

# New HVAC Hotel and Apartment Technology Obtains Large EPAct Tax Incentives

*By Charles R. Goulding, Andrea Albanese and Jacob Goldman*

Charles Goulding, Andrea Albanese and Jacob Goldman discuss the new HVAC technology that can substantially reduce hotel and apartment building energy costs and may qualify for Code Sec. 179D tax deductions.

**N**ew HVAC technology called Variable Refrigerant Volume system (VRV), also known as Variable Refrigerant Flow (VRF), is substantially reducing hotel and apartment building energy expenses.

This new technology began to mainstream into the U.S. market after the enactment of the Energy Policy Act of 2005 (EPAct)<sup>1</sup> and is now being widely recommended by the architecture, engineering and HVAC industries.

## **Code Sec. 179D Tax Opportunities**

Pursuant to Code Sec. 179D, as enacted by EPAct, VRV building owners making qualifying energy-reducing investments in their new or existing

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locations can obtain immediate tax deductions of up to \$1.80 per square foot.

If the building project does not qualify for the maximum Code Sec. 179D \$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 includes everything on the building's exterior perimeter that touches the outside world, including roof, walls, insulation, doors, windows and foundation.

## **VRV Technology Description**

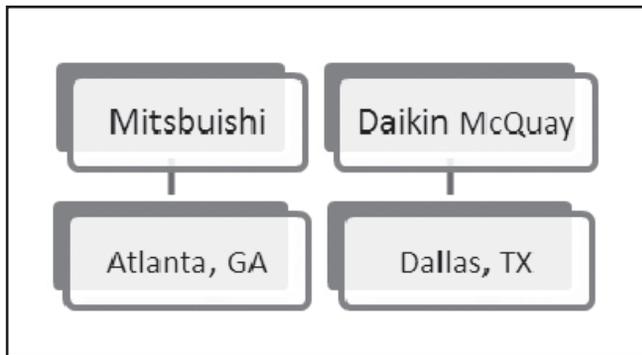
VRV/VRV is a highly efficient air conditioning system for commercial buildings because of the ability to individualize control for different zones/rooms, whereas conventional systems condition a building as a whole. The system is very beneficial for buildings with varying cooling needs and different zones.

In particular, hotels, apartments, schools and office buildings benefit the most from this system, since individuals want to be able to control the temperature in their area. Individual control in VRF/VRV systems

creates energy efficiency and allows for flexibility in building design.

## Japanese Manufacturers

First used in Japan over 20 years ago, VRF/VFV units are now marketed in the United States by two large Japanese manufacturers, namely Mitsubishi and Daikin McQuay. As new entrants, both companies chose to locate their U.S. headquarters in two warmer temperature major markets, Dallas, Texas, and Atlanta, Georgia, where cooling is desired for a majority of the year.



## Apartment HVAC Replacement

With apartments, it is the tenant who incurs the utility costs related to HVAC. New benchmarking rules in major apartment markets, including California, New York City, Washington, D.C., Austin and Seattle, will soon provide large amounts of data related to current apartment energy costs.<sup>2</sup>

Presumably the Atlanta and Dallas markets, where the two U.S. VRF/VRV sellers are headquartered, will quickly become aware of the magnitude of energy savings available for apartment buildings, as well.

## Hotel HVAC Tax Savings

The timing for this cost saving technology is excellent for the hotel category since the industry is in the midst

of a rapid economic recovery. The hotel industry was decimated during the economic downturn and has since reorganized.<sup>3</sup>

During the economic downturn, necessary HVAC replacements were deferred and are now being addressed. Often hotel investment groups own multiple properties, so if they are pleased with VRF/VRV technology incentives, they will replicate it across their hotel portfolio.

## Substantial Energy Cost Savings

For both hotels and apartment buildings, HVAC is the largest energy-cost item. VRF/VRVs will annually reduce total energy costs for these two types of buildings by at least 20 percent and may reduce current building energy costs by as much as 40 percent.

Many hotels and apartment buildings are currently installing LED and other energy-efficient light technologies, and the total energy cost savings from both measures can often exceed 50 percent.

## Conclusion

VRV HVAC technology is rapidly being introduced into the U.S. building market with the help of large EPAct tax incentives.<sup>4</sup> An EPAct technology that reduces apartment tenant cost is welcome in the housing market, and the recovering hotel market is also perfectly suitable for this opportunity.

### ENDNOTES

- <sup>1</sup> Energy Policy Act of 2005 (P.L. 109-58).
- <sup>2</sup> See Charles Goulding, Jacob Goldman and Joseph Most, *Using EPAct Incentives to Enhance New Mandatory Building Energy Disclosure Requirements*, CORP. BUS. TAX'N MONTHLY, Oct. 2010, at 11-14.
- <sup>3</sup> Charles Goulding, Jacob Goldman and Daniel Audette, *The EPAct Aspects of Hotel LED Lighting*, CORP. BUS. TAX'N MONTHLY, Dec. 2011, at 21-23.
- <sup>4</sup> Charles Goulding, Jacob Goldman and Malcolm Thomas, *Legal and Technology Changes Enable Large Tax Deductions for Apartment Buildings*, CORP. BUS. TAX'N MONTHLY, Dec. 2009, at 15-16, 33-34.

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