

Smart, Green + Productive Workplace

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ABSTRACT

The desire by corporate occupants to be green, to be seen as green, and to shave costs is changing the way they manage their corporate real estate portfolios. Until now, there have been few 'greening' metrics for building occupants. Also it has been difficult to motivate occupants – particularly those in leased spaces – to change their behaviours. Consequently, despite green certifications for so-called 'trophy buildings', there has been virtually no broad market transformation.

In an age of fierce competition, the greatest driver of change in the workplace is the need to create an environment where ideas can flourish and be turned into business advantage. This means creating a workplace where a corporate culture finds its fullest expression, and where employees feel comfortable, inspired and connected. This paper describes a portfolio methodology that addresses sustainability with workplace comfort and productivity, and which is designed from the user-perspective. The paper touches on how smart building technologies are already accelerating the convergence between 'green' and 'productive'.

Keywords: *corporate social responsibility, productivity, wellness*

1. INTRODUCTION

This paper outlines some reasons that green assessments and certifications are not getting the broad penetration needed to transform corporate real estate; and describes an approach that is more likely to achieve that goal. Green + Productive Workplace, (G+P) is an assessment that targets a particularly challenging segment of the industry: corporate real estate occupants in leased and owner-occupied spaces.

The fact that buildings account for almost 20% of climate change emissions has given rise to certifications such as LEED, BREEAM, Living Building Challenge and many others. These have transformed our understanding of green building design and operations but they have not transformed the industry as a whole. Certified buildings account for less than 1% of building stock – and only about 2 out of ten thousand existing buildings. With a growing body of knowledge and increasingly sophisticated technologies, the certifications become more refined and generally more rigorous. Meanwhile, 99.98% of buildings do not undergo any environmental certification at all. Consequently, the bar gets higher and higher, but for few players. It is therefore time to rethink green assessments and address what we know to be the problems: cost, point-chasing, prescriptive requirements and prerequisites that often need 'interpretation', and complex submittals and certification protocols.

Reinventing Green Building [1]. by Jerry Yudelson recommends an approach that could be more effective in transforming the mainstream: simplicity without sacrificing rigor, and implementation that is designed from the user's perspective – affordable, strategic, focused on continuous improvement and the bottom line. Yudelson talks about one tool that does this: Green + Productive Workplace (G+P). As its name suggests, the objective of G+P is to green the workplace and make it healthy, comfortable and productive. It is for corporate portfolios of leased and owner-occupied facilities – which is one of the most challenging areas when it comes to sustainability in real estate.

2. OCCUPANTS MORE INTERESTED IN PRODUCTIVITY BUT REALIZE THAT THEY MUST ALSO BE GREEN

Office fit-outs and occupant behaviour have a significant impact on building performance, but there have been few metrics for building occupants. Also it is challenging to motivate occupants to adopt sustainability best practices because the value proposition of recycling or energy savings programs pale in comparison to the value proposition of adding features that will improve employee productivity and corporate branding.

Sixty eight percent of global Corporate Real Estate (CRE) executives have alluded to increasing business demand to enhance productivity and 65% have confirmed the need to transform the quality of the workplace – according to Jones Lang LaSalle’s recent Global Corporate Real Estate (CRE) Trends report, based on a survey of over 630 global CRE executives [2]. The interest in workplace productivity is in response to the accelerated pace of innovation and marketplace flux, which are driving competition in every sector of the global economy. To address these business challenges, the workplace is changing: employees are more digitally connected and mobile; more are telecommuting; and a growing proportion of employees are short-term, contract workers. These factors make it difficult to predict head-count, which is part of the reason that the majority of businesses are adopting an open office environment, with hoteling work stations and an abundance of flexible, common space.

There is also a growing movement to implement features and management operations to support wellness in the workplace.

