

# Energy and Tax Savings Opportunities for Self-Storage Facilities

*By Charles Goulding, Raymond Kumar and Taylor Goulding*

With the increased use of self-storage facilities in the United States, Charles Goulding, Raymond Kumar and Taylor Goulding explain how federal product law changes, new energy-efficient retrofit products and market competition provide an opportunity to use Code Sec. 179D tax incentives to save on tax and energy costs.

The U.S. self-storage facility industry has experienced tremendous growth in recent years. These typically large facilities are often found on the perimeter of major cities, where residents of smaller homes and apartments need extra storage space. Current total U.S. square footage of self-storage facilities is estimated at 2.35 billion square feet, with the average facility size approaching 50,000 square feet. Due to their large size, unique space configuration and recent technology changes, self-storage facilities have the opportunity to generate substantial tax savings under Internal Revenue Code Sec. 179D, as enacted by the Energy Policy Act.<sup>1</sup>

## **The EAct Tax Deduction**

Pursuant to Code Sec. 179D, building owners or tenants making qualifying energy-efficient improvements can obtain immediate tax deductions of up to \$1.80 per square foot.

**Charles Goulding**, Attorney/CPA, is the President of Energy Tax Savers, Inc., an interdisciplinary tax and engineering firm that specializes in the energy-efficient aspects of buildings.

**Raymond Kumar** is an Analyst with Energy Tax Savers, Inc.

**Taylor Goulding** is an Analyst with Energy Tax Savers, Inc.

If the building project doesn't 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 (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.<sup>2</sup>

Chart 1 illustrates the potential EAct tax savings available to the industry for an average size 50,000-square-foot facility.

## **Space Configuration and Lighting Opportunities**

The self-storage industry focuses on specific customer niches including individuals, small businesses and large businesses. Storage rooms for individuals and small businesses are often small spaces that typically use incandescent lighting. Since incandescent lighting will shortly be subject to federal lighting bans (see federal lighting ban in Chart 2), all self-storage facilities should upgrade to highly energy-efficient low-wattage

© 2010 C. Goulding, R. Kumar and T. Goulding

**Chart 1**

Total Square Footage	Minimum Lighting Deduction	Maximum Lighting Deduction	HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total Maximum Deduction
50,000	\$ 15,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 90,000
2,350,000,000	\$ 705,000,000	\$ 1,410,000,000	\$ 1,410,000,000	\$ 1,410,000,000	\$ 4,230,000,000

**Chart 2**

Lighting Type	Date Effective	Ban Details
Most Probe Start Metal Halides	January 1, 2009	Manufacturing Banned
T-12	July 1, 2010	Manufacturing banned Distribution now limited to ten per pack
Incandescents	Beginning 2012 and expected to continue through 2014	Ban on current efficiency levels beginning 2012

compact fluorescent lighting or LED (Light Emitting Diode) lighting.<sup>3</sup>

Typically, large rooms in self-storage facilities used either probe-start metal halide or T-12 lighting. This type of lighting is currently subject to a federal lighting ban, which is described in Chart 2. In addition, it is crucial for storage facilities to use occupancy sensors or lighting-control systems, so that room lights can be completely shut off for extended periods of time, when not in use by customers.

## Climate Control Opportunities

An increasing number of self-storage facilities are climate controlled since customers prefer facilities where it is more likely that their property and possessions will remain in good condition. Having a climate control option is a particularly important feature for customers, since the mature self-storage market has become more competitive. To maintain stored items properly, it is necessary to control temperature, humidity and dust. Self-storage facilities are often ideal candidates for highly energy-efficient energy-recovery ventilation equipment (commonly called “ERV”) that optimizes the use of outside air.<sup>4</sup> HVAC systems designers who are familiar with storage centers can use high-efficiency equipment and create a design configuration that optimizes useable space in the building. For example, it is not necessary to have a separate HVAC unit in every storage space. HVAC design configurations that use less equipment to heat and cool more rooms are much more likely to qualify for the EPAct tax deduction.

## Dehumidification Systems

One of the leading technologies for reducing self-storage facilities’ energy costs while controlling

temperatures and humidity are “desiccant wheel dehumidification systems.” It is particularly important to manage temperature and humidity when storing computer equipment, musical instruments, antiques, furniture, electronics, photographs, artwork, books and legal and medical records. One of the most popular systems is made by Munters Corporation. The Munters Web site provides extensive information about this technology.<sup>5</sup>

## Natural Gas Heaters

Self-storage facilities in the northern portion of the United States often use energy-efficient natural gas heaters to meet their climate-control needs. The increased abundance of low-cost natural gas in the United States is making these heaters a very popular product choice. Large tax deductions are available for these heaters, provided that the storage facility also upgrades to energy-efficient lighting, either before or at the same time as the natural gas heater purchase.<sup>6</sup>

## Building Envelope Opportunities

Self-storage centers are often converted from existing buildings that were previously used for manufacturing, warehouses or car dealerships. When this type of building conversion occurs, it is generally necessary to modify the building envelope to insert access doors, overhead doors and to make other changes necessary for use by self-storage center facilities.

Once work begins on modifying the envelope, it is the most cost effective time to install insulation and reskin (recover) the building envelope. Since the building envelope doesn’t physically use

*Continued on page 40*

**Chart 4**

100,000 sq ft Truck Distribution Facility \$1.20 per Sq Ft EAct 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 EAct 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,<sup>5</sup> 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 EAct building-related tax incentives can greatly cut costs for these businesses.

