

Best Practices for Reducing Your Carbon Footprint

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by Carol Baroudi, Hal Blanthorn, Dana Craig , Stephen Delahunty, Steve Heusser, Richard Hodges, Brian Koles and KC Mares

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Executive Summary

According to the UK Carbon Trust, a carbon footprint measures “total greenhouse gas emissions caused directly and indirectly by a person, organization, event or product.” As more and more companies from SMBs to multinational enterprises adopt energy-saving, ‘green’ practices, what should your company be doing to lower its carbon footprint? What steps can your company take to save energy, money and natural resources while reducing its output of carbon dioxide and greenhouse gases? In this guide, Focus Experts Carol Baroudi, Hal Blanthorn, Dana Craig , Stephen Delahunty, Steve Heusser, Richard Hodges, Brian Koles and KC Mares share their top 9 best practices for reducing your carbon footprint.

After reading this guide, be sure to check out the entire discussion and join the conversation:

<http://www.focus.com/questions/information-technology/green-technology-best-practices-what-are-your-3-tips-your/>

Best Practices Checklist

1. Determine your baseline power consumption.
2. Don't be afraid to challenge, and change, the status quo.
3. Switch to energy-efficient lighting.
4. Optimize your energy controls.
5. Constantly monitor and audit energy efficiency in your data center.
6. Insulate your facility.
7. Make 'Green IT' a part of your planning and purchasing processes.
8. Extend the usable life of your equipment.
9. Reduce corporate travel where possible.

Best Practices for Reducing Your Carbon Footprint

Best Practices

1. Determine your baseline power consumption.

"The first thing you need to do in a 'green' initiative is understand your power use. You must know exactly how much power you use, when you use it and what is using it. Without first knowing the state of your power use you will have no base line to compare any energy saving projects to. Everything that can be quantified must be quantified." (Heusser)

"Pragmatically review the entire operation of the main energy uses/carbon creators and find holistic solutions that meet the business need while reducing energy/carbon use (example: in data centers today, we don't use any mechanical refrigeration and servers automatically turn off when under-used)." (Mares)

"Make sure that you are measuring consumption, identifying trends, responding to spikes and so forth. It's easy to set things up once and never look again, but monitoring devices (of both software and hardware) are also easy to come by, so make sure you're using tools that fit your business. One way to ensure better compliance with monitoring and then taking action, is to have the group (typically IT) who generates the most energy usage be responsible for reviewing and paying the power bill. When it hits your bottom line, it's far harder to ignore maintaining best practices!" (Craig)

2. Don't be afraid to challenge, and change, the status quo.

"Question everything that has to do with power and demand a response. The status quo is not a good enough reason. Ask questions similar to 'Do we need all the lights on all the time?' or 'Is there a reason we have the thermostat at 72 and not 74?' or even 'Do we really need to leave our PCs powered-on all night long when nobody is here?' Every business is different, and the point is to not accept practices but question them all. If a practice is needed, someone should be the champion of that cause and be able to convince you why it should remain." (Heusser)

"Families and businesses need to create the expectation of doing the right thing by the environment. This means calling out a sibling or co-worker for not putting a glass bottle in the recycle bin and leaving notes for people who leave the lights on or leave a window open unnecessarily. Sure, it may feel harsh at first, but calling attention to irresponsibility is a surefire way to make sure it doesn't happen again." (Koles)

"Look at the needs of the business and address combined solutions to reduce carbon and support the business, i.e. re-think how to support the business with reduced carbon strategies that also improve the bottom-line. Examples: coffee mugs for every employee instead of disposable cups, duplex printing, charge back of all energy, printing and other costs to every department. Measure, report and share with everyone the company's energy and carbon performance and lead regular meetings to address improvements and negative changes." (Mares)

3. Switch to energy-efficient lighting.

"Use LED lighting when possible; there's no mercury, bulbs have a longer life and they take less energy to manufacture as well as operate." (Blanthorn)

4. Optimize your energy controls.

“Lighting, HVAC and IT should all implement on-demand and only-when-needed systems. This means motion detectors that separate a building into zones that only get lit up, cooled or heated when somebody is there to appreciate it, and computers, monitors and servers should hibernate after not being used for X amount of time. Put monitors on everything, then monitor the monitors to check for usage patterns and detect high-use (i.e. cost) areas of concern to target for improvements.” (Koles)