Meanwhile, there is a perception that a green office is by definition more comfortable and productive. Occupants are drawn to the concept of being in a green building as these tend to be high profile, interesting and attractive. However, one study of the greenest buildings in Australia showed that almost three quarters of occupants in green-certified buildings said that they did not feel any healthier or more productive [3]. One of the benefits of an open office concept is that it supports team collaboration – which is essential to bring new ideas to market. The reality though, is that not all tasks require collaboration, and there are certain features of an open office that many occupants find distracting. The survey of green Australian buildings showed that three things that occupants liked about a green office were: daylight, views and an open layout. The three things which many disliked were: noise, thermal discomfort and lack of personal privacy [4]. A plethora of studies, using many different productivity performance indicators all concur that taking corrective action where there are acoustic, thermal, lighting/daylighting, and air quality problems can have a significant impact on occupant productivity. The findings of many of these studies are summarized in the IFMA Foundation compendium called Applying what scientists know about where and how people work best. [5]

The reason to juxtapose sustainability and productivity is that many features in an office should be examined through both lenses. For example, daylighting can be a ‘green’ energy efficiency feature as well as being good for productivity. However, too much window is not green, and in some cases, can hinder productivity. Heating, cooling and ventilation have an important energy aspect. However, saving energy for HVAC can affect thermal comfort and indoor air quality. The premise of Green + Productive is that every workplace should strive to be both – green AND productive. The goal of G+P is to align criteria that either reinforce one another, or are in opposition, or must achieve a balance. This is consistent with the concept of a high performance building: one that is energy efficient and has a high rate of perceived indoor environment acceptability.

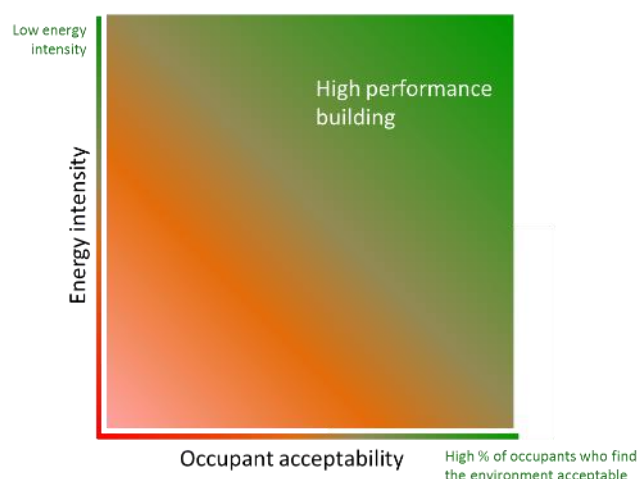


Figure 1: High performance building

Because corporate occupants know that they need to be green (and be seen as green) as part of their corporate social responsibility, the G+P strategy is to align greening of the workplace with the productivity agenda. As smart buildings transform the way occupants interact with buildings, there is now a stronger direct link between occupants

and operations. For example, smart building energy management systems can schedule lighting and air conditioning systems to turn on/off based on peak and off-peak occupancy periods and in response to occupant controls. In a building with multiple tenants, each organization's energy usage can be calculated precisely, in real time, and charged to the respective financial departments. This motivates tenants to examine how they are using energy, and better manage it, for example through a better allocation of space and scheduling. The convergence of 'green' and 'productive' aspects, which is accelerating thanks to smart building technologies, is driving the need to integrate the roles of corporate real estate management (CRE), IT, human resources, and communications to align decision-making with respect to: space planning and management, wellness, and sustainability.



Figure 2: Convergence between 'green' and 'productive'

3. G+P IS DESIGNED FROM THE USER PERSPECTIVE

To achieve a broad penetration, an assessment should be designed with the user experience in mind. An asset manager who wants to optimize their portfolio and make the best use of resources needs to be strategic. That's why G+P takes a portfolio approach, and addresses offices that are owner-occupied and/or leased, and/or contemplating a retrofit. Taking a strategic portfolio approach makes it possible to measure improvement from year to year, recognize and reward top performers, and focus resources where they are most needed. Some portfolios may consist of just one or two offices. Others may be large. For global portfolios, questions are regionally designed to address different standards and references for the Americas, Europe and Asia-Pacific.

Part of an effective portfolio approach is to document and clearly communicate certain portfolio-wide policies. Therefore, part of the G+P assessment is a section called Corporate Leadership. This section is short (less than 15 minutes) but it helps a portfolio manager to review how committed the organization is with respect to: portfolio-wide policies related to greening and wellness; public disclosure of energy, carbon water and waste; as well as directives and specific roles of various members of the organization: business unit managers, facility managers, green teams, employees, Human Resources and IT.

