



Uses only 3% of the energy used by a PC

- 80% energy savings over a traditional PC
- Less heat created means lower A/C costs
- Zero clients → no moving parts → longer upgrade cycle → less waste
- Simple design reduces energy and resources consumed across entire lifecycle
- RoHS compliant

The IT industry generates two percent of the world's carbon emissions each year, and about 40 percent of that comes from PCs. Whether driven by the need to help the environment or reduce operating expenses (or both), you may be surprised at the impact of Pano System virtual desktops on your energy bill. Deploying zero client Pano Devices can save up to 80% of the energy consumed by traditional PCs, even with the additional energy used by the VDI server and storage infrastructure included.

Another energy related factor is whether employees turn off their PCs at night, or leave them on. A recent study by 1E and the Alliance to Save Energy (reported in [USA News & World Report](#), 3/25/09) found that \$2.8 billion was spent by companies on electricity for desktop computers left on overnight. According to the study, a US company with 10,000 PCs will waste \$260,000 in energy every year due to computers that are powered up when no one is using them. However, if employees shut down their PCs at night, their data may not be available for scheduled backed-ups, potentially risking business continuity. And if the PCs were shut down when not being used, employees could spend 10–20 minutes per day shutting down and starting back up the following day, conservatively costing a full work week per year. And all of that extra energy is converted into waste heat which must be removed from the workspace, typically by air conditioning systems that consume 1/3 more energy in addition to the wasted electricity.

Pano System virtual desktops are always on and always available. No energy wasted and no time lost shutting down or booting up.

Green Computing across the Lifecycle

In addition to cutting energy consumption Pano Devices can greatly curtail your organization's desktop computing environmental footprint across the entire lifecycle, starting with manufacturing and distribution, continuing over the operating life of the device, ending in disposal and recycling.

Simpler means Greener to Build: The small, simple Pano Device, only 3.5" square, requires less than 10% of the electronic components and fabrication of a typical PC and far less than a typical thin client, cutting the energy and resources consumed, and the waste produced, during manufacturing – even reducing the packaging and transportation energy needed during distribution.

Improved Productivity cuts Pollution: Zero client Pano Devices are entirely stateless and require no configuration when provisioning new users or replacing a device during troubleshooting. And virtual desktops can be accessed from anywhere. This means IT staff doesn't need to travel out to user locations to troubleshoot or provision desktops, reducing energy consumed and pollution produced.

Longer Life leads to Less Waste: Pano Devices have no fans, rotating hard drives or any other moving parts unlike PCs and even most thin clients used for VDI. This simplicity of design adds to energy conservation both in production and during operation but it also contributes to a much longer lifespan and better durability in harsh environments. A longer lifespan further reduces the manufacturing impact as they can remain in service for two or even three times as long as a PC or thin client. And when the Pano Device is finally retired the smaller number of components it contains means less e-waste to recycle or dispose.

For complete details on how you can green your IT using Pano System virtual desktops, along with tools to help you calculate your current IT environmental impact, please download the Pano Logic whitepaper at: www.panologic.com/whitepaper/greenIT

Excerpt from the University of Maryland Case Study

At the University of Maryland they estimate a 75% savings on their electricity bill due to the Pano System. They have a lab on the top floor of a building where the air conditioning was constantly running to maintain a temperature of 72 degrees Fahrenheit year round to offset the heat produced by dozens of traditional PCs. Now, with a lab full of Pano Devices, the thermostat has been adjusted to run at 74 degrees during the day and 78 degrees at night — a much more comfortable temperature for everyone.

During the summer months Jeff Cunningham, Director of Information Systems for the AREC department, estimates the savings on air conditioning alone to be almost as significant as the power savings itself.

For the full case study, please go to: www.panologic.com/casestudy/universitymd

Excerpt from the Chumash Casino Resort Case Study

Chumash Casino Resort is deploying Pano Devices in the harsh environment of the gaming floor – smoky and dusty, where traditional desktop PCs with fans and moving parts typically last no longer than two years. Peter Saccullo, Executive Director of Technology, said “It’s a huge win for us. My goal is that a Pano Device will be able to be on the casino floor for five years — over twice what we usually see with traditional PCs in that harsh environment — which provides us with major cost savings.”

For the full case study, please go to: www.panologic.com/casestudy/chumashcasino