Sustainability Through Changing Organizational Work Styles

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Despite what has been described as a "perfect storm"[1] that will result in significantly increased corporate attention on environmental sustainability, the opportunity to reduce greenhouse gas emissions (GHGE) by how, where and when we work remains largely untapped. For instance, in the recent New Ways of Working alternative workplace benchmarking study, "sustainability" was ranked near the bottom as either a driver or benefit of alternative workplace programs.[2] And yet, we will show there is tremendous potential for improving sustainability by changing how, when and where organizations work—what we call organizational workstyles. Our article is largely based on the reports, Sustainability Through New Ways of Working, and Work 2020, of the New Ways of Working.[3][4]

The Sustainability Potential of Alternative Workplaces

The corporate real estate/workplace community has largely been focused on making buildings more energy efficient. Yet, the greater potential in reducing GHGE is not just improving building efficiencies but reassessing the entire paradigm of how, where and when we work. For example, the worker working from home or a satellite office close to home three days per week and sharing a desk with four others (that is, five persons per workstation), is reducing the GHGE of his/her personal workplace footprint by 80% and emissions from commuting by 60%. Granted, this savings is attainable only if the worker gives up his/her personal workplace and shares it with others. It is further moderated by the emissions used when working at the alternative location and auto trips used for personal trips during the work day for shopping, driving kids to school or activities. Missing face-to-face contact, alternative workers may be more inclined to "go out" and meet friends.

In the end, researchers have found the environmental benefits of alternative workplace programs can vary, depending on commuting patterns, personal (non-work) activities, and the nature of the home, workplace and equipment use.[5] But, in general, telecommuting is more sustainable than working in a central office. A 2007 study by the Transport Studies Unit at the University of Oxford found the reduced commuting resulting from Teleworking reduced total released carbon dioxide even with

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[1] http://www.deloitte.com/dtt/cda/doc/contnet/us_db_sustainability-study_june2007opt.pdf

[2] Joe Ouye, Gabor Nagy and June Langhoff, *Alternative Workplace Strategies in the Current Economy: Results from the New Ways of Working's Benchmarking Study*, New Ways of Working Executive Summary, www.newwow.net, 2010

[3] Hal Levin, *Sustainability Through New Ways of Working*, New Ways of Working Research Report, 2008.

[4] Jim Creighton, Joe Aki Ouye and June Langhoff, *Work 2020*, New Ways of Working Research Report, 2010. The New Ways of Working is a consortium of experts for researching, exploring and discussing the integration of organizations, technologies and workplaces for new ways of working. See www.newwow.net.

[5] E. Kitou and Al Horvath, *Energy Related Emissions from Telework*, in Environmental Science and Technology, Vol. 27, No. 16, 34677-3475.

additional car trips during the workday.[6] Another study by the World Wildlife Fund examined the effects of telecommuting on emissions in EU countries and found that for one million EU telecommuters, one million tons of CO2 emissions would be saved annually.[7]

Meeting Practices, Especially Air Travel

Traveling to meet with others, especially when it involves air travel, can have a surprisingly disproportionate impact on organizational sustainability.[8] Jet planes are extremely polluting. A Tokyo to New York City round-flight may emit more than 5,200 lbs. (about 2,400 kg) of carbon per passenger, or equivalent to about 22.5 percent of the carbon footprint of a typical 60- mile commute for an entire year.[9] Although air travel doesn't create as many greenhouse gas emissions as other sources (representing only 1.6% of total greenhouse gas emissions), in many countries it's the fastest growing single source.[10]

During the 2008-09 recession many companies reduced travel (a significant cost of doing business) and replaced it with remote meeting technologies. For instance, a global company with revenues above $100 billion spends nearly $1 billion on travel-related expenses annually. But, as the economy improves, businesses are again increasing travel. Companies must be encouraged to reduce air travel, not just to reduce costs, but to improve sustainability.