Once the Corporate Leadership section has been completed, the next step is to complete an assessment of each office in the portfolio. The assessment is designed to be done – not by consultants – but by the facility managers (FMs). Because they know more about the offices than anyone and are responsible for ongoing improvements, Facility Managers should therefore 'own' the process. However, there are concerns within the industry that FMs are facing an ever increasing workload. With this in mind, the G+P process is designed to be streamlined and simple: Each facility manager is given a login. Navigation of the site is self-explanatory; the G+P survey itself takes only 45 minutes; questions are clearly worded; responses are graduated; and pop-up tips define terms, explain concepts and describe the verification criteria.

The output is an individual report for each site and a portfolio report which includes an Executive Summary for the C-suite. The Executive Summary presents site scores, an industry comparison, and a thumbnail description of the 'red flag' issues for each site.

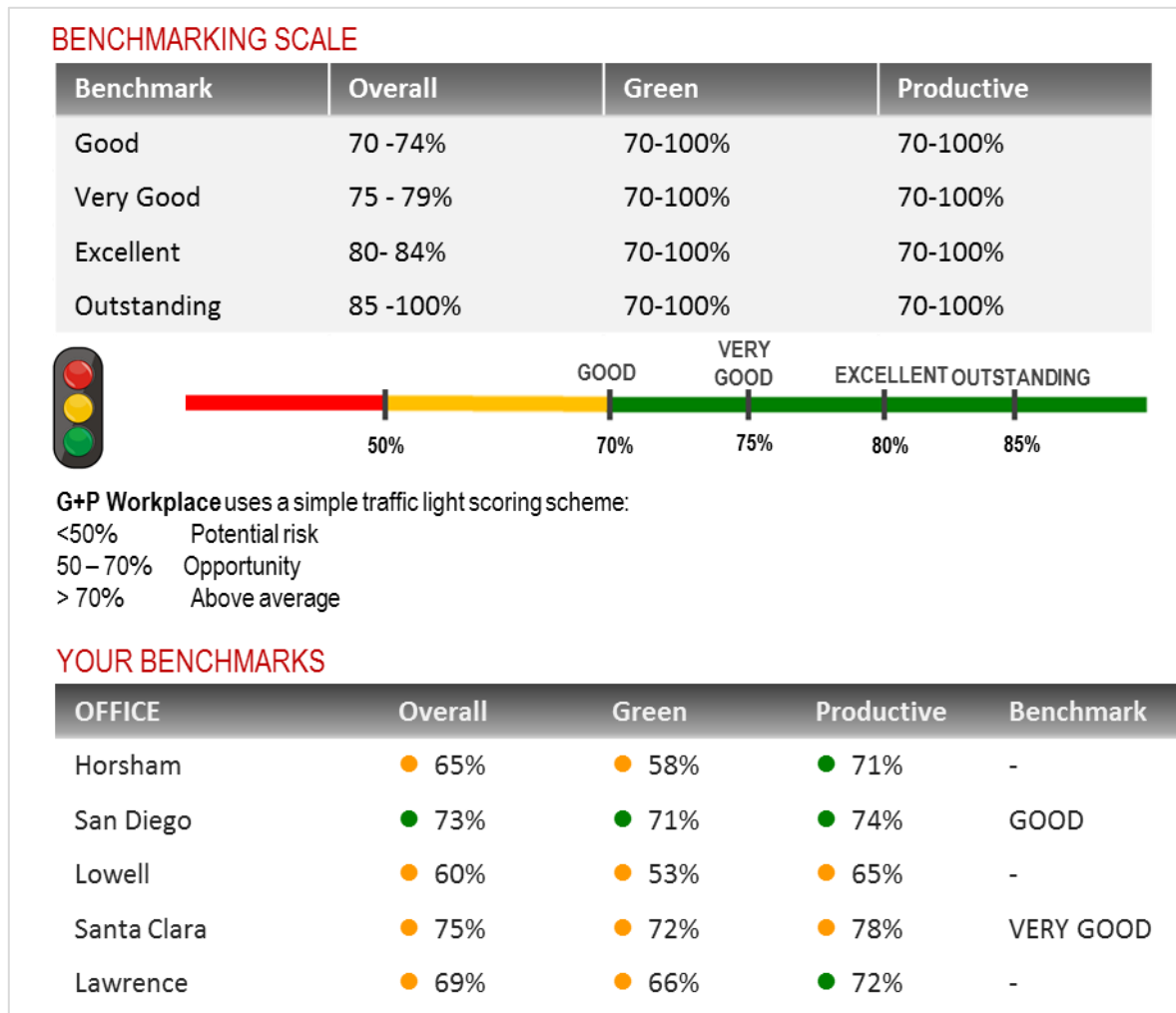


Figure 3: G+P benchmarking for a portfolio

Taking the user perspective, costs are a huge consideration: the cost of the assessment, the cost of certification and the cost and benefits of taking measures to make a portfolio more green and productive. The pricing scheme of G+P is designed to be affordable for entire portfolios, so that time and resources may be focused on improving the portfolio rather than creating endless submittal documentation.

For offices that wish to obtain third party verification, the process consists of on-site measurements and a review on actual in-use documentation – versus documentation that has been prepared expressly for the purpose of a verification, and which then typically sits on a shelf gathering dust.



GREEN

OFFICE	GREEN score	Energy	Water	Waste	Materials	Commuting
Elliot	● 57%	● 58%	■ 49%	● 55%	● 63%	★ 87%
