why Wal-Mart Wants to Take the Driver's Seat*, Bloomberg Businessweek, May 27, 2010, *available at www.businessweek.com/magazine/content/10_ 23/b4181017589330.htm.*

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

3 *See* Charles Goulding, Jacob Goldman and Malcolm Thomas, *The Energy Tax Aspects of Warehouses and Distribution Centers*, Corp. Bus. Tax'n Monthly, Oct. 2009, at 15.

4 *See* Charles Goulding, Jacob Goldman and Raymond Kumar, *Large EPAct Energy Tax Deduction Opportunities for Commercial Heaters*, Corp. Bus. Tax'n Monthly, Jan. 2010, at 11.

5 American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

Self-Storage Facilities

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energy, the ability to achieve a building envelope tax deduction is dependent on previous or concurrent investments in energy-efficient lighting and HVAC systems. The following example illustrates the concept:

> A 200,000-square-foot self-storage facility invests $160,000 in energy-efficient lighting and heating that results in a 50-percent energy cost reduction compared to ASHRAE 2001 standards. Although the building qualifies for a $360,000 EPAct tax deduction (200,000 sq.ft. @ $1.80 per square foot), the initial EPAct tax deduction is limited to the $160,000 project cost. However, the remaining $200,000 of the potentially available EPAct tax deduction can be used for building envelope improvements, such as a new roof or insulation.