

A greener future

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Will Pryce; Atelier CMJN

Having an environmental edge goes a long way with employees. Surveys show that people expect their organizations to take the environment into account when making business decisions—and most don't feel enough is being done. Top companies, however, are responding by going green in every way, from making their manufacturing processes more efficient to backing local and global sustainability projects. The following pages feature some of the ways the companies on Aon Hewitt's 2011 Green 30 list have made the environment a big part of business. But first, here's a look at some environmentally friendly ideas that could revolutionize the workplace in the not-so-distant future.

Skyscrapers made of wood?

The construction and management of buildings around the world accounts for more than 30 per cent of climate change, according to Michael Green, founding principal at McFarlane Green Biggar Architecture + Design Inc. While some predict everyone will be working from home in the future, others say greater levels of urbanization will bring us closer to the workplace than ever. So it's no wonder billions of dollars are being poured into making sustainable offices—and the greener, the better. Some of the concepts are outlandish: the winner of eVolo's recent Skyscraper Competition, for example, looks like a giant Ferris wheel made from recycled cars, and filters air through a series of greenhouses as it spins. Green, who's based in Vancouver, has a more practical idea. Instead of building skyscrapers from steel and concrete, he says, it's time to start making them out of wood.

"Steel and concrete have been great," Green says, but they're emission-heavy: five per cent of the world's carbon dioxide emissions come from the manufacturing and transport of concrete, he says—about five times more than the airline industry. Wood "is the only major building material that's grown by the sun," he notes, and actually stores carbon throughout its usable life. Even so, tall buildings can't be made with standard two-by-fours. In an upcoming report funded by the Canadian Wood Council, Green suggests another method: giant sheets of wood, laid atop one another perpendicularly and glued together, like plywood. The tallest wooden structure today, in London, is nine stories high, but Green says his method could allow for office buildings and residential towers of up to 30 stories tall. Even in earthquake-prone Vancouver, 20-storey-tall wood-based skyscrapers could be built without needing interior partitions for extra support, he says.

Of course, sustainable forestry is a crucial component of this plan, Green recognizes, but if wood-based skyscrapers take off, "we're hoping Canada leads it." If they're properly cared for, they can last as long as the standard alternatives, he adds, noting that in Japan there are 1,400-year-old wooden buildings still standing.

Taking out the trash

Once inside these next-generation office buildings, those in the field of environmental design say employees can expect interactive work stations with built-in sensors that will survey the environment and tweak temperature, humidity and lighting, which will make it easier for the environmentally friendly to do their part. Also, workspaces will likely be furnished with 100-per-cent recyclable furniture. We're not there yet, but "zero waste is the ideal," says Jennifer Jarratt, a futures consultant whose past clients include Microsoft and General Electric, and who currently works for Office of the Future 2020, a research project identifying major trends and technologies.

Alan Hedge, an environmental design professor at Cornell University, says energy gobbling cubicles will also be a thing of the past as designers build offices with energy efficiency as a top priority. "You want to use as much natural energy as you can," says Hedge, like using "daylight in the building so you don't need artificial light." With technology and design combined, says Hedge, offices can be "cleaner and leaner with more environmentally friendly materials."

Send a better-looking version of yourself to that big meeting

Now, imagine attending a breakfast meeting in Vancouver, a lunch with clients in New York City and a conference in Dallas that evening—without leaving your comfy apartment in Montreal. In their new book, *Infinite Reality*, two virtual reality experts say employees will be able to attend "virtual meetings" in the form of highly realistic three-dimensional avatars (walking, talking representations of ourselves) within a few years. "It takes a toll to fly across the country for a two-hour meeting," on our bodies and on the environment, says Jeremy Bailenson, founding director of Stanford University's Virtual Human Interaction Lab. "This could solve a lot of that."

Webcams already allow for video conferences, of course, but that is by no means perfect. On Skype, for example, "you can't make eye contact," says Jim Blascovich, director of the University of California, Santa Barbara's Research Center for Virtual Environments and Behavior. "You get feedback when people are frowning or winking at each other," he says. In a video conference, "there are no side glances, or the kinds of things that are really compelling in a business meeting."

That's why some experts say that face-to-face meetings still trump telephone calls and video chats—but maybe not for long. Three consumer technologies have made realistic avatars possible, they say: Microsoft Kinect for the Xbox, the Nintendo 3DS videogame system, and IBM's Watson computer, which recently won on *Jeopardy*. The Kinect system lets players control an avatar by moving around the room, while the 3DS display creates a 3-D image visible to the naked eye (no cumbersome suits or special headgear required). Meanwhile, Watson's technology could be used to recreate human behaviour. Avatars could be designed to maintain eye contact, for instance, or to smile appropriately. Taking it a step further, they could be programmed to be taller, more confident, and better-dressed than the person controlling them. "We've entered," says Bailenson, "a paradigm-shifting moment."

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