Tulsa	● 57%	★ 70%	■ 37%	● 63%	★ 78%	■ 40%
Dallas	● 69%	★ 75%	● 68%	● 52%	★ 78%	★ 81%
LA	● 56%	★ 70%	● 54%	● 53%	● 56%	■ 6%
Tampa	● 52%	● 58%	● 63%	● 60%	● 56%	■ 15%

PRODUCTIVE

OFFICE	PRODUCTIVITY score	Acoustic Comfort	I.A.Q.	Thermal Comfort	Visual Comfort	Layout	Amenities	Wellness
Elliot	★ 70%	★ 76%	★ 72%	★ 86%	● 50%	★ 84%	■ 41%	★ 80%
Tulsa	★ 74%	★ 76%	★ 82%	★ 81%	● 69%	★ 84%	● 52%	★ 78%
Dallas	★ 81%	★ 95%	★ 82%	★ 74%	★ 77%	★ 91%	● 64%	★ 84%
LA	● 60%	■ 46%	● 55%	★ 81%	● 56%	★ 73%	■ 32%	● 64%
Tampa	● 62%	■ 49%	● 52%	★ 78%	● 58%	● 54%	● 53%	■ 85%

Figure 4: Excerpt of a G+P portfolio report

Part of the strategic approach is to also to identify where to invest resources. G+P provides a high level financial estimate of wasted energy and lost productivity. These calculations are based on conservative assumptions and produce values that are not intended to be precise, but which give orders of magnitude. For asset managers, these can be red-flags, which indicate the need for some further investigation such as detailed measurements or occupant surveys to determine the exact nature and extent of problems and the corrective action needed.

G+P recognizes and rewards high performance using a benchmarking system with the main focus being on continuous improvement. It benchmarks performance by comparing offices, within a portfolio, and by providing an anonymous industry comparison, with all of the offices in the G+P data base. It also offers a comparison with past performance for the portfolio and for individual offices.

One of the challenges of assessments is to make them meaningful to the decision-makers – the ones who control the purse-strings, and who often don't see beyond the marketing value of green building certification. When a portfolio manager is able to show bottom line benefits of improved productivity, demonstrate that there is corporate leadership and a portfolio strategy for continuous improvement – then there is a greater chance of getting the attention and the needed resources.

