

# "Harmonic Distortion": The Invisible Electricity Thief You've Been Paying For



**New Solutions Help Optimize Power Usage and Eliminate Unnecessary Power Costs**

TAIPEI, Taiwan, June 9, 2015 /PRNewswire/ -- Did you know that 10 to 30 percent of your energy costs might have been wasted because of bad power quality?

Photo - <http://photos.prnewswire.com/prnh/20150608/221380>

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Harmonic currents, which are generated by non-linear electronic loads in personal computers, laser printers, photocopiers, fax machines, battery chargers, UPS devices, switch-mode power supplies (SMPS), and variable speed motors and drives, are a frequent cause of power quality problems. In fact, power quality problems can have a significant impact on electrical distribution systems and the facilities they feed.

All computer systems, for example, use SMPS that convert utility AC (alternating current) voltage to regulated low-voltage DC (direct current) for internal electronics. Because these non-linear power supplies draw current in high-amplitude short pulses, significant distortion in the electrical current and voltage wave can occur. This is known as "harmonic distortion." In addition, this distortion can travel back to the power source and affect the other equipment that is connected to the same source.

Most power systems can accommodate a certain level of harmonic current, but will experience problems when harmonic currents become a significant component of the overall load.

As higher frequency harmonic currents flow through a power system, they can reduce system efficiency; cause apparatus to overheat as well as cause misfires in variable speed drives and torque pulsations in motors; and increase power costs, among other things.

Shun-Fu, an award-winning Taiwanese company with 20 years of experience providing power-saving solutions, has, for many years, helped thousands of clients reduce harmonic distortion, in addition to cleaning up electricity supplies, ensuring the longevity and integrity of electrical networks.

According to energy-usage records collected from Shun-Fu's clients, an average energy savings of 18 percent can be achieved, with the best recorded savings reaching 48 percent. Normally, the return on investment (ROI) of an installed Shun-Fu system is within 1 to 2 years. Shun-Fu also offers a free assessment for its industrial and high-voltage clients, with a focus on power usage and estimated ROI before installation. In fact, Shun-Fu guarantees that energy savings of 10 percent will be achieved within the first 10 years. At any point in the timeframe, however, if the system fails to reach this goal, Shun-Fu will uninstall the system and pay any money back.

Shun-Fu offers systems for homes, stores, factories, and high-voltage facilities of up to a world-leading 20,000KVA. The company has won certifications and patents in Taiwan, China, Japan,

and the USA, and their systems have been sold in many countries in Asia, North America, and Europe. In addition to filtering out harmonic distortion, Shun-Fu systems are also capable of stabilizing single-phase voltage to 3 phase circuits and can also help to remove electromagnetic interference.

Over the years, various Shun-Fu devices have been purchased by major electric machinery companies in the hopes of unlocking the secrets of their design and technology. So far, none of these companies have succeeded. Because of Shun-Fu systems' high quality and efficiency in eliminating the negative impacts of harmonics, Wuhan High Voltage Research Institute, one of the most prestigious think tanks for SGCC (State Grid Corp of China), which is China's largest power transmission company, has not only issued the highest level of energy saving certifications to Shun-Fu, but also helped to introduce this Taiwanese company's products throughout China.