

BOTTOM LINE

The local source for **environmental performance** information

Summer 2010

Savings Spotlight: Kendall-Jackson Wines

Energy-efficient initiative saves vineyard \$3.3 million

Kendall-Jackson is but one example of the growing number of smart companies in Sonoma County that plan not to leave money on the table. Instead they have been making well-timed, prudent facilities and operations investments to conserve energy and enjoy excellent financial savings.

Robert Boller, Vice President of Sustainability & Production at Jackson Family Wines, launched the initiative two and a half years ago, creating a unique partnership with GE Consumer and Industrial to install 3000 (4,400) fluorescent fixtures across 14 facilities. The result was a customized approach segmenting each area according to use, incorporating GE's combined lamp-ballast solution with MetalOptics' Greenbay™ fixtures, a high-intensity fluorescent solution that couples energy savings with environmental savings by significantly reducing packaging, material waste, weight, floor space requirements and installation times.

Kendall-Jackson opted for the GE T5 Watt-Miser® system with shatter-resistant covRguard® technology in more active areas such as bottling and blending, and GE Ecolux® T8 fluorescent lamps in case goods and barrel storage areas. NEMA Premium® UltraStart™ high-efficiency ballasts from GE are at work in all loca-

tions. These high-performing lamps produce annual savings of 155,000 kWh over and above the 1.477 MWh that can be made with standard T5/T8 fixtures. This is saving an additional 111 metric tons of CO2 over the base 1061 metric tons.

Further adherence to the 'Dark Sky Initiatives Protocol' has earned savings of 25,000 kWh (18 metric tons of CO2). The \$530,000 investment (after rebates), will produce \$450,000 in savings and pay back the investment within 15 months.

The initiative has grown into a retro-commissioning project, returning facilities and equipment to OEM standards and performance for a payback of less than three years. This effort has blossomed into an even greater partnership with GE Consumer and Industrial, in which Jackson Family Wines invested in 104 high-efficiency, variable frequency drive (VFD) motors for comprehensive savings. The investment of over \$1 million will produce 3MWh/year in energy savings and pay back in much less than 2.5 years.

Coupled with an Energy Management System to manage energy load during peak use times, Kendall-Jackson will avoid 20% of its demand charges, which make up 38% of its energy bill at the moment.



*Lighting retrofits at Kendall-Jackson's Kittyhawk location
Photo by Energy Industries.*

"At the end of the day," says Boller, "it is about conservation, and when you are conserving something, you aren't paying for it; it's just smart business." With 10 MWh (nearly 30% of its annual energy bill) in savings for a cool \$3.3 million, it doesn't seem like anybody could dispute that. To find out how you can begin your own energy savings initiative, please contact Joe Horak of PG&E at (707) 577-7130.

AB1103: Your first step to financial savings

How constant monitoring can slash costs for your commercial property

AB1103 will provide a true comparison of building performance, but how do Leadership in Energy and Design (LEED) certification, PG&E's retro commissioning service, and third-party, monitoring-based commissioning, compare for savings?

Constant measurement is a theme of growing importance in the environmental performance field that is attracting many more businesses, even smaller ones, interested in the demonstrated savings investments in efficiency can bring. One area getting a lot of attention now is the debate over the best way to make energy-and water-efficient changes to an existing building.

With AB1103 implementation slated for January 2011, smart commercial building owners in California have already started compiling energy-use data using the EPA's ENERGY STAR Portfolio Manager in anticipation of sales, new leases or refinancing in 2011.

Beginning January 1, 2011, all non-residential buildings 50,000 square feet or larger, and solely owner-occupied buildings of any size will be *required* to disclose energy efficiency ratings (including 12 months of energy-use information) in a sale, lease, or financing transaction.

