SUSTAINABLE IT: WAYS IT CAN BE MORE GREEN AND WHY IT MATTERS

Sustainability and IT are at odds. Server farms—the backbone of every internet search and every sent email—take up tons of resources. If you've ever wondered how your device got made or where your laptop goes when you recycle it, you'll understand how much energy is spent and greenhouse gases (GHG) are emitted. Still, there are ways that both companies and individuals can be more sustainable when it comes to IT. Let's take a look.

How IT affects resources

We're all vaguely aware of how IT affects resources. In the office, desktops, laptops, and servers rely on constant energy sources. But it's not just the consumption of resources—these devices are responsible for significant GHG emissions. This is particularly true at the beginning of a device's life, when it is being built. In fact, 81% of the energy a computer requires over its lifetime is expended during the building phase.

Once the technology is in your office, though, the energy consumption doesn't stop. Most devices generate heat, particularly servers, so additional energy is often required in order to cool computing equipment.

Why sustainable IT matters

Sustainability isn't just a buzzword anymore; it's a way of life the world will need to adopt to curb climate change. Sustainability refers to a number of practices, including reducing our reliance on certain energies, limiting our GHG emissions, and changing how we shop or commute.

Businesses must consider sustainability as making decisions based the ethics and responsibility of your business, from your ecological footprint to your global business practices. Then there's the business cost: the energy you pay for that runs your IT infrastructure alone is a significant percent of your overall expenses.

Despite relying on technology, companies that are in non-tech sectors tend to be more wasteful than technology companies. That's because non-tech firms may be less aware of the sustainability that smarter, cutting edge tech can offer.

Importantly, promoting your company for its sustainable efforts might not result in cheaper business processes, but doing the right thing is increasingly important for customers—so championing greenness can improve your brand's image. (Global retailer Patagonia is a great example.) Note that sustainability shouldn't be used merely as a marketing mirage; instead, sustainable practices should be incorporated in your business processes.

Ways IT can be green

Most companies have given little thought to how to scale back their environmental impact. According to Stanford, the energy that powers individual workstations can be reduced anywhere from 17-74 percent. Even when we turn off and unplug our computers and devices, technology is involved in huge output. So, what can we do?

Here are ways that companies and departments can make an impact towards sustainable IT:

- **Relocate (and collocate) servers.** Maximize your data center space as much as possible to minimize your cooling and energy costs. If realistic, relocate your servers to colder climates for 8% reduction in GHG emissions.
- **Follow data center best practices**, such as:
  - Harness outside air cooling.
  - Automate controls for lights, security, and outdoor cooling.
  - Do not over-cool; cool to the minimum necessary.
  - Separate aisles based on hot and cold temperatures.
  - Aim for a power usage effectiveness (PUE) of 1.2 or lower.
  - Unplug and remove zombie servers, the ultimate consumers: servers which are plugged in and using energy but aren't doing any computing.
- **Migrate to the cloud.** Cloud energy tends to be more efficient because of economic of scale. (Although some research does challenge this.)
- **Use state-of-the-art IT.** Legacy systems can require more power and their large sizes often mean outsized heat output—requiring additional cooling. Tools like BMC Discovery can help you manage your assets, including releasing those that are no longer useful.
- **Promote and purchase computers that are rated for energy efficiency.** Groups like TCO Certified and Energy Star audit and certify factories and devices for their efficiencies and sustainable practices.

- **Offer rebates or increased budgets to teams who promote sustainability.** Some teams and departments at your company may be able to virtualize or work from home.
- **Let individual teams determine the most applicable solutions for their needs.** The Stanford research indicates that when teams can choose their options—instead of being mandated—they will see higher energy savings.

Ways individuals promote green IT

Of course, sustainable practices aren't left entirely to companies. Individuals can reduce energy spent on their devices with these best practices:

- **Set computers to sleep.** Sleep is the lowest use of energy (besides powering down and unplugging). So, set monitors to turn off after 15 inactive minutes and hard disks even sooner: 5 minutes of inactivity. Your computer shouldn't be awake after more than 30 minutes of activity.
- **Upgrade to smart power strips.** These smart strips cut down on vampire energy that computers, TVs, and peripheral devices all consume.
- **Share printers.** Whether at home or the office, consider how often printers are necessary. Who can you share with?
- **Work remotely.** Unless your daily commute is by foot (walking or biking), try working from home to reduce GHG emissions associated with commuting—with approval from your boss, of course.

Is green growth possible?

A popular belief is that economic growth and sustainability are compatible—an idea known as green growth. Many climate activists disagree, and research is starting to show that in order for us to protect our environment, one of three sustainability pillars, we may have to "liberate ourselves" from economic development. This doesn't mean stopping economic activity, but it should mean that we reevaluate certain industries and our own companies and practices to ensure that we don't produce or consume more than we are right now. Indeed, a closed-loop supply chain may be the best way forward.

Additional resources