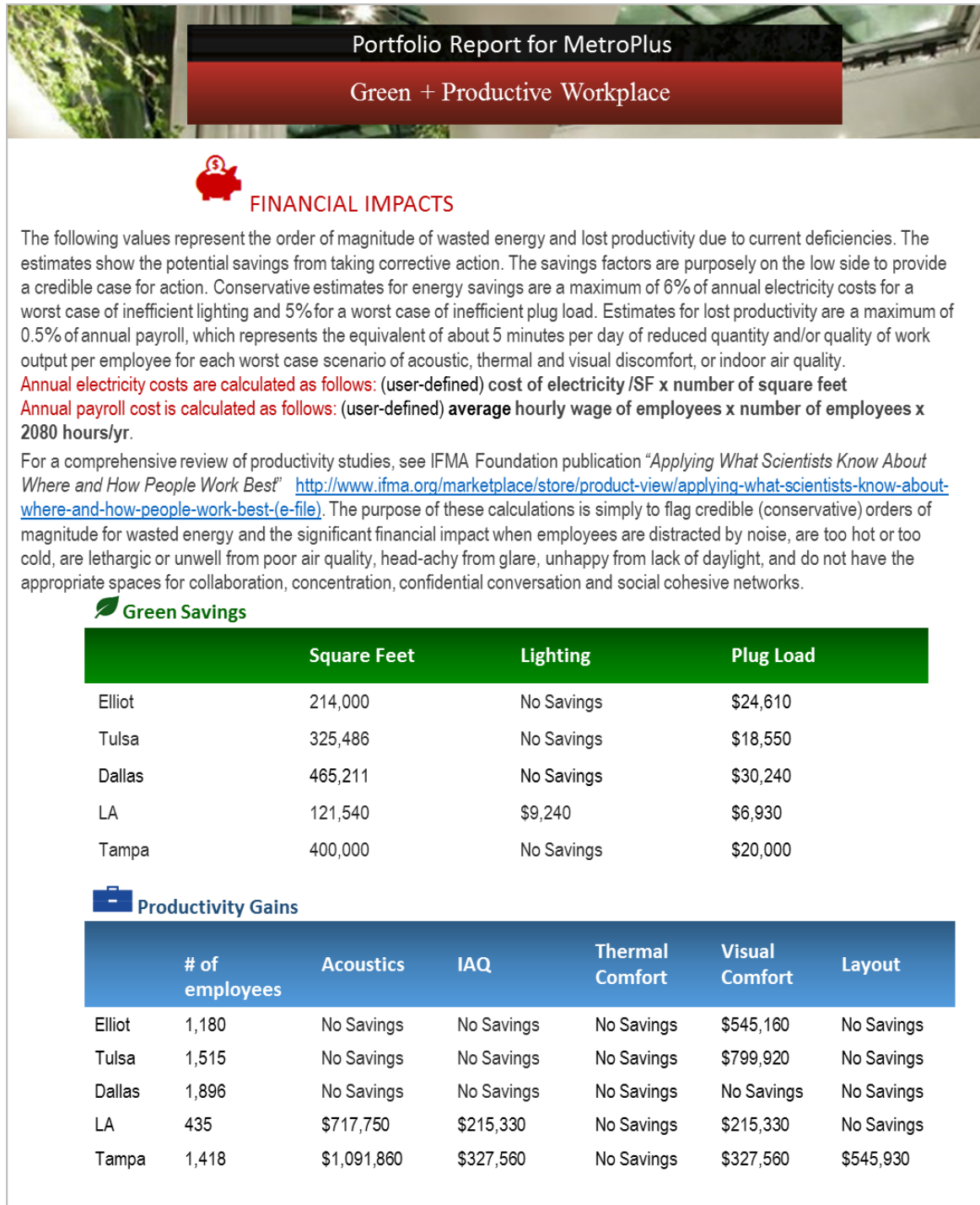


Figure 5: Excerpt from a G+P portfolio report (Executive Summary)

4. SIMPLE AND USER-FRIENDLY, YET RIGOROUS

Corporate real estate has a growing role in business enterprise for productivity, recruitment, retention, and branding. Smart technologies, employee mobility, the recognition of different workstyles and the importance of wellness – all are important aspects of the workplace of the future. Green + Productive Workplace is an online application for global real estate portfolios that aligns space planning and management, wellness and sustainability with IT, HR, and communications.

G+P illustrates that an assessment can be simple, user-friendly and non-punitive, without being simplistic. To date, some 6 million square feet have undergone G+P assessments. As G+P undergoes pilots by some of the world's largest companies – it is becoming clear that the appetite for point-chasing, certification schemes is declining. This is being replaced with a hunger for streamlined, practical, affordable, strategic asset management and benchmarking platforms for portfolios. Large companies want more than just a certification of their trophy real estate assets. They want to address their entire portfolios in a strategic way that meets their needs: to be green, and to address productivity, CSR and sustainable growth.

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