AB1103 will provide a true comparison of building performance with other, similar facilities within the same industry sector. Buildings will be benchmarked on a scale of 1 to 100, and properties that receive a score of 75 or above are eligible to be recognized as an ENERGY STAR-labeled building. The rating system is meant to catalyze commercial building owners not only to track but also to improve their ENERGY STAR rating by optimizing the energy-and water-saving performance of existing systems; installing new efficient upgrades, renewable energy and recycled water technologies. (See AB1103, page 2)



Monitoring-based commissioning can help "shake out" energy and water efficiency opportunities and ensure that future benchmarks are met..

PG&E boasts 38 Megawatts saved since 2006

Over 1,800 new energy interconnections forged



Pacific Gas and Electric (PG&E) reports that its energy-efficiency programs have assisted Sonoma County residents and businesses in saving 7.4 MW in 2009 and over

38 MW since 2006. Along with natural gas, the savings since 2006 have eliminated 139,242 tons of carbon emission in Sonoma County -- equivalent to tak-

ing more than 19,370 cars off the road. Furthermore, PG&E has interconnected more than 1,800 renewable generation systems in Sonoma County with a gross kW rating over

21,688kW. Thanks to PG&E and its partners, Sonoma County's energy future looks ever brighter.

PG&E Renewable Installations Since 2006

	2006	2007	2008	2009	Total
Sites	311	440	366	713	1830
Gross kW Rating	4,060	5,185	6,849	5,594	21,688

Source: PG&E

AB1103 ... (continued from page 2)

A higher rating means lower energy or water costs, decreased occupancy costs and, potentially, increased building valuation. Buildings with ENERGY STAR certification generally use about 35 percent less energy and are reported to save an average of 50 cents per square foot in energy costs. A study published by the Institute of Business and Economic Research at UC Berkeley found that office buildings with energy-efficiency certification have rental rates that are two percent higher per square foot than otherwise identical buildings nearby, and when adjusted for higher occupancy levels, the "green premium" rises to above six percent.

Buildings certified with ENERGY STAR use about 35 percent less energy, saving on average 50 cents per square foot in energy costs.

Leadership in Energy and Design (LEED) certification, provides a program of retrofits for existing buildings (LEED EB) to commission your building for long-term savings. Comcast, located in Sonoma Mountain Village (Rohnert Park) is the North Bay's first Platinum LEED certification for a commercial tenant. The 35,000 sq.ft. Comcast operations facility is home to more than 350 employees and is 'zero carbon,' - running entirely on solar.

Today, LEED silver certification will produce a payback in fewer than five years with utility savings alone. However, the larger benefit of LEED buildings involves a much broader scope of results that can be difficult to quantify or value upfront, but is quickly attracting more attention as the environmental conversation becomes more sophisticated in its economic analy-

sis: improved indoor environment (lower absenteeism, greater productivity better thermal comfort); lower maintenance costs (commissioned building, more durable materials, smaller or eliminated building systems); higher corporate profile (increased product sales, marketing advantage, improved employee morale); and reduced risk of remedial measures to deal with environmental contaminants.

According to a 2009 report from Lawrence Berkeley National Laboratory, building commissioning (LEED is just one option) is "arguably the single-most, cost-effective strategy for reducing energy, costs, and greenhouse gas emissions in buildings today. Energy savings from commissioning typically result in a payback time of 4.5 years for new buildings and 1.1 years for existing buildings," based on costs of approximately \$0.30 per sq.ft.

An average building commissioning project offers a payback time of 4.5 years for new buildings and only 1.1 years for existing buildings.

However, well under five percent, perhaps even one percent, of new commercial buildings actually go through the process. Richard Conniff, writing in the Yale 'Environment 360' magazine reports that paper-based efforts achieving less than satisfactory results have left a bad taste in the mouths of some commercial property managers. In a 2008 study by the New Buildings Institute, which he cites, the energy performance in many LEED-certified "green" buildings was actually worse than in the average con-

ventional building, probably because inexperienced people doing "fundamental" conditioning had failed to detect problems. Conniff is quite critical of the LEED commissioning process; and reports that it lacks the rigor of a full-scale commissioning.

