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August 2014 · Volume 11, Issue 12

WESTERN REAL ESTATE BUSINESS®

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The Villa Anaheim seniors housing development conducted a Green Physical Needs Assessment to determine where it could achieve optimal energy savings.

A GREENER HORIZON FOR ENERGY RETROFITS

A look at the growing market in energy efficiency retrofits of existing buildings in California.

By Lance Collins

The construction market has shifted its balance from new developments to retrofits of existing buildings, with a renewed focus on sustainable building practices. The combination of rising energy costs, a changing regulatory landscape and the availability of rebates to subsidize energy upgrades are leading more and more building owners to look to energy retrofit projects to address their building's operational deficiencies. Improving energy efficiency not only reduces greenhouse gas emissions, but lowers operational costs, increases durability and improves occupant comfort.

Policies, Incentives and Programs in California

In California, a number of policies and codes — including AB 1103, AB 32, CALGreen and Title 24 — require energy disclosure, greenhouse gas reporting, or regulate minimum energy efficiency standards and green building practices. Various government or private cash rebates, tax credit financing or free consulting services are available to offset the costs. They also in-

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centivize building owners to implement energy efficiency measures. It may also make a property eligible for a green certification — such as LEED, Energy Star or Green Point Rated — which can be an attractive market differentiator when leasing or selling a property.

The challenge: meeting regulations and funding projects in the real world.

Many retrofit projects realize significant energy savings through standard measures like HVAC replacement, better insulation, installation of temperature/lighting controls or renewable energy generation. The challenge for each energy upgrade project is to meet regulations and obtain all available funding to reap the best returns.

The 88,000-square-foot Aquarium of the Pacific in Long Beach underwent an energy audit, after which time engineering drawings and specifications were prepared to replace boilers and installing controls.

Partner Energy recently saw this process exemplified for a project conducted at the 88,000-square-foot Aquarium of the Pacific in Long Beach where an energy audit, engineering drawings and specifications were prepared to replace boilers and installing controls. This was financed through a mix of funding sources like a CO2 reduction grant from the Port of Long Beach and rebates offered by the local utility Southern California Edison (SCE). The facility has also committed to installing fuel cells that would offset about 70 percent of its electric use. This project yielded an estimated reduction of 83,944 tons of CO2 emissions, 20,000kwh and $13,000 dollars per year. The fuel cell project will be financed through a Power Purchase Agreement and will utilize rebates from the local utility company to reduce the upfront costs of the system.

Similarly, at Villa Anaheim, a 135-unit seniors housing development, a Green Physical Needs Assessment was conducted as a requirement for the property's financing through CTCAC, the California Debt Limit Allocation Committee (CDLAC) and the California Housing Financing Agency (CalHFA). By replacing the roof and installing a new HVAC system, windows, lighting and low-flow water fixtures throughout the facility, the owner was able to achieve energy savings of more than 20 percent from the pre-build condition. This was enough to qualify for whole-building energy reduction rebates through the local utility provider program. Altogether, the project yielded estimated energy savings of more than $40,000 and 250,000kwh per year.

Lance Collins

The key to a successful retrofit project is to maximize all of the financial tools available to aggregate multiple funding sources, and timing is critical in doing so.

The key to a successful retrofit project is to maximize all of the financial tools available to aggregate multiple funding sources, and timing is critical in doing so. Codes change, legislation is updated, funding sources and incentives can run out, and most financing programs have annual application and reward cycles. Because of this, it is imperative to identify the scope of work and the types of funding that may be available as early as possible, and to be aware of associated deadlines. This will keep upfront costs down, reduce payback time and ensure optimal return on investment.

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