### **ENDNOTES**

- <sup>1</sup> 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](http://www.businessweek.com/magazine/content/10_23/b4181017589330.htm).
- <sup>2</sup> Energy Policy Act of 2005 (P.L. 109-58).
- <sup>3</sup> 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.
- <sup>4</sup> See Charles Goulding, Jacob Goldman and Raymond Kumar, *Large EAct Energy Tax Deduction Opportunities for Commercial Heaters*, CORP. BUS. TAX'N MONTHLY, Jan. 2010, at 11.
- <sup>5</sup> American Recovery and Reinvestment Act of 2009 (P.L. 111-5).

### **Self-Storage Facilities**

Continued from page 14

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 EAct tax deduction (200,000 sq.ft. @ \$1.80 per square foot), the initial EAct tax deduction is limited to the \$160,000 project cost. However, the remaining \$200,000 of the potentially available EAct tax deduction can be used for building envelope improvements, such as a new roof or insulation.

## Thornwood Storage Center Example

A recent building conversion illustrating all of the above-described energy-efficiency measures is the 2009 Thornwood, New York, conversion of a health club into a self-storage facility. The Thornwood self-storage center uses climate-controlled units equipped with a motion-sensor lighting system. The facility also uses solar power as a means to further reduce its energy costs.<sup>7</sup>

## Tax Planning Summary

The key to optimizing and generating multiple self-storage center EPartax deductions is to simultaneously install very energy-efficient lighting with other energy-efficiency measures, particularly HVAC. The lighting upgrade is normally required, since lighting is often the largest energy user in storage facilities, and the EPartax deduction is based on a building's total energy cost reduction. For example, installing an energy-efficient HVAC, such as a dehumidification system or natural gas heater, alone, may not enable a self-storage facility to qualify for the EPartax deduction. However, installing energy-efficient lighting with sensors, along with the upgrade to a highly energy-efficient HVAC, makes it much more likely that the new HVAC also will qualify for the EPartax deduction. Once the facility is upgraded with energy-efficient lighting and energy-efficient HVAC, it is much more probable that the building envelope also will be

become eligible for an immediate EPartax deduction.

## New Public Disclosure Rules

Some cities with the largest markets for self-storage centers, including Austin, Texas, Los Angeles, California; New York, New York; Seattle, Washington; and Washington, D.C.; have recently enacted new rules for mandatory public disclosure of building energy usage. The New York City law requires all commercial buildings larger than 50,000 square feet to publicly disclose their energy use. Environmentally conscious urban customers will have access to this data and may factor the differences in operating costs and sustainability into their choice of self-storage centers.

## Conclusion

With American lifestyle changes, self-storage facilities have become a major building category in the United States. Federal product law changes impacting existing technologies, and new energy-efficient retrofit products coupled with market competition, provide a great opportunity to save on energy costs and use the Code Sec. 179D EPartax incentives.

### ENDNOTES

- <sup>1</sup> Energy Policy Act of 2005 (P.L. 109-58).
- <sup>2</sup> Charles Goulding, Jacob Goldman and Nicole DiMarino, *EPartax Deductions for Lighting Gain Wider Use*, BUILDING OPERATING MGMT., July 2008, at 68.
- <sup>3</sup> Charles Goulding, Jacob Goldman & Taylor Goulding, *The Economic, Business and Tax Aspects of Light Emitting Diode Interior Building Lighting*, CORP. BUS. TAX'N MONTHLY, Jan. 2009, at 31.
- <sup>4</sup> Charles Goulding, Jacob Goldman & Kenneth Wood, *Tax Deductions for HVAC Efficiency*, BUILDING OPERATING MGMT., Apr.

2010 at 58.

<sup>5</sup> See, [www.munters.us/en/us/](http://www.munters.us/en/us/).

<sup>6</sup> Charles Goulding, Jacob Goldman and Raymond Kumar, *Large EPartax Energy Tax Deduction Opportunities for Commercial Heaters*, CORP. BUS. TAX'N MONTHLY, Jan. 2010, at 15.

<sup>7</sup> See, [www.americantowns.com/ny/thornwood/news/westchester-s-first-green-self-storage-facility-installs-solar-energy-system-293733](http://www.americantowns.com/ny/thornwood/news/westchester-s-first-green-self-storage-facility-installs-solar-energy-system-293733).

## Sale-for-Resale

Continued from page 16

sale-for-resale exemption applies only when an item is purchased and subsequently transferred to another for consideration. The court rejected the Distributors' arguments that the contractual terms of the commitment agreements constituted consideration for the provision of the fountain equipment.

Specifically, the Distributors argued that the commitment for minimum purchase, exclusive use and assumption of risk-of-loss provisions in the retailers' agreements amounted to consideration (*i.e.*, a detriment to the retailers) for the transfer of the equipment. The court disagreed, noting that the Distributors did not charge a premium on product prices to retailers under the commitment agreements and did not restrict the sale of competitor products by the retailers. Further, the Distributors' remedies for breach were limited to repossessing the equipment or charging rent prospectively. The Distributors had no right to recover the amounts by which product orders fell short of the commitments.

Finally, although the risk of loss passed to the retailers, there was no evidence that they were required to carry additional insurance or that the Distributors actually enforced this provision. The court viewed the above requirements as either no consideration or, at