Other industry experts indicate that perhaps that is too harsh. The industry has matured significantly, and government standards and regulations, as well as the commissioning requirements imposed by LEED, seem to be the best broad-brush approach available, given the reluctance of so many building owners to invest in retro-commissioning upfront without guaranteed results.

One solution may be PG&E's retro-commissioning service for existing buildings, which identifies less-than-optimal performance in a facility's existing equipment and control systems, and can provide incentives for investment at no cost. Such incentives are offered on the condition that the customer commits to implementing reasonable measures with an estimated payback period of one year or less upfront. Third party providers to the utility can also provide monitoring-based commissioning, which remains the gold

standard for both revealing resource efficiency opportunities in your building and then ensuring that the process generates bottom-line benefits for the resources invested. Indeed, as Conniff reports, relatively inexpensive control systems now make it possible to monitor usage throughout the life of the building, thereby continually affirming the value of an efficiency investment and ensuring that performance benchmarks are met. As a result, operators across the country are warming to the myriad benefits of efficient buildings.

Average Payback Periods per LEED Certification Level

	Certified	Silver	Gold	Platinum
LEED Points	26 to 32	33 to 38	39 to 51	52 to 69
Typical Energy Savings	30 to 40%	40 to 50%	50 to 60%	60% and over
Incremental Construction Cost	2%	5%	7.5%	10%
Annual Utility Savings	\$0.75/ft ²	\$1.00/ft ²	\$1.25/ft ²	\$1.50/ft ²
Typical Payback Period	Under 3 years	3 to 5 years	5 to 10 years	10+ years

Article cited: [Energy Sleuths in Pursuit Of the Truly Green Building by Richard Conniff : Yale Environment 360](#)

Cited from www.ehvacdesign.com

Landscape Water Savings Case Studies

Cagwin & Dorward reduce annual watering costs by \$39,000 at commercial business park

A regular series of case studies featuring landscape water savings from around Sonoma County

Landscapes can be a source of major water and money savings. The Sonoma County Water Agency (SCWA) reports that businesses can realize average financial savings of 30% on their landscape water bills with various water-efficient strategies. Landscapes consume 58% of urban water, and are typically over-watered by 30% to 300%. Moreover, in the past five years, water rates increased by 27% in the U.S.

Cagwin & Dorward Landscape Contractors focuses on water management as the most crucial topic in the landscape, and have also identified a three-prong strategy for water conservation as the most effective way to help their customers save money:

1. Proper irrigation controller management
2. Irrigation system improvements and landscape renovations
3. Building healthy soils

Below are two case studies that illustrate how local businesses have saved money through water-efficient strategies.



*ET= Evapotranspiration (ET) is the amount of water lost by plants and soil through the process of transpiration and evaporation. ET is used as a guide for how much water a plant needs, where 100%ET is the amount of supplemental water (i.e. over and above rainfall) needed if the entire landscape were covered by well maintained, average height green grass. 80%ET means that the total landscape water allowance is 80% of what would be required if the entire landscape were green grass.

Case Study 1

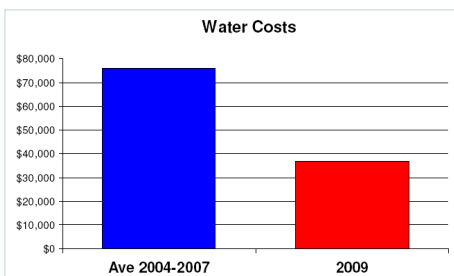
The following case study is a **commercial office park with 3.5 acres of landscape**.

Challenges Faced by Customer

- Average annual water costs = \$76,000
- Rate increase (just in 2009) = 7.5%

Goals

- Create a beautiful and sustainable landscape
- Achieve water savings
- Zero waste construction



Action

- Tenant education in sustainability
- Site water budget developed
- 1 ET* Water Smart controller installed
- 3 -5 year return on investment (ROI) study completed
- Zero waste construction methods
- **50,000 sq.ft.** of turf replaced with native plants; one acre native wildflower field to boost biodiversity
- 50,000 sq.ft. sheet mulching project w/ soil food web strategies

Results Achieved

- Annual watering cost reduced by **\$39,000**
- Water consumption reduced by **52%, irrigating at 80%ET***
- Sterile soil is now teeming with microbes and nutrients
- ROI < 4 years

Case Study 2

The following case study is a **Homeowners Association with 900 acres, including 16 acres of turf, 14 acres of shrubs and 12 miles of parkway strips and medians**.



