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Will Earth survive the computer?

Rich Heffern | Feb. 2, 2010 NCR Today

Recent media attention to the new iPad from Apple reminded me of a friend who retired from the Environmental Protection Agency who once said to me: "The earth's life support systems will probably survive the automobile but probably not personal computers and all the other electronic equipment that proliferates now." She based her opinion on a United Nations University study released in 2006 which revealed a new understanding of the impact these necessary tools of the 21st century have on our environment.

According to this report, making the average personal computer requires 10 times the weight of the product in chemicals and fossil fuels. What's more, many of the chemicals used are toxic, while the use of fossil fuels in making computer and electronic components contributes to global climate change. The short life of today's electronic equipment leads to Himalayas of waste, the report says. That waste is then dumped into landfills or recycled, too often in poorly managed facilities in developing countries, leading to significant health risks.

The study outlines the problem in detail. The manufacture of a 24-kilogram personal computer with a Pentium III processor and a 17-inch monitor needs at least 240 kilograms of fossil fuels to provide the energy, and 22 kilograms of chemicals. Add 1.5 tons of water, and your desktop has used up the weight of a SUV in materials before it even leaves the factory.

Compare this with cars or home appliances such as refrigerators which use between one and two times their weight in fossil fuels to make. It is clear that making more than 130 million computers worldwide has a big impact.

Computing equipment differs significantly from many other consumer products because the majority of the energy it uses over its lifetime, over 81 percent, is required during manufacturing. Most of the energy is used to run the plants where computer chips are fabricated. "The overall demand of a typical chip plant is equivalent to the energy used by a city of 80,000 people," says Ted Smith, director of the Silicon Valley Toxics Coalition.

Developing nations are especially burdened by the ecological impacts of computer manufacturing, as we increasingly outsource material intensity requirements and disposal strategies.

Worldwide, about 130 million computers are produced every year, according to the Carnegie Mellon University's Green Design Initative. Eric Williams, the U. N report's co-author said, "Every computer has a role to play. Users should think carefully about whether they really need to buy a new one, if upgrading the existing machine could serve the same purpose. Promptly selling old machines to the used-product market is also important."

We're all aware of the beneficial aspects of computers and the changes in our lives they have brought about. No aspect of life has been left untouched by the mind-boggling developments. Faster communications through e-mailing, new online businesses, better medical care information, better household appliances, faster and more accurate crunching of voluminous scientific data helping in scientific study, social networking are just a few examples that show how computers have changed our lives for the better.

Every advance, though, is a two-edged sword. Computer manufacturers and indeed every user must pay attention to the impact of computer use on the planet.

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