New Efficient HVAC Drives Large Tax Deductions for Buildings

By Charles Goulding, Raymond Kumar and Kenneth Wood

Charles Goulding, Raymond Kumar and Kenneth Wood discuss how improvements in HVAC technology and products are creating opportunities for building owners to save on taxes under Code Sec. 179D.

The continuous improvement in HVAC (Heating, Ventilation and Air Conditioning) system energy efficiency is now driving large immediate tax deductions for numerous property owners. Under the Energy Policy Act ("EPAct"), which amended Code Sec. 179D effective January 1, 2006, through December 31, 2013, there is an opportunity for an immediate first-year tax deduction of 60 cents per square foot for qualifying HVAC systems or $1.80 per square foot whole building tax deductions, which are typically driven by very efficient HVAC.

The magnitude of these opportunities is presented in the building square footage chart found in Figure 1.

Overview

Code Sec. 179D provides for three separate 60-cent-per-square-foot immediate tax deductions for energy efficient lighting, HVAC and building envelope investments when compared to a 2001 ASHRAE (American Society Heating Refrigeration Air Conditioning Engineers) building energy code standard by building category.

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During the first three years the EPAct legislation was effective, from January 1, 2006 through December 31, 2008, we saw a tremendous amount of qualifying lighting projects and only a handful of qualifying HVAC and whole building projects. This was because the qualifying lighting products were market ready and the process for obtaining lighting tax deductions was familiar to the lighting industry. This was somewhat disappointing since HVAC is the largest energy user and almost twice that of the two other building categories meaning lighting and building envelope. The pie chart in Figure 2, provided by the U.S. Department of Energy, makes it clear how important energy efficient HVAC is to managing energy use.

The Magnificent HVAC Seven

We are now seeing seven categories of HVAC projects triggering HVAC and whole building tax deductions.

1. Highly Efficient Right-Sized Systems

If all major components of the HVAC system are at the highest energy efficiency level meaning (a) the basic package unit or chiller are high efficiency units, (b) there are VFDs (variable frequency drives) to minimize energy use on all key motors, (c) there is a comprehensive HVAC control system, and (d) most importantly, the system is sized right (fitted properly), then we are seeing core HVAC systems qualify.

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2. Thermal Storage Systems

Thermal storage systems essentially make ice that can be stored and used to cool buildings. These systems will typically qualify for EPAct in electricity markets that use time-of-day pricing. With time-of-day pricing and thermal storage, electricity is purchased at night when it is substantially cheaper and this night-time electricity is then used to create ice. The resultant ice is used to cool the building during the day when electricity rates are much higher. These systems are much more likely to qualify for EPAct when used in conjunction with the highly efficient right-sized systems described above.

3. Decentralized Systems

Decentralized systems use smaller systems to handle the building's day to day normal energy use instead of having one large system. Coupled with occupancy sensors, these smaller decentralized systems can turn on and off based on the individual occupancy of the spaces. There is no better energy savings than a system that can be turned off. Due to the ability to individually control spaces, Continued on page 52.
is sold to a person other than the specific purchaser. If a person modifies or enhances computer software that they did not create, the person is the author/creator only of the modifications or enhancements. In addition, prewritten computer software or a prewritten portion of computer software that is modified or enhanced to any degree to the specification of a specific purchaser remains prewritten computer software. If, however, there is a reasonable, separately stated charge or invoice for the price of the modification or enhancement, the modification or enhancement is not considered prewritten computer software.

This change took effect March 6, 2009.

Digital Goods

Effective October 1, 2009, sales and use tax is imposed on the sales price from the sale, lease, license or rental of specified digital goods (i.e., digital audio works, digital audiovisual works and digital books) and additional digital goods (i.e., electronically transferred: greeting cards, finished artwork, periodicals, video or electronic games) at retail for the right to use these goods on a permanent or less-than-permanent basis, regardless of whether the purchaser is required to make continued payments for such right.

ENDNOTES


HVC Tax Deductions

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decentralized systems normally use much less energy than traditional centralized systems.

4. Heat Recovery Ventilation

Heat Recovery Ventilation uses heat exchangers to heat or cool incoming fresh air, with the outflowing waste air, thereby recapturing 60 to 80 percent of the energy that would otherwise be lost.