Challenges faced by the customer

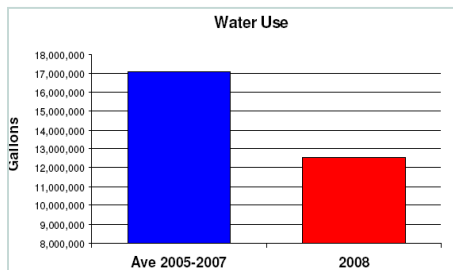
- Increasing watering costs
- 25-year-old system
- Compacted clay soils throughout the site

Goals

- Improve landscape aesthetics
- Reduce pesticide and fertilizer use
- Improve water-use efficiency

Action

- Installed "calSense" smart controllers and rain sensors
- Installed weather station
- Renovated sprinkler layout
- Reduced turf in select area



Results Achieved

- Watering cost reduced by **\$51,000**
- **Rebates of \$50,000** in credits found
- Irrigation **water use reduced by 27% in first 12 months**

Looking For Product Stewardship Inspiration?

Labcon N.A. of Petaluma is a global leader in sustainable design and manufacturing

Labcon North America of Petaluma, supplying more than 800 products globally, and manufacturing over a billion units a year, has differentiated itself as a global leader integrating sustainable design into its line of plastic laboratory disposables since 1994.

Labcon has aggressively sought to minimize energy and material use in production, and to minimize end-of-life environmental impact. It's Earth Friendly™ products include the Pagoda and Eclipse pipet reloading systems, among many others, which have earned the distinction of the most earth-friendly pipet tip rack refilling system available on the market today.

Metabolix, Inc., in partnership with Archer Daniels Midland Company, has been supplying its Mirel™ bioplastics product to Labcon for the production of its Pagoda pipet reloading system since mid-2008. Until this time, bioplastics in general have had limited

capability in injection molding applications. The new Labcon Pagoda reloading system utilizes Mirel™ for the injection molded tray that holds the pipets in place. Mirel™ is biobased and biode-

offer customers the opportunity to lower their carbon footprint with our Pagoda line of products, and many have indicated that they will switch to our new products made from renewable resources. We envision this as the first

of many products in our Pagoda line that will utilize Mirel™ .

"Labcon previously supplied conventional plastic trays that were thrown away or reclaimed through Labcon's recycle program. Now we are planning to launch a composting program to complement this initiative," Happ added.

Labcon pioneered the concept of refillable pipet tip boxes in the late 1980s with the introduction of the first, hinged, refillable, pipet tip boxes. Now nearly 30 years later, Labcon offers two complete refilling solutions for environmental and cost-conscious professionals; the Pagoda line eliminates 90% of the solid waste from preracked tips.



Scott Kirk, Chair, Business Environmental Alliance, Jim Happ, President of Labcon North America—BEA Best Practice Award Winner 2010, Sonoma County Supervisor Efred Carrillo (5th District)

gradable, which means the product tray can now be composted.