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[6] David Banister, Carey Newson and Matthew Ledbury, The Costs of Transport on the Environment -- The Role of Teleworking in Reducing Carbon Emissions, Final Report for Peter Warren and Meabh Allen (BT), Working Paper No. 1024, June 2007, Oxford University Centre for the Environment, http://www.tsu.ox.ac.uk/pubs/2014-banister-etal.pdf

[7] *Saving the Climate at the Speed of Light*, World Wildlife Fund & the European Telecommunications Network.

[8] Levin.

[9] *Greenhouse Airlines*, Bryan Walsh, Time Magazine, Feb. 01, 2007.

[10] *Greenhouse Airlines.*

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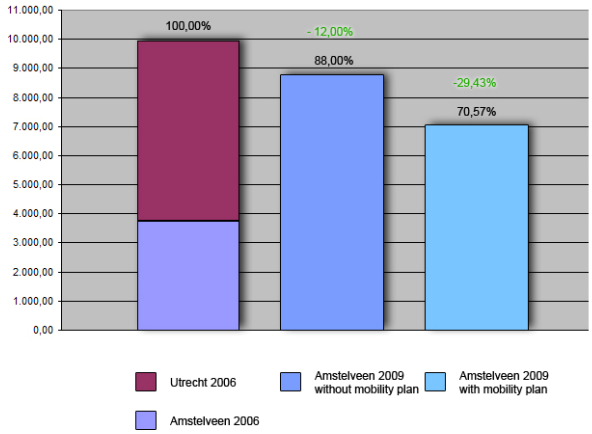
Measuring Organizational Sustainability: eco2 Workplace Tool

After a symposium on Sustainability Through New Ways of Working in July 2009, a group of members of the New Ways of Working developed a tool for measuring organizational sustainability—the eco2 Workplace.[11]

As companies rethink how their employees work as a significant contributor to greenhouse gas emissions, there hasn't been a convenient way to assess the sustainability of organizational workstyles. But with this web-based tool, organizations can comprehensively assess it – encompassing where groups are located, the energy efficiencies of the buildings they work in, their commute patterns, meeting and business travel, especially air travel, and their use of technology.

The trial of this tool by Hewlett-Packard in the Netherlands demonstrated its potential. HP and a group of students from the Aalto University School of Science and Technology use the eco2 Workplace tool to evaluate the sustainability of consolidating three sites.[12] In the words of one of the leaders, Ron Moelijker, the results were "eye-catching and astonishing." The team found that consolidating into a single site without telecommuting reduces emissions by 12%, while consolidating into a single site with telecommuting increased the emissions reduction to 29.5%. These results will be very useful for HP as it moves forward into the planning and regulatory process which is very sensitive to sustainability issues in the Netherlands.



Co2 Emissions of HP Netherlands Sites

While several other firms have trialed the tool, it has been difficult to find corporate users. The data required for the tool is broader than that available to any single, corporate group—corporate real estate,

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[11] eco2 Workplace originated with the members of the New Ways of Working Network, was funded by Jones Lang LaSalle and developed by iDEA and VTT, a major Finnish research organization with deep expertise in sustainability modeling.

[12] Led by Jyrki Laurikainen, head of HP facilities in Europe, and Ron Moelijker, head of HP facilities in the Netherlands and documented by Rob Glas and Sierk Reinsma, students at the Aalto University School of Science and Technology, *Hewlett-Packard, The Netherlands, Carbon Footprint Study*, 2009.

IT, or human resources. And conversely, it is too narrow for corporate responsibility and sustainability groups who, on paper at least, are charged with encouraging and monitoring overall corporate sustainability. These groups are usually focused on lower hanging fruit—at least in their eyes—of supply chain sustainability.

Conclusions

A compelling case can be made that re-thinking how and where we work—group locations, the amount of office space, commutes to and from each location, and meeting practices, especially air travel—can significantly improve organizational sustainability. But it is not a priority, as a driver or a benefit, for most organizations. In the end, the answer may be that organizations will do something about organizational sustainability when they have to—whether pressured by regulations, changing economic incentives or disincentives or by public and consumer pressure. For the sake of the planet, let's hope that happens sooner rather than later.