PRIME COMPUTER

Px3

HOW TO MAKE HARDWARE GREEN

Green IT hardware can save money and emissions in everyday scenarios

The information and communications technology (ICT) sector is responsible for higher CO2 emissions than global air travel. This was true even before the Covid-19 pandemic, which has exaggerated the difference.

ICT has experienced exponential growth due to demand for remote working and learning, while air travel has obviously declined due to travel restrictions.

In addition to increased personal adoption, technological aspects such as the Internet of Things (IoT), accelerated digitalisation and changing consumer behaviour are driving future growth.

More and more online content is consumed in video form, which consumes significantly more server power and storage space.

There is great potential in ICT to reduce these CO2 emissions – and we can leverage this potential to achieve the global climate goals.

DEFINING GREEN IT

Prime Computer is a Swiss-based manufacturer of fanless mini PCs and servers; it develops green IT hardware to help reduce the greenhouse gas (GHG) footprint of ICT.

Green IT can be divided into two main approaches. The first is 'green *by* IT', or how ICT tech can make existing processes more environmentally friendly. For example, a video conference instead of a classic in-person meeting, to which participants would need to travel by car or even by plane.

The second approach is 'green *in* IT', which strives to make IT itself greener. Lower power consumption, longer lifecycles, optimised production and disposal and second use of IT hardware are all good examples.

HOW TO PRODUCE GREEN IT HARDWARE

When it comes to the 'green *in* IT' approach, the key words for a climate-neutral strategy in production are reduce, avoid and compensate.

Products and processes are designed from the outset in such a way that GHG emissions are reduced as much as possible, or even avoided all together.

In practical terms, this means the creation of energy-efficient, robust, durable, repairable IT hardware made from reusable or recyclable components and materials.

For example, all PCs and servers from Prime Computer are passively cooled, so they don't require energy-intensive mechanical components such as fans. This slashes energy demand and also increases reliability and a product's useful lifespan. In the long term, this reduces the need for new hardware, which saves resources, slashes GHG emissions and reduces e-waste. With a passively cooled PC or server, the most energy-efficient components must be installed to ensure the required computing power is still achieved.

In a world where no national grid can claim 100% renewable energy, less energy consumption still means lower GHG emissions – not to mention reduced utility bills.

CARBON-NEUTRAL HARDWARE

Before making claims of climate neutrality, Prime Computer had to offset remaining emissions that occur during the production of its hardware.

The GHG potential of a finished product must be measured precisely – which can be a big challenge for products with a global supply chain.

Prime Computer has done just that and can accurately quantify the GHG potential for production, transport, use in the first five years and disposal for all its products. The total is then calculated in CO2 equivalents (CO2e) and offset with certified projects.

GREEN IT IN REAL-LIFE TERMS

Prime Computer sent a mini PC from its current portfolio for independent testing by Px3. The goal was to find out what an energy-efficient PC looks like in real-life situations, in terms of both GHG emissions and cost savings.

Px3 is a research-focused IT consulting organisation that specialises in sustainability – specifically the reduction of GHG emissions created by the way we work today.

Unlike most third-party energy certification labels, Px3 measures power consumption in the real-world scenarios of a typical working day, rather than in 'non user present' benchmarks.

Px3's measurements show that the Prime Computer mini PC's scope 2 emissions are 70% lower than a conventional office PC's, and its scope 3 emissions are 43% lower.

For a company with 250 PC workstations, the lower power consumption alone means a CO2e reduction of almost 10 tonnes over five years.

This is equivalent to the sequestering capacity of 11.5 acres of mature forest. The same company can save almost £10,000 over five years through reduced electricity consumption.

Even though Prime Computer takes responsibility for environmental stewardship and offsets the combined scope 2 and scope 3 emissions of its equipment for the first five years of use, the results from Px3 clearly show one outcome. Whatever your priorities are, it makes perfect sense, from both an environmental and a financial perspective, to adopt energy-efficient IT hardware.

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