5. Geothermal Heat Pumps

Geothermal systems use the natural, stable temperature of the shallow (within 10 feet of the surface) earth to provide heating in winter and/or cooling in summer. Geothermal heat pumps use the transfer of heat in contrast to typical heating devices that utilize the combustion of fuels. The reduction in fuel use is where geothermal heat pumps dramatically save on annual energy costs.

6. Demand Control Ventilation

Demand Control Ventilation enhances ventilation by reventilating outside air based on human occupancy CO2 levels. The concept is to reventilate by human presence and not by physical space. The energy savings results from not blowing in fresh air or conditioning a space when humans are not present in the space.

7. ASHRAE Building Size Standards

Whenever a building is below certain square footage breakpoints such as 150,000 square feet and 75,000 square feet the use of particular technologies will trigger EPAct. For example installing highly energy efficient chillers in a building of less than 150,000 square feet will often trigger EPAct tax deductions because the building it will be compared to will be a 2001 ASHRAE reference building which will be cooled by less efficient package units.

Building Computer Simulation Modeling Requirement

To qualify for the HVAC immediate 60-cent-per-square-foot deduction or the $1.80 whole building tax deduction the required level of energy reduction must be documented with an approved IRS building energy model. The HVAC must show at least a 16.67 percent energy cost reduction and the whole building must show at least a 30 percent energy cost reduction compared to ASHRAE 2001. These energy models are also required for LEED building projects. LEED stands for Leadership in Energy and Environmental Design, and is the marquee sustainable building certification program operated by the U.S. Green Building Council. A list of the IRS approved energy models is shown in Figure 3.

Tax Planning—Recognizing the Big Five

With all new building projects and whenever HVAC is upgraded, a company’s tax department should recognize that a major tax deduction opportunity may be available. In the HVAC industry, the big five
equipment suppliers are Carrier, McQuay, Trane, York and Lennox. Four of the big five are now owned by larger industrial companies as indicated in Figure 4.

Two of the big five, namely Trane andCarrier, have had their own versions of EPA-certifying building energy modeling software approved by IRS (Trane TRACE and Carrier HAP).

Conclusion
Continuous improvements in existing HVAC equipment and new HVAC products and technologies are presenting major new tax opportunities. Tax departments will benefit from understanding who the big five are in the HVAC industry and recognizing when equipment potentially eligible for tax deduction is purchased.

Endnotes

IRS Amnesty
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should not be dismissed without serious consideration. It would be a very, very serious error for a taxpayer to do nothing and hope that his/her potential IRS problems regarding unreported offshore income will just go away. They will not.

Endnotes
8. 340 Tax Haven Abuse Act (S. 1265).
22. IRM 8.5.3.14.9.2
23. AL.
25. IRM 9.5.1.1.9.4
26. Allen Bennett, IRS Pressing on U.S. In-

volves Holding Assets in Foreign Banks to
Continue, Shullman Says, BNA Daily Tax Rs., Feb. 23, 2009, at 36 OTB C-5. Kath-

27. C. Criminal Investigative Chiefửa Against 'Quiet' Approach to Offshore

Accounts, BNA Daily Tax Rs., at 38 OTB C-8.

can decide to apply for a unilateral APA. Thus, taxpayers should not be forced into a bilateral APA. However, tax administrations are entitled to turn down requests for unilateral APAs where the tax administrator concludes that bilateral APAs or multilateral APAs are more appropriate or that no APA is at all appropriate.

The rights of other administrations and taxpayers should not be affected by the existence of a unilateral APA. The presence of a unilateral APA does not preclude a future MAP procedure. The APA Guidelines in essence serve as a "Code of Conduct" for member states to spontaneously exchange the details of concluded APAs. The Exchange of Information provisions apply to any other tax administration directly concerned by the unilateral APA. The tax administrations should undertake the Exchange of Information provisions as swiftly as is possible after the conclusion of the APA.

Endnotes
1. Guidelines for Advance Pricing Agreements with the EU, section 6.
2. Guidelines for Advance Pricing Agreements with the EU, section 6.
3. Guidelines for Advance Pricing Agreements with the EU, section 17.
4. Guidelines for Advance Pricing Agreements with the EU, section 17.
5. Guidelines for Advance Pricing Agreements with the EU, section 17.
6. Guidelines for Advance Pricing Agreements with the EU, section 17.
7. Guidelines for Advance Pricing Agreements with the EU, section 17.
8. Guidelines for Advance Pricing Agreements with the EU, section 17.
9. Guidelines for Advance Pricing Agreements with the EU, section 17.