Labcon President Jim Happ, said, "There has been growing concern within our industry that the disposal of traditional plastics is too wasteful. We can now

Commercial water assessments, rebate programs and incentives available from local water agencies



Countywide:
Green Business Program
(707) 565-6455
sonomagreen@sonoma-county.org

City of Santa Rosa
(707) 543-3985
www.srcity.org/wc

Town of Windsor
(707) 838-1004
www.townofwindsor.com

City of Rohnert Park
(707) 547-1906
www.rpcity.org

Valley of the Moon Water District
(707) 996-1037
www.vomwd.com

California American Water (Larkfield)
(707) 542-8329
www.amwater.com/caaw/

City of Cotati
(707) 523-1010
www.ci.cotati.ca.us

City of Sonoma
(707) 933-2247
www.sonomacity.org

City of Petaluma
(707) 778-4507
www.cityofpetaluma.net

Rebate and incentive information also available at:

www.sonomabea.org > Business Toolkit > Saving Money on Your Water Bill

Five Newly Certified Sonoma County Green Businesses Recognized In June Ceremony

The Sonoma Green Business Program is part of the larger Bay Area Green Business Program and recognizes businesses for going above and beyond environmental compliance. It offers free assessments and technical assistance to businesses looking to implement more sustainable practices. The Economic Development Board has certified 92 businesses since adopting the program from the Department of Emergency Services in the fall of 2007. Five businesses and their representatives received recognition for their certifications at a Board of Supervisors meeting on June 1.

Alexander Valley Vineyards: Harry Wetzel IV As part of the greening process at Alexander Valley Vineyards Winery, a new refrigeration system and solar panels were installed. The new refrigeration system automatically regulates cooling within the winery and was custom-designed to meet the specific needs of the winery and its equipment. The winery also completed a full lighting retrofit, and offsets 80% of its electricity use through solar energy.

Olive Street: Rod Scaccalosi Rod Scaccalosi, of Olive Street, designs low-water-use landscapes. While his work primarily focuses on landscape design and architecture, Rod occasionally completes the projects himself. Prior to every project, Rod runs fertility tests on the site's soil to ensure plant selection and suggested water allocation are appropriate. He promotes organic, pesticide-free landscapes and composts any additional plant material that has to be removed from the original landscape. At his own office, Rod has installed a rain-water catchment system to feed his organic garden.

Social Advocates for Youth: Zach Lawrence Social Advocates for Youth (SAY) improved its in-house recycling measures by evaluating the use of single-use products and substantially increased its waste diversion rate. As the first site to be green-certified, Social Advocates for Youth in Sonoma paved the way for other SAY branches to go green by implementing a green purchasing policy, supported and signed by upper management.

The Saxena Clinic: Lorelle Saxena The Saxena Clinic was the first acupuncture clinic to be awarded green certification in both Sonoma County and throughout the Bay Area. After a small-scale lighting retrofit, The Saxena Clinic has extremely low energy use and is virtually waste-free. Lorelle Saxena, researched and implemented an environmentally preferable purchasing policy, focused on reduced packaging and centralized purchasing.



(left to right) Alexander Valley Vineyards, Harry Wetzel IV; Mara Hochman, Sonoma Green Business; Olive Street, Rod Scaccalosi, Social Advocates for Youth, Zach Lawrence, The Saxena Clinic, Lorelle Saxena; Sonoma County Supervisor Shirlee Zane. Not pictured: Advanced Flexible Materials, Inc.

Advanced Flexible Materials, Inc. (AFM), a manufacturer of thermal reflective products for outdoor events, is the third manufacturer to be certified as a green business in Sonoma County. AFM drastically reduced its use of raw materials by redesigning the packaging of its product. Instead of individually wrapping its thermal blankets, AFM utilizes a perforated-roll design, which allows customers to easily separate blankets for individual use. This new design has eliminated many of the company's old packaging materials, some of which included polystyrene, Teflon® tape and clear plastic wrap. The reduction of packaging materials has also contributed to fewer and lighter shipments.

The green team at AFM has also designed a comprehensive recycling program for event organizers to utilize at mass participation events. The recycling program's guidelines effectively detail how to collect and recycle the thermal reflective blankets post-use.

How can you become a certified Sonoma Green Business?

Contact Mara Hochman:
sonomagreen@sonoma-county.org or 565-6455.
www.sonomagreenbusiness.org

BEA Mission:

The Business Environmental Alliance (BEA) promotes the economic benefits of responsible environmental practices and provides resources to enable businesses to implement these measures.

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