“While individual PCs, printers, monitors and mobile phone chargers don’t use much power, in aggregate they use a lot. In the US, 10 percent of baseload electricity consumption is from AC/DC power converters. At least half of the power they use is completely wasted and burned off as heat. PCs, printers and other devices left on while not in use have a similarly wasteful profile. Power consumption management doesn’t generally require new technology, just new practices.” (Hodges)

“Power off any and all equipment not in use. Lower sleep times for idle machines. Consider using timed power-strips that shut down everything on the strip at a particular time or interval.” (Baroudi)

5. Constantly monitor and audit energy efficiency in your data center.

“For small or large data centers, frequently perform server audits to determine if equipment has become obsolete. Are there applications that are no longer in use, only needed sporadically (say, end of a quarter or end of year)? Are there entire servers that are no longer used or used sporadically? It’s so easy to turn them off!” (Craig)

“Cooling is the main power-use factor that can be manipulated in a data center. This does not really impact non-data center businesses, but I am speaking for myself here. Have someone on staff who knows your cooling system and, more importantly, understands the concepts behind efficient cooling. Through air flow analysis, heat isolation and chiller/air economization, you can save in the double-digit percentages off of your power bill.” (Heusser)

“In the IT world: 1) absorption coolers (they can be used in conjunction with compressor coolers); 2) virtualize as much as possible. 3) re-plumb chillers to allow compressor-bypass and use an outside heat exchanger when the outside air temperature is low. Virtually every datacenter built six or more years ago runs chiller compressors for datacenter cooling when it is zero degrees outside.” (Blanthorn)

6. Insulate your facility.

“Sealing your building envelope from external weather conditions isn’t just about making sure there’s (mostly, but increasingly natural-fiber too) fiberglass rolls in your ceiling and walls. It’s caulking double-pane windows, wrapping pipes, weather-stripping well-fitted door frames, taping ducts (yes, it does that too), replacing your black roof with a less absorbent surface and filling all hard-to-reach gaps with (non-toxic) spray foam.” (Koles)

7. Make ‘Green IT’ a part of your planning and purchasing processes.

“Include green initiative payback and ROI in your comparison of IT initiative options. Solicit insights from your current set of trusted IT vendors about how their products are green-ready.” (Delahunty)

“Buy eco-certified equipment. Carbon labels for individual products are in the process of development by various entities around the world. In the meantime, standards such as EPEAT, Energy Star, Blue Angel and TCO measure energy-efficiency and other sustainability attributes for Information and Communications Technology (ICT) products. These standards are well-established and can be used to guide purchasing decisions. Buying green not only reduces the carbon footprint for you and your organization, it also sends a strong signal to the manufacturers that sustainable, reduced-carbon emissions products are important to buyers.” (Hodges)

8. Extend the usable life of your equipment.

“In technology upgrade or modernization projects, take the time to research Green IT alternatives and emerging technology options.” (Delahunty)

“Reuse, don’t just recycle. A reuse has a zero manufacturing and raw-material footprint. Join a reuse group like Freecycle. (Blanthorn)

“The largest energy expenditure is in the actual manufacture of equipment. If you need to purchase equipment that doesn’t need to be the latest and the greatest, consider purchasing quality, warranted, refurbished equipment. Also, make sure you have a coherent virtualization strategy in mind and when you’ve successfully made the transition, turn the old equipment off, and redeploy it, sell it or donate it. Do not put it into a closet thinking you may need it someday. If truly nobody can use it, contact an e-Stewards certified recycler to ensure that it won’t be incinerated or dumped in a landfill or shipped abroad. “ (Baroudi)

“Whether it is used by you or your organization, extending the life of Information and Communications Technology (ICT) equipment is the single most important step toward reducing lifecycle carbon emissions. It also is financially efficient and reduces the rapidly growing stream of hazardous e-waste that has to be managed. Life extension can be achieved through upgrades, re-use and by design in purchasing decisions.” (Hodges)

9. Reduce corporate travel where possible.

“There are certainly scenarios where face-to-face is required or results in a better outcome; but if you’re traveling for training or monthly management meetings because you’ve ‘always done it that way,’ then perhaps it’s time to consider other options — and there are plenty. The amount of money you spend in tools to connect people via networking and the internet will more than pay for themselves in reduced travel budgets and smaller carbon footprints.” (Craig)

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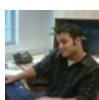
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