

**The Green Energy Newsletter,**

Written by Architects and Engineers - for Architects, Builders, Developers &amp; Real Estate Professionals.

© MARK ENGLISH - ARCHITECTS 250 Columbus Street, Ste. 200, San Francisco, CA. 94133 415 391-0186

---

**ALAN HUGENOT, Certified Energy Plans Examiner (CEPE), Certified Energy Analyst, CEA®**  
Director – Energy Compliance (415) 816-1692 [Alan@markenglisharchitects.com](mailto:Alan@markenglisharchitects.com)**NEW ENERGY STAR LABEL FOR DIGITAL TV SET BOXES***This is a condensed excerpt from [EERE Network News](#), a weekly electronic newsletter.*

The recent shift to digital television, high-definition television, and digital video recorders has brought back the box on top of the TV set.—even if it's no longer possible to literally stack the box on top of the television.

But the Energy Star program is working to make sure that those boxes operate in an energy-efficient manner. As of January 1, new cable, satellite, and telecommunications set-top boxes can carry the Energy Star label if they are at least 30% more energy efficient than conventional models. That's a difference that can really add up: if all set-top boxes sold in the United States met the new Energy Star specification, the savings in energy costs would grow to about \$2 billion per year, while the avoided greenhouse gas emissions would be equal to removing 2.5 million vehicles from the road. Energy Star is a joint program of DOE and the U.S. Environmental Protection Agency (EPA).

Cisco, Motorola, Pace plc, and DIRECTV are the first manufacturers to offer Energy Star-qualified set-top boxes. Of course, the EPA realizes that most U.S. consumers don't actually *buy* a set-top box; they typically rent the box as part of their service contract. For that reason, the agency is working directly with the cable, satellite, and telecommunications service providers to establish partnerships aimed at improving the energy efficiency of the providers' boxes. AT&T and DIRECTV are the first to sign up and have improved the energy efficiency of a significant number of their set-top boxes.

**So how can I get one?** New customers should request Energy Star-qualified set-top boxes when signing up for service, and existing customers should inquire with their service provider about upgrades.

**INFRARED IMAGERS IDENTIFY ENERGY-WASTING SYSTEMS***Excerpted from a March 2009 [FacilitiesNet](#) article by Matthew S. Overlay, CDT, RRO, is an associate project manager with StructureTec Corp. — [www.structuretec.com](http://www.structuretec.com) — a consulting firm specializing in the restoration of building envelopes and roofs and providing solutions for the entire envelope*

The most common causes of energy loss through the building envelope are airflow, wet or missing insulation, and thermal bridging. But, Title 24 only tells us to measure the air leakage in a house by having a HERS rater use a blower on the door, which unfortunately does not measure the other two problems, and also does not pinpoint the leaks. Now, this may shortly be replaced with an easier-to-use technology that also pinpoints the leaks. That's right, cameras can play a significant role in identifying inefficiency in building and wall components, including windows and roofs.

HERS technicians could instead use infrared technology to identify areas of energy loss due to airflow around windows, entryways, joints in wall components, and projections through walls, such as pipes and vents. The units also can identify the thermal bridging and missing insulation by locating increased variations in heat and energy loss. As long as Title 24 requires the door blower test, it can still be performed, but while it is being done, an infrared camera can find all the worst leaks, which can then quickly be remedied.

Besides detecting energy loss by airflow, infrared technology can also identify moisture in roof and wall components. Water within the envelope can lead to heating and cooling inefficiencies, leaks, and possible structural degradation. With the proper training and knowledge of building components, technicians using infrared cameras can identify these problems quickly.

### **THE COST OF LEAVING THE OFFICE PC TURNED ON ALL NIGHT**

As of April 2007, 145,800,000 Americans were working full-time jobs, and according to a survey conducted by Harris Interactive 72% of all employed adults regularly use a PC for work purposes at their jobs. This means that more than 104 million workers have office PC's. And, as many as 60% (62.4 million) don't bother to shut them down at night, and at least twenty percent (20.8 million) "never" shut down.

Assuming that 50% of PC users have "hibernation" or "sleep" mode enabled, we still find that companies across the country are wasting \$1.72 billion to supply power to PCs that are not always shut down. This figure was based on a conservative estimate of 14.5 hours for the overnight period with the assumption that computers have no power management features enacted.

Over the course of a year, generating the power to leave a computer on overnight creates 920 pounds of CO<sub>2</sub>. If 60% of the country's work PCs are used this way -- and 50% use "hibernation" or "sleep" mode -- then 14.4 million tons of carbon dioxide is being pumped into the atmosphere each year, needlessly. Preventing that amount of CO<sub>2</sub> from reaching the atmosphere would have roughly the same impact as taking 2.58 million passenger cars -- more than exist in the entire state of Maryland (2.48 million) -- off the road entirely.

It takes between 60 and 300 trees to absorb the yearly CO<sub>2</sub> emissions generated by a single PC left on 24 hours a day. That means it would take between 1.24 and 6.24 billion trees to absorb the emissions caused by the nation's office computers that are never shut down.

**REMEMBER WE DO TITLE 24** - If you have questions on any aspect of Green Energy, Sustainability, LEED, Green Point Ratings or Title 24, simply give Alan or Mark a call at **(415 391-0186)** to discuss your Title 24 documentation needs or any Green Energy Subject. **We provide the best Title 24 service in California**, through the synergism of an Architect and an Energy Engineer working together to enhance your project.